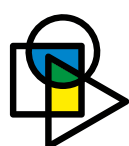


# Draft proceedings of the World Telecommunication Standardization Assembly WTSA-20

Geneva, Switzerland  
1-9 March 2022



**ITU**WTSA-20  
GENEVA2022



Updated: 11.03.2022

**Parts 1 and 2  
Resolutions  
and  
Recommendations**

**MOD**

RESOLUTION 1 (Rev. Geneva, 2022)

**Rules of procedure of the ITU Telecommunication  
Standardization Sector**

*(Geneva, 2022)*<sup>1</sup>

The World Telecommunication Standardization Assembly (Geneva, 2022),

*considering*

- a)* that the functions, duties and organization of the ITU Telecommunication Standardization Sector (ITU-T) are stated in Articles 17, 18, 19, 20 of the ITU Constitution and Articles 13, 14, 14A, 15 and 20 of the ITU Convention;
- b)* that, in accordance with the above articles of the Constitution and Convention, ITU-T shall study technical, operating and tariff questions and adopt Recommendations with a view to standardizing telecommunications on a worldwide basis;
- b)bis* that the International Telecommunication Regulations (ITRs) contain references to relevant ITU-T Recommendations;
- c)* that the ITU-T Recommendations resulting from these studies shall be in harmony with the ITRs in force, complement the basic principles therein and assist all those concerned in the provision and operation of telecommunication services to meet the objectives set down in the relevant articles of those Regulations;
- d)* that, accordingly, the rapid developments in telecommunication technology and services require rapid, timely and reliable ITU-T Recommendations in order to keep abreast of the needs of the telecommunication/information and communication technology (ICT) sector, including the industry sector, to assist all Member States, especially the ITU-T members, in the development of their telecommunications;
- e)* the General Rules of conferences, assemblies and meetings of the Union adopted by the Plenipotentiary Conference;
- f)* that the General Rules of conferences, assemblies and meetings of the Union adopted by the Plenipotentiary Conference, and Resolution 165<sup>2</sup> of the Plenipotentiary Conference, on deadlines for the submission of proposals and procedures for the registration of participants for conferences and assemblies of the Union, apply to the World Telecommunication Standardization Assembly (WTSA);
- g)* that, in accordance with No. 184A of the Convention, WTSA is authorized to adopt the working methods and procedures for the management of the activities of ITU-T in accordance with No. 145A of the Constitution;

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<sup>1</sup> Previously published (Geneva, 1956 and 1958; New Delhi, 1960; Geneva, 1964; Mar del Plata, 1968; Geneva, 1972, 1976 and 1980, Malaga-Torremolinos, 1984; Melbourne, 1988; Helsinki, 1993; Geneva, 1996; Montreal, 2000; Florianópolis, 2004; Johannesburg, 2008; Dubai, 2012; Hammamet, 2016).

<sup>2</sup> Hereinafter, a reference to a resolution without specifying the date and place of its adoption is considered as a reference to the most recent version of that resolution, unless otherwise specified.

- h) that careful review of the more detailed working arrangements has been made in order to adapt them to meet the increasing demand for developing Recommendations with the most effective use of the limited resources available to Member States, Sector Members and ITU headquarters;
- i) Resolution 54 of WTSA, on the creation of, and assistance to, regional groups;
- j) that Resolution 208 of the Plenipotentiary Conference establishes the appointment procedure and maximum term of office for chairmen and vice-chairmen of Sector advisory groups, study groups and other groups;
- k) that Resolution 191 of the Plenipotentiary Conference establishes methods and approaches for the coordination of efforts among the three Sectors of the Union;
- l) that Resolution 154 of the Plenipotentiary Conference establishes methods and approaches for the use of the six official languages of the Union on an equal footing,

*resolves*

that the provisions referred to in *considering e) to l)* above shall be further elaborated by the provisions of this resolution and the resolutions to which they refer, bearing in mind that, in the case of inconsistency, the Constitution, the Convention, the ITRs and the General Rules of conferences, assemblies and meetings of the Union (in that order) shall prevail over this resolution.

## SECTION 1

### **World Telecommunication Standardization Assembly**

- 1.1** The World Telecommunication Standardization Assembly (WTSA), in undertaking the duties assigned to it in Article 18 of the ITU Constitution, Article 13 of the ITU Convention and the General Rules of conferences, assemblies and meetings of the Union, shall:
- a) establish and adopt working methods and procedures for the management of the activities of the Sectors (see CS 145A);
  - b) consider the reports of study groups prepared in accordance with No. 194 of the Convention (see CV 187);
  - c) approve, modify or reject draft Recommendations contained in those reports (see CV 187);
  - d) consider the reports of the Telecommunication Standardization Advisory Group in accordance with Nos. 197H and 197I of the Convention (see CV 187);
  - e) bearing in mind the need to keep the demands on the resources of the Union to a minimum, approve the programme of work arising from the review of existing Questions and new Questions and determine the priority, urgency, estimated financial implications and time-scale for the completion of their study (see CV 188);
  - f) decide, in the light of the approved programme of work derived from CV 188, on the need to maintain, terminate or establish study groups and allocate to each of them the Questions to be studied (see CV 189);
  - g) group, as far as practicable, Questions of interest to the developing countries to facilitate their participation in these studies (see CV 190);
  - h) consider and approve the report of the Director of TSB on the activities of the Sector since the last conference (see CV 191);
  - i) decide on the need to maintain, terminate or establish other groups and appoint their chairmen and vice-chairmen (see CV 191A) in accordance with provisions of

Resolution 208 of the Plenipotentiary Conference and taking into account the proposals of the meeting of the heads of delegation (see 1.10 below);

- j) establish the terms of reference for the groups referred to in CV 191A; such groups shall not adopt Questions or Recommendations (see CV 191B);
- k) take into account, when adopting resolutions and decisions, the foreseeable financial implications, and it should avoid adopting resolutions and decisions which might give rise to in excess of the financial limits laid down by the Plenipotentiary Conference (see CS 115);
- l) undertake any other duties assigned by the Plenipotentiary Conference.

**1.1bis** WTSA may assign specific matters within its competence to the Telecommunication Standardization Advisory Group (TSAG) indicating the action required on those matters (see CV 191C).

**1.2** WTSA shall establish a Steering Committee, presided over by the chairman of the assembly, and composed of the vice-chairman of the assembly and the chairmen and vice-chairmen of the committees and any group(s) created by the assembly.

**1.3** Prior to and during the process of developing resolutions which define working methods and identify priority issues, WTSA should take into consideration the following questions:

- a) If an existing Plenipotentiary Conference resolution identifies a priority issue, the need for a similar WTSA resolution should be questioned.
- b) If an existing resolution identifies a priority issue, the need to recycle this resolution at various conferences or assemblies should be questioned.
- c) If only editorial updates are required to a WTSA resolution, the need to produce a revised version should be questioned.
- d) If the actions proposed have been accomplished, the resolution should be viewed as fulfilled and the need for it should be questioned.

**1.4** WTSA shall establish a Budget Control Committee and an Editorial Committee, the tasks and responsibilities of which are set out in the General Rules of conferences, assemblies and meetings of the Union (General Rules, Nos. 69-74):

- a) The "Budget Control Committee", *inter alia*, examines the estimated total expenditure of the assembly and estimates the financial needs of ITU-T up to the next WTSA and the costs to ITU-T and ITU as a whole entailed by the execution of the decisions of the assembly.
- b) The "Editorial Committee" perfects the wording of texts arising from WTSA deliberations, such as resolutions, without altering their sense and substance, and aligns the texts in the official languages of the Union.

**1.5** In addition to the steering, budget control and editorial committees, the two following committees are set up:

- a) The "Committee on Working Methods of ITU-T", which submits to the plenary meeting reports including proposals on the ITU-T working methods for implementation of the ITU-T work programme, on the basis of the TSAG reports submitted to the assembly and the proposals of ITU Member States and ITU-T Sector Members.
- b) The "Committee on the ITU-T Work Programme and Organization", which submits to the plenary meeting reports including proposals on the programme and organization of the work of ITU-T consistent with ITU-T strategy and priorities. It shall specifically:
  - i) propose the maintenance, establishment or termination of study groups;
  - ii) review the general structure of study groups and Questions set for study or further study;

- iii) produce a clear description of the general area of responsibility within which each study group may maintain existing and develop new Recommendations, in collaboration with other groups, as appropriate;
- iv) propose the allocation of Questions to study groups, as appropriate;
- v) recommend, when a Question or group of closely related Questions concerns several study groups, whether:
  - a) to accept proposals of ITU Member States or the recommendation of TSAG (where they differ);
  - b) to entrust the study to a single study group; or
  - c) to adopt an alternative arrangement;
- vi) review, and adjust as necessary, the lists of Recommendations for which each study group is responsible;
- vii) propose the maintenance, establishment or termination of other groups in accordance with Nos. 191A and 191B of the Convention.

**1.6** The chairmen of study groups, the chairman of TSAG and the chairmen of other groups set up by the preceding WTSA should make themselves available to participate in the Committee on the Work Programme and Organization.

**1.7** The plenary meeting of a WTSA may set up other committees in accordance with No. 63 of the General Rules of conferences, assemblies and meetings of the Union. The terms of reference should be contained in a document of the plenary meeting, taking into account the appropriate distribution of workload between the committees.

**1.8** All committees and groups referred to in 1.2 to 1.7 above shall normally cease to exist with the closing of WTSA except, if required and subject to the approval of the assembly and within the budgetary limits, the Editorial Committee. The Editorial Committee may therefore hold meetings after the closing of the assembly to complete its tasks as assigned by the assembly.

**1.9** Prior to the inaugural meeting of WTSA, in accordance with No. 49 of the General Rules of conferences, assemblies and meetings of the Union, the heads of delegation shall meet to prepare the agenda for the first plenary meeting and make proposals for the organization of the assembly, including proposals for chairmanships and vice-chairmanships of WTSA and its committees and group(s).

**1.10** During WTSA, the heads of delegation shall meet:

- a) to consider the proposals of the Committee on the ITU-T Work Programme and Organization concerning the work programme and the constitution of study groups in particular;
- b) to draw up proposals concerning the designation of chairmen and vice-chairmen of study groups, TSAG and any other groups established by WTSA (see Section 2).

**1.10bis** The heads of delegation can also meet if the need arises and at the invitation of the chairman of the assembly to consider any pending issues, with the aim of consulting and coordinating to reach consensus.

**1.11** The programme of work of WTSA shall be designed to provide adequate time for consideration of the important administrative and organizational aspects of ITU-T. As a general rule:

**1.11.1** While WTSA is in session, study group chairmen shall make themselves available to WTSA to supply information on matters which concern their study groups.

**1.11.2** In those cases as indicated in Section 9, a WTSA may be asked to consider approval of one or more Recommendations. The report of any study group(s) or TSAG proposing such action should include information on why such action is proposed.

**1.11.3** WTSA shall receive and consider the reports, including proposals of the committees it has established, and take final decisions on those proposals and on reports submitted to it by those committees and groups. On the basis of the proposals by the Committee on the Work Programme and Organization of ITU-T, it shall set up study groups and, where appropriate, other groups, and, taking into account consideration by the heads of delegation, appoint the chairmen and vice-chairmen of study groups, of TSAG and of any other groups it has established, taking account of Article 20 of the Convention, Resolution 208 of the Plenipotentiary Conference, and Section 3 below.

**1.11.4** In accordance with Resolution 191 of the Plenipotentiary Conference, WTSA identifies areas it has in common with other Sectors where work is to be done and that require internal coordination within ITU.

**1.12** In accordance with No. 191C of the Convention, WTSA may assign specific matters within its competence to TSAG indicating the action required on these matters.

### **1.13 Voting**

Should there be a need for a vote by Member States at WTSA, the vote shall be conducted according to the relevant sections of the Constitution, Convention and the General Rules of conferences, assemblies and meetings of the Union.

## SECTION 1BIS

### **Documentation of ITU-T**

#### **1bis.1 General principles**

In *1bis.1.1* and *1bis.1.2* below, the term "texts" is used for resolutions, Questions, opinions, Recommendations and non-normative documents defined in Recommendation ITU-T A.13.

##### **1bis.1.1 Presentation of texts**

**1bis.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.

**1bis.1.1.2** Each text should include a reference to related texts and, where appropriate, to relevant provisions of the International Telecommunication Regulations (ITRs), without any interpretation or qualification of the ITRs or suggesting any change to them.

**1bis.1.1.3** Texts (including resolutions, Questions, opinions, Recommendations, and non-normative documents defined in Recommendation ITU-T A.13) shall be presented showing their number, their title and an indication of the year of their initial approval, and, where appropriate, the year of approval of any revisions.

**1bis.1.1.4** Annexes to any of these texts should be considered as having equivalent status, unless otherwise specified.

**1bis.1.1.5** Supplements to Recommendations do not constitute an integral part of the Recommendations and shall not be considered as having equivalent status to Recommendations or annexes to Recommendations.

## **1 bis.1.2 Publication of texts**

**1 bis.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 according to the publication policy of ITU.

**1 bis.1.2.2** Approved new or revised resolutions, opinions, Questions and Recommendations shall be published by ITU in the official languages of the Union as soon as practicable. Non-normative documents shall be published, as soon as possible, in English only or in the six official languages of the Union, depending on the decision of the relevant group.

## **1 bis.2 WTSA resolutions**

### **1 bis.2.1 Definition**

**WTSA resolution:** A text of the World Telecommunication Standardization Assembly containing provisions on the organization, working methods and programmes of the ITU Telecommunication Standardization Sector and Questions/topics to be studied.

### **1 bis.2.2 Adoption**

WTSA shall examine and may adopt revised or new WTSA resolutions proposed by Member States and Sector Members or suggested by TSAG.

### **1 bis.2.3 Deletion**

WTSA may delete resolutions based on proposals from Member States and Sector Members and/or taking into account suggestions provided by TSAG.

## **1 bis.3 Opinions**

### **1 bis.3.1 Definition**

**Opinion:** A text containing a viewpoint, proposal or query aimed at study groups of the ITU Telecommunication Standardization Sector and the other ITU Sectors or international organizations, etc., and not necessarily related to a technical issue.

### **1 bis.3.2 Adoption**

WTSA shall examine and may adopt revised or new opinions based on proposals from Member States and Sector Members or suggested by TSAG.

### **1 bis.3.3 Deletion**

WTSA may delete an opinion based on proposals from Member States and Sector Members or suggested by TSAG.

## **1 bis.4 ITU-T Questions**

### **1 bis.4.1 Definition**

**Question:** Description of an area of work to be studied, normally leading to the production of one or more new or revised Recommendations and/or new or revised non-normative documents as defined in Recommendation ITU-T A.13.

### **1 bis.4.2 Approval**

The procedure for approving Questions is set out in Section 7 of this resolution.

### **1 bis.4.3 Deletion**

The procedure for deleting Questions is set out in Section 7 of this resolution.



## ***1bis.5* ITU-T Recommendations**

### ***1bis.5.1* Definition**

**Recommendation:** An answer to a Question or part of a Question, or a text developed by the Telecommunication Standardization Advisory Group for the organization of the work of the ITU Telecommunication Standardization Sector.

NOTE – This answer, which is a normative text, within the scope of existing knowledge and the research carried out by study groups and adopted in accordance with established procedures, may provide guidance on technical, organizational, tariff-related and operational matters, including working methods, may describe a preferred method or proposed solution for undertaking a specific task, or may recommend procedures for specific applications. These Recommendations should be sufficient to serve as a basis for international cooperation.

### ***1bis.5.2* Approval**

The traditional approval procedure is set out in Section 9 of this resolution. The alternative approval procedure is set out in Recommendation ITU-T A.8. The selection of the approval process is set out in Section 8 of this resolution.

### ***1bis.5.3* Deletion**

The procedure for deleting Recommendations is set out in 9.8 of this resolution.

## ***1bis.6* Non-normative documents**

Non-normative documents are defined in Recommendation ITU-T A.13.

## SECTION 2

### **Study groups and their relevant groups**

#### **2.1 Classification of study groups and their relevant groups**

**2.1.1** In accordance with Article 14 of the ITU Convention, WTSA establishes study groups in order for each of them:

- a) to pursue the goals laid down in a set of Questions related to a particular area of study in a task-oriented fashion;
- b) to prepare draft Recommendations within its general area of responsibility (as defined by WTSA), in collaboration with its relevant groups as appropriate, in order to be adopted and/or approved;
- c) to prepare draft non-normative documents, which are defined in Recommendation ITU-T A.13, within its general area of responsibility (as defined by WTSA) in collaboration with their relevant groups as appropriate in order to be agreed;
- d) to review and, as necessary, to recommend amendment or deletion of existing Recommendations and definitions within its general area of responsibility (as defined by WTSA), in collaboration with their relevant groups as appropriate;
- e) to review and, as necessary, to recommend amendment of existing opinions within its general area of responsibility (as defined by WTSA), in collaboration with their relevant groups as appropriate.

**2.1.2** To facilitate their work, study groups may set up working parties, joint working parties and rapporteur groups to deal with the tasks assigned to them (see Recommendation ITU-T A.1).

**2.1.3** A joint working party shall submit draft Recommendations to its lead study group.

**2.1.4** The establishment of regional groups of ITU-T study groups shall be in accordance with WTSA Resolution 54 on regional groups of ITU-T study groups.

**2.1.5** A study group may be designated by WTSA or TSAG as the lead study group for ITU-T studies forming a defined programme of work involving a number of study groups. This lead study group is responsible for the study of the appropriate core Questions. In addition, in consultation with the relevant study groups and, where appropriate, giving due consideration to the work of national, regional and other international standardization organizations (No. 196 of the Convention), the lead study group has the responsibility to define and maintain the overall framework and to coordinate, assign (in consultation with, and recognizing the mandates of, the relevant study groups) and prioritize the studies to be carried out by the study groups, and to ensure the preparation of consistent, complete and timely Recommendations. The lead study group shall inform TSAG on the progress of the work as defined in the scope of the lead study group activity. Issues which cannot be resolved by the study group should be raised for TSAG to offer advice and proposals for the direction of the work.

## **2.2 Meetings outside Geneva**

**2.2.1** Study groups or working parties may meet outside Geneva if invited to do so by Member States, ITU-T Sector Members or entities authorized in this respect by a Member State of the Union, and if the holding of a meeting outside Geneva is desirable (e.g. in association with symposia or seminars). Such invitations shall be considered only if they are submitted to a WTSA or to an ITU-T study group meeting and they shall be finally planned and organized after consultation with the Director of TSB and if they are within the credits allocated to ITU-T by the ITU Council.

**2.2.2** For meetings held outside Geneva, the provisions of Resolution 5 of the Plenipotentiary Conference as well as of Council Decision 304 shall apply. Invitations to hold meetings of the study groups or their working parties away from Geneva shall be accompanied by a statement indicating the host's agreement to defray the additional expenditure involved and a commitment to provide 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 if the government of the host so requests.

**2.2.3** Should an invitation be cancelled for any reason, it shall be proposed to Member States or to other duly authorized entities that the meeting be convened in Geneva, in principle on the date originally planned.

## **2.3 Participation in meetings**

**2.3.1** Member States and other duly authorized entities pursuant to Article 19 of the Convention shall be represented in the study groups and their relevant groups, such as working parties and rapporteur groups, in whose work they wish to take part, by participants registered by name and chosen by them as qualified to investigate satisfactory solutions to the Questions under study. Exceptionally, however, registration by Member States and other duly authorized entities with a study group or its relevant group may be made without specifying the name of the participants concerned. Chairmen of meetings may invite individual experts as appropriate. Experts may present reports and submissions for information at the request of the chairmen of meetings; they may also participate in relevant discussions without taking part in the decision-making process or liaison activity of that meeting.

**2.3.2** Participation at the meetings of regional groups of ITU-T study groups shall be in accordance with WTSA Resolution 54 on regional groups of ITU-T study groups.

**2.3.3** Study group meetings should normally not be held in parallel with the meetings of TSAG, especially if the meetings of the study groups or the meetings of TSAG are held outside ITU headquarters.

**2.3.4** As far as practical, every effort should be made so that the schedule of study group meetings does not coincide with any major religious, national and regional holiday periods.

## **2.4 Reports of study groups to WTSA**

**2.4.1** All study groups shall meet sufficiently in advance of WTSA for the report of each study group to WTSA to reach administrations of Member States and Sector Members no later than 35 calendar days before the opening of WTSA.

**2.4.2** The report of each study group to WTSA should be developed by the study group chairman, in consultation with the study group, and shall include:

- a) a short but comprehensive summary of the results achieved in the study period, and observations concerning future work;
- b) reference to all Recommendations (new or revised) that have been approved by the Member States during the study period, with a statistical analysis of activities per study group Question;
- c) reference to all Recommendations deleted during the study period;
- d) reference to the final text of all draft Recommendations (new or revised) that are forwarded for consideration by WTSA;
- e) the list of new or revised Questions proposed for study;
- f) review of joint coordination activities for which it is the lead study group;
- g) a draft standardization action plan for the following study period.

## **SECTION 3**

### **Study group management**

**3.1** Within the mandate set out in WTSA Resolution 2, study group chairmen shall be responsible for the establishment of an appropriate structure for the distribution and coordination of work, after consulting with study group vice-chairmen. The study group chairmen perform the duties required of them within their study groups or within joint coordination activities.

**3.2** Appointment of chairmen and vice-chairmen shall be based upon the provisions of Resolution 208 of the Plenipotentiary Conference on the appointment and maximum term of office for chairmen and vice-chairmen of Sector advisory groups, study groups and other groups.

**3.3** The chairman of a study group should establish a management team, composed of all vice-chairmen, working party chairmen, etc., to assist in the organization of the work. The mandate of a vice-chairman shall be to assist the chairman in matters relating to the management of the study group, including substitution for the chairman at official ITU-T meetings or replacement of the chairman should he or she be unable to continue with study group duties. Each working party chairman provides technical and administrative leadership and should be recognized as having a role of equal importance to that of a study group vice-chairman. Each vice-chairman should be assigned specific functions based upon the study group's programme of work. The management team is encouraged to assist the chairman in the study group management role, for example in responsibilities for liaison activities, cooperation and collaboration with other standardization organizations, forums and consortia outside ITU, and promotion of the related study group activities.

**3.4** On the basis of 3.2 above, appointed vice-chairmen should be considered first in the appointment of working party chairmen. However, that does not prevent other competent experts being appointed as working party chairmen.

**3.5** To the extent possible, in accordance with Resolution 208 of the Plenipotentiary Conference, and taking into account the need for demonstrated competence, appointment or selection to the management team should utilize the resources of as broad a range of Member States and Sector Members as possible, at the same time recognizing the need to appoint only the number of vice-chairmen and working party chairmen necessary for the efficient and effective management and functioning of the study group, consistent with the projected structure and work programme.

**3.6** A chairman, vice-chairman or working party chairman, on accepting this role, is expected to have the necessary support of the Member State or Sector Member to fulfil this commitment throughout the period to the next WTSA.

**3.7** Study group chairmen should participate in WTSA and TSAG to represent their respective study groups.

**3.8** The study group chairman shall comply with the provisions of the ITU Constitution, the ITU Convention, the General Rules of conferences, assemblies and meetings of the Union, this resolution, and ITU-T A-series Recommendations. Support and advice from TSB staff shall be provided in this regard.

**3.9** Chairmen and vice-chairmen of study groups, working parties and other groups, rapporteurs and editors shall be impartial in the performance of their duties.

## SECTION 4

### **Telecommunication Standardization Advisory Group**

**4.1** In accordance with Article 14A of the Convention, the Telecommunication Standardization Advisory Group (TSAG) shall be open to representatives of administrations of Member States and representatives of ITU-T Sector Members and other duly authorized entities and to chairmen of the study groups and other groups or their designated representatives. The Director of TSB or the Director's designated representatives shall participate in TSAG. The chairmen of the study groups and other groups, according to the case, or their designated representatives (e.g. vice-chairmen) shall also participate in TSAG.

**4.2** In accordance with Article 14A of the Convention and the tasks further elaborated in this resolution, TSAG's principal duties are to review priorities, programmes, operations, financial matters and strategies for ITU-T's activities, to review progress in the implementation of ITU-T's work programme, to provide guidelines for the work of the study groups and to recommend measures, *inter alia*, to foster cooperation and coordination with other relevant bodies, within ITU-T and with the Radiocommunication (ITU-R) and Telecommunication Development (ITU-D) Sectors and the General Secretariat, and with other standardization organizations, forums and consortia outside ITU, including the Universal Postal Union.

**4.3** TSAG shall identify changing requirements and provide advice on appropriate changes to be made to the priority of work in ITU-T study groups, planning, and allocation of work between study groups (and the coordination of that work with other Sectors), giving due regard to the cost and availability of resources within TSB and the study groups. TSAG shall monitor the activities of any joint coordination activities and may also recommend the establishment of such activities, if appropriate. TSAG may also advise on further improvements to ITU-T working methods. TSAG shall monitor the activities of the lead study groups and advise on the progress report as presented to TSAG. TSAG shall endeavour to ensure that the programmes of work across the study groups are successfully completed.

**4.3bis** WTSA shall appoint the chairman and vice-chairmen of TSAG in accordance with Resolution 208 of the Plenipotentiary Conference.

**4.4** In accordance with 1.1*bis* above, TSAG shall take the necessary steps to consider matters under temporary authority assigned to it by WTSA. WTSA may assign temporary authority to TSAG between two consecutive WTSAs to consider and act on matters specified by WTSA. WTSA should assure itself that the special functions entrusted to TSAG do not require financial expenses exceeding the ITU-T budget. TSAG may consult with the Director on these matters, if necessary. TSAG should report to the next WTSA on its activities on the fulfilment of specific functions assigned to it, pursuant to No. 197I of the Convention and WTSA Resolution 22.

**4.5** TSAG shall hold regular scheduled meetings, included on the ITU-T timetable of meetings. The meetings should take place as necessary, but at least once a year<sup>3</sup>.

**4.5bis** As far as practical, every effort should be made so that the schedule of TSAG meetings does not coincide with any major religious, national and regional holiday periods.

**4.6** In the interest of minimizing the length and costs of the meetings, the chairman of TSAG should collaborate with the Director in making appropriate advance preparation, for example by identifying the major issues for discussion.

**4.7** In general, the same rules of procedure that apply to study groups shall also apply to TSAG and its meetings. However, at the discretion of the chairman, written proposals may be submitted during the TSAG meeting provided they are based on ongoing discussions taking place during the meeting and are intended to assist in resolving conflicting views which exist during the meeting.

**4.8** A report on its activities shall be prepared by TSAG after each meeting. This report is to be made available not later than three weeks after the closure of the meeting. The report shall be distributed in accordance with normal ITU-T procedures and made available in all official languages of the Union.

**4.9** TSAG shall prepare a report for the assembly on the matters assigned to TSAG by the previous WTSA. At its last meeting prior to WTSA, TSAG shall, pursuant to No. 197H of the Convention, prepare a report which summarizes its activities since the previous WTSA. This report shall offer advice on the allocation of work, and proposals on ITU-T working methods and on strategies and relations with other ITU Sectors and other relevant bodies outside ITU, as appropriate (CS 19A). The TSAG report to WTSA should also include proposals for WTSA Resolution 2, i.e. the titles of study groups with their responsibilities and mandates. These reports shall be submitted to the assembly by the Director.

**4.10** TSAG shall be made aware of the non-attendance of chairmen and vice-chairmen at study groups meetings, and raise the issue through the Director with the Member State concerned in an attempt to get participation in these roles in the study group concerned for which the Member State has committed.

## SECTION 5

### **Duties of the Director**

**5.1** The duties of the Director of the Telecommunication Standardization Bureau (TSB) are outlined in Article 15 and relevant provisions of Article 20 of the Convention. These duties are further elaborated in this resolution.

**5.2** The Director shall take the necessary preparatory measures for meetings of WTSA, TSAG, study groups and other groups, and coordinate their work so that the meetings produce the best

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<sup>3</sup> The Director and the study group chairmen may use the opportunity of these meetings to consider any appropriate measure related to activities described in 4.4 and 5.5.

results in the shortest possible time. The Director shall fix, by agreement with TSAG and study group chairmen, the dates and programmes of TSAG, study group and working party meetings and shall group these meetings in time according to the nature of the work and the availability of TSB and other ITU resources.

**5.2bis** The Director shall ensure that the secretariat assigned to the study groups and regional groups works to support the membership in order to accomplish the objectives defined in the strategic plan (Resolution 71 of the Plenipotentiary Conference).

**5.3** The Director shall suggest editorial updates to WTSA resolutions and provide a recommendation as to whether the modifications are significant enough to warrant the production of a revised version and published as documents of WTSA no later than 35 days before the opening of WTSA.

**5.4** The Director shall manage the allocation of the ITU-T financial and TSB human resources required for meetings administered by TSB in a manner that is consistent with the approved strategic and financial plans of the Sector and the budget approved by the Council, for publication of the associated documents to ITU Member States and Sector Members (meeting reports, contributions, etc.), for the authorized operational support functions for the international telecommunication network and services (Operational Bulletin, code assignments, etc.) and for the operation of TSB.

**5.4bis** The Director shall promote the active participation of the membership, in particular developing countries, in the contribution-driven work of ITU-T and shall publish, in the chairman's report of each meeting of a study group or regional group, a complete account of resources used and fellowships requested and provided along with any extrabudgetary resources expended.

**5.5** The Director shall provide the required liaison between ITU-T and other Sectors, ITU regional and area offices and the General Secretariat of ITU and with other standards development organizations (SDOs).

**5.6** In the Director's estimate of the financial needs of ITU-T until the next WTSA as part of the biennial budgetary preparatory process of the Union, the Director shall prepare the financial estimates in accordance with relevant provisions of the Financial Regulations and Financial Rules, taking into account the relevant decisions of WTSA, including priorities for the work of the Sector.

**5.7** The Director shall provide to WTSA (for information) a summary of the accounts for the years which have elapsed since the preceding WTSA, and the estimated expenses of ITU-T to cover its financial requirements until the next WTSA for the subsequent biennial budgets and financial plan, as appropriate, taking into account the pertinent results of WTSA, including priorities.

**5.8** The Director shall submit for preliminary examination by the Budget Control Committee, and thereafter for approval by WTSA, the accounts for expenses incurred for the current WTSA.

**5.9** The Director shall submit to WTSA a report on the proposals that have been received from TSAG (see 4.9) concerning the organization, terms of reference and work programme of study groups and other groups for the next study period, as well as proposals on ways and means to increase ITU resources through ITU-T. The Director may give views on these proposals.

**5.10** In addition, the Director may, within the limits specified in the Convention, submit to WTSA any report or advice which would help to improve the work of ITU-T. In particular, the Director shall submit to WTSA such advice concerning the organization and terms of reference of the study groups for the next study period as may be considered necessary.

**5.11** The Director may consult study group and TSAG chairmen regarding proposals for potential candidates for study group and TSAG chairmen and vice-chairmen, for consideration by the heads of delegation.

**5.12** After the close of WTSA, the Director shall supply administrations of Member States and Sector Members and other duly authorized entities taking part in the activities of ITU-T with a list of the study groups and other groups set up by WTSA, indicating the general areas of responsibility and the Questions that have been referred to the various groups for study.

Furthermore, the Director shall supply appropriate international organizations with a list of the study groups and other groups set up by WTSA, asking them to advise the Director of the study groups or other groups in which they wish to participate in an advisory capacity.

**5.13** Administrations of Member States, Sector Members and other participating organizations are invited to supply these particulars after each WTSA as soon as possible and not later than two months after they have received the Director's circular, and to update them regularly.

**5.14** In the interval between WTSAs, when circumstances so demand, the Director is authorized to take exceptional measures to ensure the efficiency of the work of ITU-T within the limits of the credits available.

**5.15** In the interval between WTSAs, the Director may request assistance from the chairmen of study groups and the chairman of TSAG regarding the allocation of available financial and human resources so to be able to assure the most efficient work of ITU-T.

**5.16** In consultation with the chairmen of study groups and the chairman of TSAG, the Director shall ensure an appropriate flow of executive summary information on the work of the study groups. This information should be designed to assist in following and appreciating the overall significance of the work progressing in ITU-T.

**5.17** The Director shall foster cooperation and coordination with the other standardization organizations for the benefit of all members and report to TSAG on these efforts.

## SECTION 6

### Contributions

**6.1** Contributions should be submitted not later than one month before the opening of WTSA, and at any event the submission deadline for all contributions to WTSA, in accordance with Resolution 165 of the Plenipotentiary Conference, shall be not later than 21 calendar days before the opening of WTSA in order to allow for their timely translation and thorough consideration by delegations. TSB shall immediately publish all contributions submitted to WTSA in their original language(s) on the WTSA website, even before their translation into the other official languages of the Union.

Inputs from the ITU secretariat, including reports from the study groups, TSAG, the Director of TSB, and others, shall be published no later than 35 calendar days before the opening of WTSA in order to ensure timely translation and careful consideration of such documents by delegations.

**6.2** Contributions to meetings of study groups, working parties and TSAG shall be formatted in accordance with Recommendation ITU-T A.2.

**6.3** Submission and processing of contributions to meetings of study groups, working parties and TSAG shall be in accordance with the provisions of Recommendation ITU-T A.1.

## SECTION 7

**Development, adoption and approval of new and revised Questions****7.1 Common elements of development and revision of Questions**

**7.1.0** Development of a draft new or revised Question for approval and inclusion in the work programme of ITU-T may be processed, preferably:

- a) through a study group and further consideration in TSAG;
- b) through a study group and further consideration in the relevant committee of WTSA, when the study group meeting is its last in the study period prior to a WTSA;
- c) through a study group where urgent treatment is justified;

or,

- d) through WTSA (see 7.4.1).

**7.1.1** Member States, and other duly authorized entities, shall submit proposed new or revised Questions as contributions to the study group meeting which will consider the new or revised Question(s).

**7.1.2** Each proposed Question should be formulated in terms of specific task objective(s) and shall be accompanied by appropriate information as listed in Appendix I to this resolution with the aim of managing as efficiently as possible the scarce ITU resources and optimizing the use of resources. This information should clearly justify the reasons for proposing the Question and indicate the degree of urgency, while taking into account the relationship of the work of other study groups and standardization bodies and CV 196.

**7.1.3** The proposed new or revised Questions shall be made available on the ITU website for consideration according to the deadline for contributions described in Recommendation ITU-T A.1 (clause 3.1.9).

**7.1.4** New or revised Questions may also be proposed by a study group itself during a meeting.

**7.1.5** Each study group shall consider the proposed new or revised Questions to determine:

- i) the clear purpose of each proposed Question;
- ii) the priority and urgency of new Recommendation(s) desired, or changes to existing Recommendations resulting from the study of the Questions;
- iii) that there be as little overlap of work as possible between the proposed new or revised Questions both within the study group concerned and with Questions of other study groups. The work of other standardization organizations should also be considered.

**7.1.5bis** Some Member States and Sector Members (normally at least four) have to commit themselves to support the work, e.g. by contributions, provision of rapporteurs or editors and/or hosting of meetings. The names of the supporting entities should be recorded in the meeting report, together with the type of support to which they are committing.

**7.1.6** Agreement by a study group to submit proposed new or revised Questions for approval is achieved by reaching consensus among the Member States and Sector Members present at the study group meeting when the proposed new or revised Question is discussed that the criteria in 7.1.5 have been satisfied.

**7.1.7** TSAG shall be made aware by liaison statement from the study groups of all proposed new or revised Questions, in order to allow it to consider the possible implications for the work of all ITU-T study groups or other groups. In collaboration with the author(s) of proposed Question(s), TSAG shall review and, if appropriate, may recommend changes to these Question(s), taking into account the criteria in 7.1.5 above.



**7.1.8** The opportunity for review of the Questions by TSAG prior to approval may be dispensed with only where urgent approval of the proposed Question is justified in the opinion of the Director of TSB, after consulting the chairman of TSAG and the chairman of any other study groups where overlap or liaison problems could arise. This shall not apply to proposed new or revised Questions that have policy or regulatory implications, or about the scope of which there is any doubt (see Nos. 246D, 246F and 246H of the Convention).

**7.1.9** A study group may agree to commence work on a draft new or revised Question before its approval.

**7.1.10** Questions approved between WTSA have the same status as Questions approved at a WTSA.

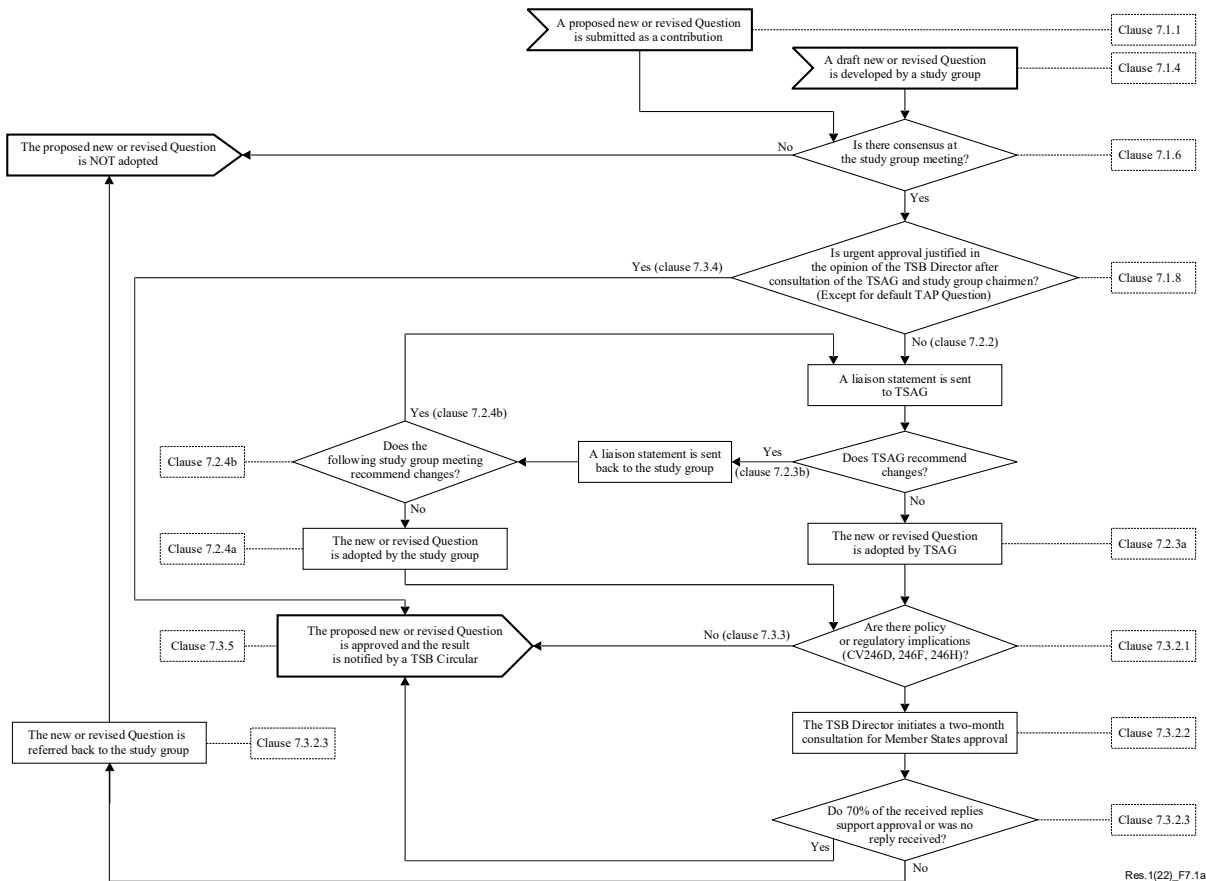
**7.1.11** In order to allow for the specific characteristics of countries with economies in transition, developing countries<sup>4</sup>, and especially the least developed countries, TSB shall take account of the relevant provisions of WTSA Resolution 44 in responding to any request submitted by such countries through the Telecommunication Development Bureau (BDT), particularly with regard to matters related to training, information, examination of questions which are not covered by the ITU-D study groups, and technical assistance required for the examination of certain questions by the ITU-D study groups.

## **7.2 Adoption of new or revised Questions between WTSA**

**7.2.1** Agreement by a study group to submit proposed new or revised Questions for review by TSAG is achieved by reaching consensus among the Member States and Sector Members present at the study group meeting. The text of such Questions shall satisfy the criteria listed in 7.1.5 above.

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<sup>4</sup> These include the least developed countries, small island developing states, landlocked developing countries and countries with economies in transition.



**Figure 7.1a – Adoption and approval of new or revised Questions between WTSA**

**7.2.2** TSAG shall be made aware by liaison statement from the study groups of all proposed new or revised Questions, in order to allow it to consider the possible implications for the work of all ITU-T study groups or other groups. TSAG shall review and, if appropriate, may recommend changes to these Question(s), taking into account the criteria listed in 7.1.5 above.

**7.2.3** In particular, TSAG shall review any new or revised Question to determine whether it is in line with the mandate of the study group. TSAG may then:

- a) adopt the text of any proposed new or revised Question, in which case the proposed draft new or revised Question(s) are submitted for approval according to the provisions listed in 7.3 below; or
- b) recommend that it be modified. If TSAG recommends modifying the draft new or revised Question, the Question shall be returned to the relevant study group for reconsideration.

**7.2.4** If TSAG recommends modifying the draft new or revised Question (7.2.3b above), then the relevant study group may:

- a) adopt the new or revised Question incorporating the recommendations from TSAG and submit it for approval in accordance with the provisions of clause 7.3 below;
- b) consider the recommendations from TSAG and, in the event of difficulties with their implementation, provide TSAG with additional information for further consideration;
- c) submit the proposed draft new or revised Question for approval by WTSA.

**7.2.5** A review by TSAG is not required for the urgent Questions mentioned in 7.1.8 above.

**7.2.6** If there are no study group meetings remaining before the next WTSA, the study group chairman shall include the proposed new or revised Questions agreed by the study group in the report that the study group submits for WTSA consideration.

### **7.3 Approval of new or revised Questions between WTSA**

**7.3.1** Between WTSA, and after development of proposed new or revised Questions (see 7.1 above), the approval procedure for new or revised Questions is set out in the subclauses below.

#### **7.3.2 Approval of adopted new or revised Questions through formal consultation with Member States**

**7.3.2.1** Under Nos. 246D, 246F and 246H of the Convention, the approval of adopted new or revised Questions that have policy or regulatory implications, or about the scope of which there is any doubt, requires formal consultation with Member States.

**7.3.2.2** The Director of TSB shall request that Member States indicate within two months from the date of the request whether or not they support approval of the adopted new or revised Questions. This request shall be accompanied by the complete final text of the adopted new or revised Questions.

**7.3.2.3** If 70 per cent or more of the replies received during the consultation period indicate approval (or if there are no replies), the adopted new or revised Questions shall be considered as approved. If the adopted new or revised Questions are not approved, they shall be referred back to the study group. Any comments received with consultation replies are forwarded to the study group.

NOTE – Only those replies that either explicitly support approval or explicitly do not support approval are counted.

#### **7.3.3 Approval of adopted new or revised Questions that do not require consultation with the Member States**

Any adopted new or revised Questions, with the exception of Questions that fall under Nos. 246D, 246F or 246H of the Convention, shall be considered as approved.

#### **7.3.4 Approval of proposed new or revised urgent Questions**

New or revised urgent Questions, as stated in 7.1.8 above, may be approved by a study group if consensus at the study group meeting is achieved.

#### **7.3.5 Notification of approval of new or revised Questions**

The Director of TSB shall notify the approval of new or revised Questions between WTSA by circular.

### **7.4 Approval of Questions by WTSA**

**7.4.1** If, despite the above provisions, a Member State or Sector Member proposes a Question directly to a WTSA, the latter either approves the new or revised Question, or invites the Member State or Sector Member to submit the proposed Question to the next meeting of the relevant study group(s).

**7.4.2** Adopted new or revised Questions may be submitted for WTSA consideration as described in 7.2.6 above.

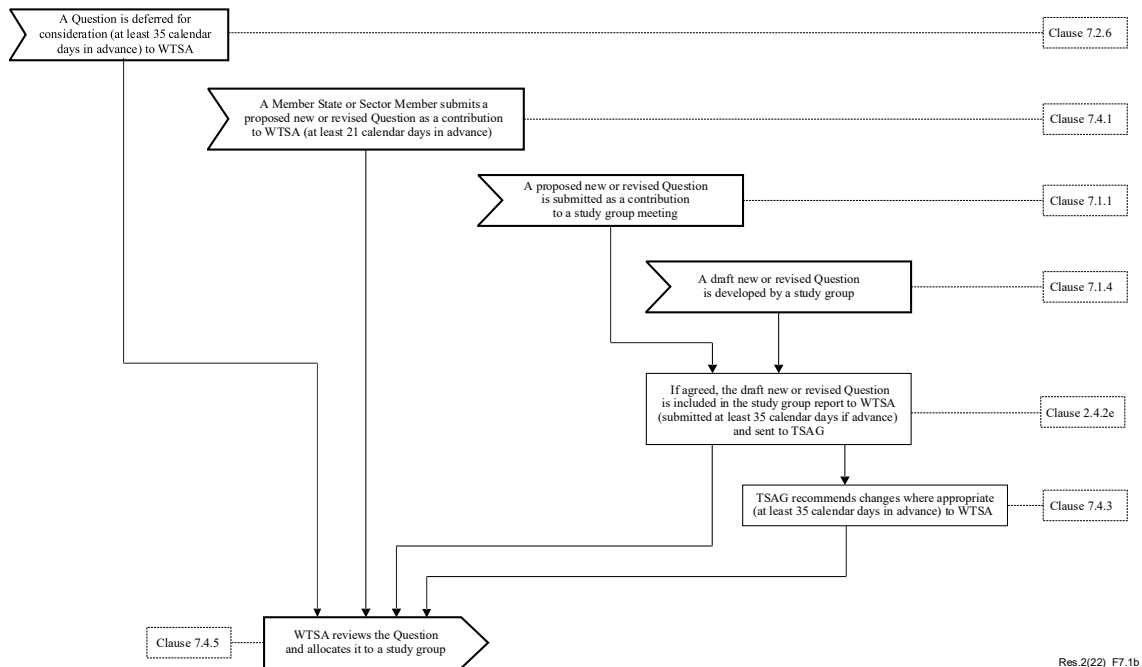
**7.4.3** At least two months prior to WTSA, TSAG shall meet to consider, review and, where appropriate, recommend changes to Questions for WTSA's consideration, while ensuring that the Questions respond to the overall needs and priorities of the ITU-T work programme and are duly harmonized to:

- i) avoid duplication of effort;
- ii) provide a coherent basis for interaction between study groups;
- iii) facilitate monitoring overall progress in the drafting of Recommendations and other ITU-T publications;

iv) facilitate cooperative efforts with other standardization organizations.

**7.4.4** No later than 35 days before WTSA, the Director shall inform the Member States and Sector Members of the list of proposed new and revised Questions.

**7.4.5** The proposed new and revised Questions may be approved by WTSA in accordance with the General Rules of conferences, assemblies and meetings of the Union.



**Figure 7.1b – Adoption and approval of new or revised Questions at WTSA**

## 7.5 Deletion of Questions

Study groups may decide in each individual case which of the following alternatives is the most appropriate for the deletion of a Question.

### 7.5.1 Deletion of a Question between WTSA's

**7.5.1.1** At a study group meeting, it may be agreed by consensus among those present to delete a Question, e.g., either because work has been terminated or because no contributions have been received at that meeting and at the previous two study group meetings. Notification about this agreement, including an explanatory summary of the reasons for the deletion, shall be provided by a circular. If a simple majority of the Member States responding has no objection to the deletion within two months, or in the event that there are no replies, the deletion comes into force. Otherwise, the issue shall be referred back to the study group.

**7.5.1.2** Those Member States which indicate disapproval are requested to provide their reasons and to indicate the possible changes that would facilitate further study of the Question.

**7.5.1.3** Notification of the result shall be given in a circular, and TSAG shall be informed by the Director. In addition, the Director shall publish a list of deleted Questions whenever appropriate, but at least once by the middle of a study period.

### 7.5.2 Deletion of a Question by WTSA

Upon the decision of the study group, the chairman shall include in his or her report to WTSA the request to delete a Question. WTSA shall decide as appropriate.

## SECTION 8

### **Recommendation development and approval processes**

#### **8.1 ITU-T Recommendation approval processes and selection of the approval process**

Procedures for approval of Recommendations which require formal consultation of Member States (traditional approval process, TAP) are specified in Section 9 of this resolution. Procedures for approval of Recommendations which do not require formal consultation of Member States (alternative approval process, AAP) are specified in Recommendation ITU-T A.8. In accordance with the Convention, the status of Recommendations approved is the same for both methods of approval.

"Selection" refers to the act of choosing AAP or choosing TAP for the development and approval of new and revised Recommendations.

##### **8.1.1 Selection at a study group meeting**

As a general approach, ITU-T Recommendations having policy or regulatory implications, such as tariff and accounting issues, and relevant numbering and addressing plans, or Recommendations where there is any doubt about their scope, are assumed to follow TAP in accordance with Nos. 246D, 246F and 246H of the Convention. Likewise, ITU-T Recommendations relating to other issues are assumed in general to follow AAP. However, explicit action at the study group meeting can change the selection from AAP to TAP, and vice versa, if so decided by consensus of the Member States and Sector Members present at the meeting.

When determining whether a new or revised draft Recommendation has policy or regulatory implications, such as: tariff and accounting issues, and relevant numbering and addressing plans, study groups should refer to WTSA Resolution 40 .

If consensus is not achieved, the same process used at a WTSA, as described in 1.13 above, shall be used to decide the selection.

##### **8.1.2 Selection at WTSA**

As a general approach, ITU-T Recommendations having policy or regulatory implications, such as tariff and accounting issues and relevant numbering and addressing plans, or Recommendations where there is any doubt about their scope, are assumed to follow TAP. Likewise, ITU-T Recommendations relating to other issues are assumed to follow AAP. However, explicit action at WTSA can change the selection from AAP to TAP, and vice versa.

#### **8.2 Notification of the selection**

When the Director of TSB notifies the membership that a Question has been approved, the Director shall also include notification of the proposed selection for the resulting Recommendations. If there are any objections, which shall be based on the provisions of No. 246D, 246F or 246H of the Convention, they shall be forwarded to the next study group meeting, in writing, where there can be a reconsideration of the selection (see 8.3 below).

#### **8.3 Reconsideration of the selection**

**8.3.1** At any time, up to the decision to put a draft new or revised Recommendation into the "Last Call" comment process, the selection can be reconsidered based on the provisions of No. 246D, 246F or 246H of the Convention. Any request for reconsideration shall be in writing (e.g. a contribution, or if submitted after the expiry of the deadline for a contribution, a written document that is then reflected in a TD) to a study group or working party meeting, accompanied by the reasons for reconsideration of the selection. A proposal from a Member State or Sector Member to change the selection has to be seconded before it can be addressed by the meeting.

**8.3.2** Using the same procedures as described in 8.1.1, the study group shall decide if the selection remains as is, or if it is changed.

**8.3.3** Any agreed change of a Recommendation's approval process shall be clearly announced at the time by the chairman of the meeting. It shall also be included in the meeting report and in the ITU-T work programme for the Recommendation.

**8.3.4** The selection may be changed once the Recommendation has been consented (according to Recommendation ITU-T A.8, clause 5.2). The selection may not be changed once the Recommendation has been determined (see 9.3.1 below).

## SECTION 9

### **Approval of new and revised Recommendations using the traditional approval process**

#### **9.1 General**

**9.1.1** Procedures for approval of new or revised Recommendations which require formal consultation of Member States under No. 246D, 246F or 246H of the Convention (traditional approval process, TAP) are found in this section of WTSA Resolution 1. According to No. 246B of the Convention, draft new or revised ITU-T Recommendations are adopted by a study group in accordance with procedures established by WTSA, and Recommendations which do not require formal consultation of Member States for their approval are considered approved. Procedures for such approval of Recommendations (alternative approval process, AAP) are found in Recommendation ITU-T A.8. In accordance with the Convention, the status of Recommendations approved is the same for both methods of approval.

**9.1.2** In the interests of speed and efficiency, approval should normally be sought as soon as the relevant texts are mature, by a formal consultation in which the Director of TSB asks Member States to delegate authority to the relevant study group to proceed with the approval process and subsequent agreement at a formal meeting of the study group.

The relevant study group may also seek approval at a WTSA.

**9.1.3** In accordance with No. 247A of the Convention, the status of Recommendations approved is the same whether approval is at a study group meeting or at a WTSA.

#### **9.2 Process**

**9.2.1** Study groups shall apply the process described below for seeking the approval of all draft new and revised Recommendations, when they have been developed to a mature state. See Figure 9.1 for the sequence of events.

**9.2.1.1** A Study Group 3 regional group shall decide on its own to apply this procedure for settling telecommunication questions which are susceptible of being treated on a regional basis, including the establishment of regional tariffs. Any Recommendation adopted according to this procedure shall only apply to the Member States that are part of the regional group. The chairman of Study Group 3 shall be informed of the decision to apply this approval procedure and Study Group 3 at its next plenary meeting will examine the draft Recommendation in broad terms. If there is no objection as regards principles and methodology, the procedure shall be initiated. Only the Member States of the Study Group 3 regional group shall be consulted by the Director for the approval of the draft Recommendation concerned.

**9.2.2** Cases where approval of new or revised Recommendations shall be deferred for consideration at a WTSA are:

- a) Recommendations of an administrative nature concerning ITU-T as a whole;
- b) where the study group concerned considers it desirable that WTSA itself shall debate and resolve particularly difficult or delicate issues;
- c) where attempts to achieve agreement within the study groups have failed.

### **9.3 Prerequisites**

**9.3.1** Upon request of the study group chairman, the Director shall explicitly announce the intention to apply the approval procedure set out in this resolution when convening the meeting of the study group. Such requests shall be based upon a determination at a study group or working party meeting or, exceptionally, at a WTSA, that work on a draft Recommendation is sufficiently mature for such action. At this stage the draft Recommendation is considered to be "determined". The Director shall include the summary of the Recommendation. Reference shall be provided to the report or other documents where the text of the draft new or revised Recommendation to be considered may be found. This information shall also be distributed to all Member States and Sector Members.

**9.3.2** Study groups are encouraged to establish an editing group in each study group to review the texts of new and revised Recommendations for suitability in each of the official languages.

**9.3.3** The text of the draft new or revised Recommendation shall be available to TSB in a final edited form in at least one of the official languages at the time that the Director makes the announcement of the intended application of the approval procedure set out in this resolution. Any associated electronic material included in the Recommendation (e.g. software, test vectors, etc.) shall also be made available to TSB at the same time. A summary that reflects the final edited form of the draft Recommendation shall also be provided to TSB in accordance with 9.3.4 below. The invitation to the meeting, together with the summary of the draft new or revised Recommendation, announcing the intended application of this approval procedure, shall be sent by the Director to all Member States and Sector Members so as to be received at least three months before the meeting. The invitation and the enclosed summary shall be distributed according to normal procedures, which include the use of the appropriate official languages.

**9.3.4** The summary shall be prepared in accordance with the author's guide for drafting ITU-T Recommendations. It is a brief outline of the purpose and content of the new or revised draft Recommendation and, where appropriate, the intent of the revisions. No Recommendation shall be considered as complete and ready for approval without this summary statement.

**9.3.5** The text of the draft new or revised Recommendation shall have been distributed in the official languages at least one month prior to the announced meeting.

**9.3.6** Approval may only be sought for a draft new or revised Recommendation within the study group's mandate as defined by the Questions allocated to it, in accordance with No. 192 of the Convention. Alternatively, or additionally, approval may be sought for amendment of an existing Recommendation within the study group's responsibility and mandate (see WTSA Resolution 2).

**9.3.7** Where a draft new or revised Recommendation falls within the mandate of more than one study group, the chairman of the study group proposing the approval should consult and take into account the views of any other study group chairmen concerned before proceeding with the application of this approval procedure.

**9.3.8** ITU-T Recommendations are to be elaborated with a view to being applied as broadly and openly as possible, so as to ensure their widespread use. Recommendations are to be elaborated keeping in mind the requirements relating to intellectual property rights and in accordance with the Common Patent Policy for ITU-T/ITU-R/ISO/IEC available at <https://www.itu.int/en/ITU-T/ipr/>. For example:

**9.3.8.1** Any party participating in the work of ITU-T should, from the outset, draw the attention of the Director to any known patent or to any known pending patent application, either of their own or of other organizations. The "Patent Statement and Licensing Declaration" form from the ITU-T website is to be used.

**9.3.8.2** ITU-T non-member organizations that hold patent(s) or pending patent application(s), the use of which may be required in order to implement an ITU-T Recommendation, can submit a "Patent Statement and Licensing Declaration" to TSB using the form available at the ITU-T website.

**9.3.9** In the interests of stability, once a new or revised Recommendation has been approved, approval should not normally be sought within a reasonable period of time for any further amendment of the new text or the revised portion, respectively, unless the proposed amendment complements rather than changes the agreement reached in the previous approval process or a significant error or omission is discovered. As a guideline, in this context "a reasonable period of time" would be at least two years in most cases.

**9.3.10** Any Member States considering themselves to be adversely affected by a Recommendation approved in the course of a study period may refer their case to the Director, who shall submit it to the relevant study group for prompt attention.

**9.3.11** The Director shall inform the next WTSA of all cases notified under 9.3.10 above.

#### **9.4 Consultation**

**9.4.1** Consultation of the Member States encompasses the time period and procedures beginning with the announcement by the Director of the intention to apply the approval procedure (9.3.1) up to seven working days before the beginning of the study group meeting. The Director shall request Member States' opinions within this period on whether they assign authority to the study group that the draft new or revised Recommendations should be considered for approval at the study group meeting. Only Member States are entitled to respond to this consultation.

**9.4.2** If TSB has received a statement (or statements) indicating that the use of intellectual property, e.g. the existence of a patent, or a copyright claim, may be required in order to implement a draft Recommendation, the Director shall indicate this situation in the circular announcing the intention to invoke the WTSA Resolution 1 approval process (see Appendix II to this resolution).

**9.4.3** The Director shall inform the Directors of the other two Bureaux, as well as recognized operating agencies, scientific and industrial organizations and international organizations participating in the work of the study group in question, that Member States are being asked to respond to a consultation on a proposed new or revised Recommendation. Only Member States are entitled to respond (see 9.5.2 below).

**9.4.4** Should any Member States be of the opinion that consideration for approval shall not proceed, they should advise their reasons for disapproving and indicate the possible changes that would facilitate further consideration and approval of the draft new or revised Recommendation.

**9.4.5** If 70 per cent or more of the replies from Member States support consideration for approval at the study group meeting (or if there are no replies), the Director shall advise the chairman that consideration of the approval may proceed. (With the authorization given by Member States that the study group may proceed with the approval process, they also recognize that the study group may make the necessary technical and editorial changes in accordance with 9.5.2 below.)

**9.4.6** If less than 70 per cent of the replies received by the due date support consideration for approval at the study group meeting, the Director shall advise the chairman that consideration of the approval may not proceed at that meeting. (Nevertheless, the study group should consider the information provided under 9.4.4 above.)



NOTE – Only those replies that either explicitly support or explicitly do not support consideration for approval at the study group meeting are counted.

**9.4.7** Any comments received along with all responses to the consultation shall be collected by TSB and submitted as a TD to the next meeting of the study group.

## **9.5 Procedure at study group meetings**

**9.5.1** The study group should review the text of the draft new or revised Recommendation as referred to in 9.3.1 and 9.3.3 above. The meeting may then accept any editorial corrections or other amendments not affecting the substance of the Recommendation. The study group shall assess the summary statement referred to in 9.3.4 in terms of its completeness and ability to concisely convey the intent of the draft new or revised Recommendation to a telecommunication expert who has not participated in the study group work.

**9.5.2** Technical and editorial changes may only be made during the meeting as a consequence of written contributions, of results from the consultation process (see 9.4 above) or of liaison statements. Where proposals for such revisions are found to be justified but to have a major impact on the intent of the Recommendation or to depart from points of principle agreed at the previous study group or working party meeting, consideration of this approval procedure should be deferred to another meeting. However, in justified circumstances the approval procedure may still be applied if the chairman of the study group, in consultation with TSB, considers:

- a) that the proposed changes are reasonable (in the context of the advice issued under 9.4 above) for those Member States not represented at the meeting, or not represented adequately under the changed circumstances; and
- b) that the proposed text is stable.

**9.5.3** After debate at the study group meeting, the decision of the delegations of Member States (see No.1005 in the Annex to the Constitution) to approve the Recommendation under this approval procedure shall be unopposed (but see 9.5.4, regarding reservations, 9.5.5 and 9.5.6). See No. 239 of the Convention.

**9.5.4** In cases where a delegation does not elect to oppose approval of a text, but would like to register a degree of reservation on one or more aspects, this shall be noted in the report of the meeting. Such reservations shall be mentioned in a concise note appended to the text of the Recommendation concerned.

**9.5.5** A decision shall be reached during the meeting on the basis of a text available in its final form to all participants at the meeting. Exceptionally, but only during the meeting, a delegation may request more time to consider its position. Unless the Director is advised of formal opposition from the Member State to which the delegation belongs within a period of four weeks from the end of the meeting, the Director shall proceed in accordance with 9.6.1.

**9.5.5.1** A Member State which requested more time to consider its position and which then indicates disapproval within the four-week interval specified in 9.5.5 above is requested to state its reasons and to indicate the possible changes that would facilitate further consideration and future approval of the draft new or revised Recommendation.

**9.5.5.2** If the Director is advised of formal opposition, the matter shall be returned to the study group, and the study group chairman, after consultation with the parties concerned, may proceed according to 9.3.1 above, without further determination at a subsequent working party or study group meeting.

**9.5.6** A delegation may advise at the meeting that it is abstaining from the decision to apply the procedure. This delegation's presence shall then be ignored for the purposes of 9.5.3 above. Such an abstention may subsequently be revoked, but only during the course of the meeting.

## **9.6 Notification**

**9.6.1** Within four weeks of the closing date of the study group meeting or, exceptionally, four weeks after the period described in 9.5.5, the Director shall notify whether the text is approved or not, by circular. The Director shall arrange that this information is also included in the next available ITU Notification. Within this same time period, the Director shall also ensure that any Recommendation agreed to during the study group decision meeting is available online in at least one official language, with an indication that the Recommendation may not be in its final publication form.

**9.6.2** Should minor, purely editorial amendments or corrections of evident oversights or inconsistencies in the text as presented for approval be necessary, TSB may correct these with the approval of the chairman of the study group.

**9.6.3** The Secretary-General shall publish the approved new or revised Recommendations in the official languages as soon as practicable, indicating, as necessary, a date of entry into effect. However, in accordance with Recommendation ITU-T A.11, minor amendments may be covered by corrigenda rather than a complete reissue. Also, where appropriate, texts may be grouped to suit market needs.

**9.6.4** Text shall be added to the cover sheets of all new and revised Recommendations urging users to consult the ITU-T patent database and the ITU-T software copyright database. Suggested wording is:

- a) "ITU draws attention to the possibility that the practice or implementation of this Recommendation may involve the use of a claimed intellectual property right. ITU takes no position concerning the evidence, validity or applicability of claimed intellectual property rights, whether asserted by ITU Member States and Sector Members or by others outside of the Recommendation development process."
- b) "As of the date of approval of this Recommendation, ITU had/had not received notice of intellectual property, protected by patents/software copyrights, which may be required to implement this Recommendation. However, implementers are cautioned that this may not represent the latest information and are therefore strongly urged to consult the appropriate ITU-T databases available via the ITU-T website."

**9.6.5** See also Recommendation ITU-T A.11 concerning the publication of lists of new and revised Recommendations.

## **9.7 Correction of defects**

When a study group identifies the need for implementers to be made aware of defects (e.g. typographical errors, editorial errors, ambiguities, omissions or inconsistencies and technical errors) in a Recommendation, one mechanism that may be employed is an implementers' guide. This guide is an historical document recording all identified defects and their status of correction, from their identification to final resolution. Implementers' guides shall be agreed by the study group or agreed by one of its existing working parties with the concurrence of the study group chairman. Implementers' guides shall be made available by posting on the ITU-T website with open access.

## **9.8 Deletion of Recommendations**

Study groups may decide in each individual case which of the following alternatives is the most appropriate for the deletion of Recommendations.

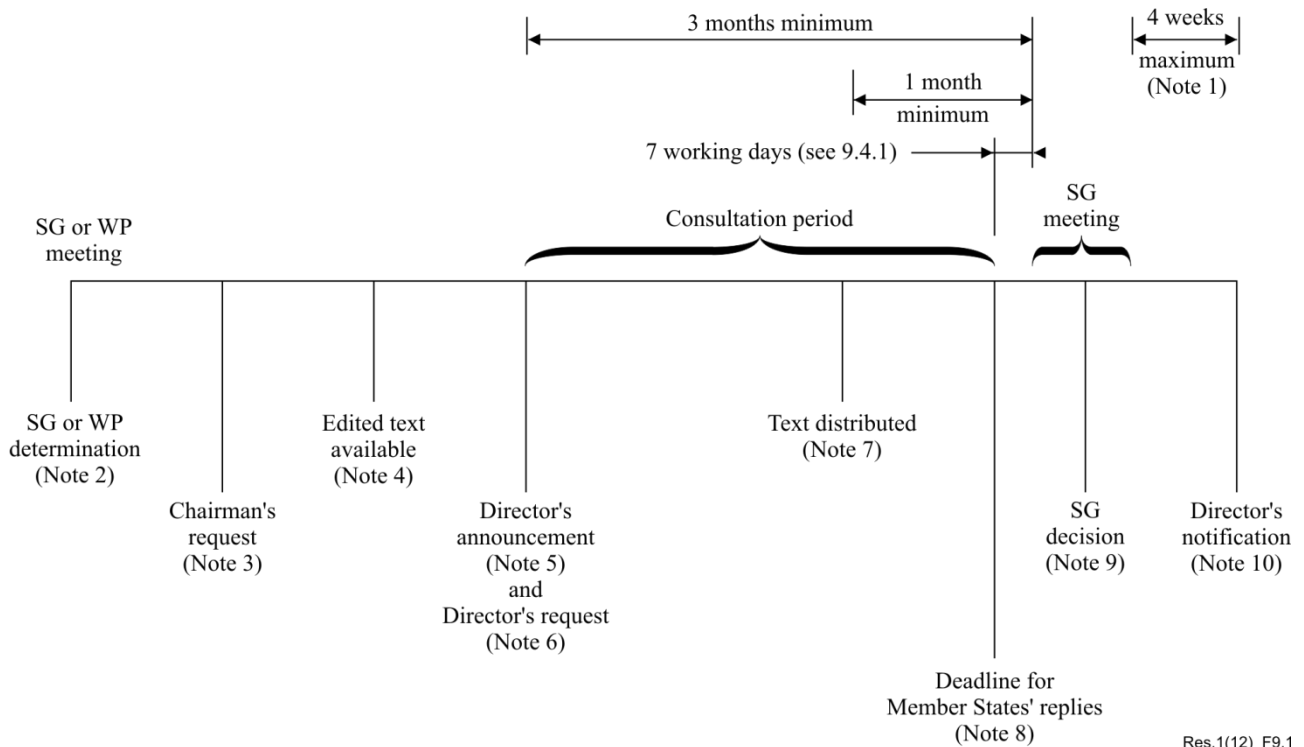
### **9.8.1 Deletion of Recommendations by WTSA**

Upon the decision of the study group, the chairman shall include in his or her report to WTSA the request to delete a Recommendation. WTSA shall consider the request and act as appropriate.

## **9.8.2 Deletion of Recommendations between WTSAs**

**9.8.2.1** At a study group meeting it may be agreed to delete a Recommendation, either because it has been superseded by another Recommendation or because it has become obsolete. This agreement shall be unopposed by the Member States and any Sector Members acting on behalf of Member States under No. 239 of the Convention. Information about this agreement, including an explanatory summary about the reasons for the deletion, shall be provided by a circular. If no objection to the deletion is received within three months, the deletion will come into force. In the case of objection, the matter shall be referred back to the study group.

**9.8.2.2** Notification of the result shall be included in another circular, and TSAG shall be informed by a report from the Director. In addition, the Director shall publish a list of deleted Recommendations whenever appropriate, but at least once by the middle of a study period.



Res.1(12)\_F9.1

- NOTE 1 – Exceptionally, an additional period of up to four weeks would be added if a delegation requested more time under 9.5.5.
- NOTE 2 – SG or WP DETERMINATION: The study group or working party determines that work on a draft Recommendation is sufficiently mature and requests the SG chairman to make the request to the Director (9.3.1).
- NOTE 3 – CHAIRMAN'S REQUEST: The SG chairman requests that the Director announce the intention to seek approval (9.3.1).
- NOTE 4 – EDITED TEXT AVAILABLE: Text of the draft Recommendation, including the required summary, shall be available to TSB in final edited form in at least one official language (9.3.3). Any associated electronic material included in the Recommendation must also be made available to TSB at the same time.
- NOTE 5 – DIRECTOR'S ANNOUNCEMENT: The Director announces the intention to seek approval of the draft Recommendation at the next SG meeting. The invitation to the meeting with the announcement of the intention to apply the approval procedure should be sent to all Member States and Sector Members so as to be received at least three months before the meeting (9.3.1 and 9.3.3).
- NOTE 6 – DIRECTOR'S REQUEST: The Director requests Member States to inform the Director whether they approve or do not approve the proposal (9.4.1 and 9.4.2). This request shall contain the summary and reference to the complete final text.
- NOTE 7 – TEXT DISTRIBUTED: Text of the draft Recommendation shall have been distributed in the official languages at least one month before the announced meeting (9.3.5).
- NOTE 8 – DEADLINE FOR MEMBER STATES' REPLIES: If 70% of replies received during the consultation period indicate approval, the proposal shall be accepted (9.4.1, 9.4.5 and 9.4.7).
- NOTE 9 – STUDY GROUP DECISION: After debate, the study group reaches unopposed agreement to apply the approval procedure (9.5.3 and 9.5.2). A delegation can register a degree of reservation (9.5.4), can request more time to consider its position (9.5.5) or can abstain from the decision (9.5.6).
- NOTE 10 – DIRECTOR'S NOTIFICATION: The Director notifies whether the draft Recommendation is approved or not (9.6.1).

**Figure 9.1 – Approval of new and revised Recommendations using TAP – Sequence of events**

## APPENDIX I (to Resolution 1 (Rev. Geneva, 2022))

### Information for submission of a Question

- Source
- Short title
- Type of Question or proposal<sup>5</sup>

<sup>5</sup> Background Question, task-oriented Question designed to lead to a Recommendation, proposal for a new manual, revised manual, etc.

- Reasons or experience motivating the proposed Question or proposal, taking into account CV 196.
- Draft text of Question or proposal
- Specific task objective(s) with expected time-frames for completion
- Relationship of this study activity to:
  - Recommendations
  - Questions
  - study groups
  - relevant standardization organizations

Guidelines for drafting Question text are available on the ITU-T website.

## APPENDIX II (to Resolution 1 (Rev. Geneva, 2022))

### **Suggested text of the note to be included in the circular**

TSB has received a statement(s) indicating that the use of intellectual property, protected by one or more issued or pending patent(s) and/or software copyright(s), may be required to implement this draft Recommendation. Available patent and software copyright information can be accessed via the ITU-T website.

**MOD****RESOLUTION 2 (Rev. Geneva, 2022)****ITU Telecommunication Standardization Sector study group  
responsibility and mandates**

*(Helsinki, 1993; Geneva, 1996; Montreal, 2000; Florianópolis, 2004;  
Johannesburg, 2008; 2009<sup>1</sup>; Dubai, 2012; 2015<sup>2</sup>; 2016<sup>3</sup>; Hammamet, 2016; Geneva, 2022)*

The World Telecommunication Standardization Assembly (Geneva, 2022),

*recognizing*

- a) that the ITU Telecommunication Standardization Sector (ITU-T) is entitled to study and develop outputs on technical, economic and policy issues related to the telecommunication/information and communication technology (ICT) field as stated in Articles 17, 18, 19, 20 of the ITU Constitution and Articles 13, 14, 14A, 15 and 20 of the ITU Convention;
- b) relevant resolutions of the ITU Plenipotentiary Conference which mandate ITU-T to study and develop outputs, including Recommendations, in many areas;
- c) that new and emerging technologies will have noticeable impact on telecommunications/ICTs, and ITU-T needs to address the interests of its membership by keeping pace with these advances in technology to advance telecommunications/ICT;
- d) the resolutions adopted by this assembly, which contain many instructions and implications for the work of the relevant study groups,

*considering*

- a) that the mandate for each study group needs to be clearly defined in order to minimize duplication of work between study groups and to ensure the coherence of the overall work programme of ITU-T;
- b) that ITU-T has to evolve in order to stay relevant to the changing telecommunication environment and to its membership interests;
- c) that collocation of study group, working party or rapporteur group meetings have also been a mean to minimize duplication of work and to improve efficiency of work; in practice, collocation enables:
  - attendees' participation in the work of more than one study group;
  - reduction in the need for exchange of liaison statements between the study groups concerned;
  - saving costs for ITU and for ITU members and other experts;
- d) that the World Telecommunication Standardization Assembly (WTSA), through Resolution 22, assigns authority to the Telecommunication Standardization Advisory Group

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<sup>1</sup> Changes to the ITU-T Study Group 5 mandate agreed by TSAG on 30 April 2009.

<sup>2</sup> Creation of ITU-T Study Group 20 by TSAG on 5 June 2015.

<sup>3</sup> Changes to the ITU-T Study Group 20 lead study group role agreed by TSAG on 5 February 2016.

(TSAG) in the interval between WTSAAs to restructure and establish ITU-T study groups in response to changes in the telecommunication marketplace,

*noting*

that the study group structure, responsibilities and mandates agreed at WTSA may be modified in the interval between WTSAAs, and that the current study group structure, responsibility and mandates may be found on the ITU-T website or obtained from the Telecommunication Standardization Bureau (TSB),

*resolves*

1 that the mandate of each study group, which it shall use as the basis for organizing its study programme, taking into account *recognizing a), b), c), and d)* above, shall consist of:

- a general area of responsibility, as set out in Annex A to this resolution, within which the study group may amend existing Recommendations, in collaboration with other groups, as appropriate;
- a set of Questions related to particular areas of study, which are compatible with the general area of responsibility and which should be results-oriented (refer to Section 7 of Resolution 1 (Rev. Geneva, 2022) of this assembly);

2 to encourage the study groups to consider collocation (e.g. of study group plenaries, working parties or rapporteur meetings) as a means to improve cooperation in some areas of work; the study groups involved will need to identify the areas in which they need to cooperate, based on their mandates, and keep TSAG and TSB informed;

3 to encourage ITU-T study groups to conduct work on how to ensure wider implementation of ITU-T Recommendations at the national level in collaboration with the ITU Telecommunication Development Sector (ITU-D) study groups;

*instructs the Telecommunication Standardization Bureau*

to support and facilitate the operational aspects of such collocation.

## ANNEX A (to Resolution 2 (Rev. Geneva, 2022))

### **Part 1 – General areas of study**

#### **ITU-T Study Group 2**

##### **Operational aspects of service provision and telecommunication management**

ITU-T Study Group 2 is responsible for studies relating to:

- continued deployment of numbering, naming, addressing and identification (NNAI) requirements and resource assignment, including criteria and procedures for reservation, assignment and reclamation;
- evolution of and specification of use of NNAI requirements and resource assignment, including criteria and procedures for reservation, assignment and reclamation for future telecommunication/ICT architectures, capabilities, technologies, applications and services;
- principles of administering global NNAI resources;
- principles and operational aspects of routing, interworking, number portability and carrier switching;

- principles of service provision, definition and operational requirements for current and future telecommunication/ICT architectures, capabilities, technologies, applications and services;
- operational and management aspects of networks, including network traffic management, designations and transport-related operations procedures;
- operational aspects of interworking between traditional telecommunication networks and evolving and emerging telecommunication/ICT architectures, capabilities, technologies, applications and services;
- evaluation of feedback from operators, manufacturing companies and users on different aspects of network operation;
- management of future telecommunication/ICT architectures, capabilities, technologies, applications and services;
- evolution of the management interface specification methodology;
- specifying interfaces to management systems to support the communication of identity information within or between organizational domains; and
- the operational impact of the Internet, convergence (services or infrastructure) and future services, such as over-the-top (OTT), on international telecommunication services and networks.

### **ITU-T Study Group 3**

#### **Tariff and accounting principles and international telecommunication/ICT economic and policy issues**

ITU-T Study Group 3 is responsible, *inter alia*, for studying international telecommunication/ICT policy and economic issues and tariff and accounting matters (including costing principles and methodologies), with a view to informing the development of enabling regulatory models and frameworks. To this end, Study Group 3 shall in particular foster collaboration among its participants with a view to the establishment of rates at levels as low as possible consistent with an efficient service and taking into account the necessity of maintaining independent financial administration of telecommunications on a sound basis. Additionally, Study Group 3 will study the economic and regulatory impact of the Internet, new and emerging technologies, convergence (services or infrastructure) and new services, such as over-the-top (OTT), on international telecommunication services and networks.

### **ITU-T Study Group 5**

#### **Electromagnetic fields (EMF), environment, climate action, sustainable digitalization and circular economy**

ITU-T Study Group 5 is responsible for the development of standards on the environmental aspects of ICT and digital technologies and protection of the environment, including electromagnetic phenomena and climate change.

Study Group 5 will study how the digital transformation can be shaped to ensure it supports transitions towards more sustainable societies.

Study Group 5 will also study issues related to resistibility, human exposure to electromagnetic fields (EMF), circular economy, energy efficiency and climate-change adaptation and mitigation. It will develop international standards, guidelines, technical papers and assessment frameworks that support the sustainable use and deployment of ICTs and digital technologies, and evaluate the environmental performance, including biodiversity, of digital technologies such as, but not limited to, 5G, artificial intelligence (AI), smart manufacturing, automation, etc.



Study Group 5 is also responsible for studying design methodologies and frameworks to reduce the volume and adverse environmental effects of e-waste and to support the transition towards a circular economy.

Study Group 5 has an extended role in evaluating the impact of ICTs in accelerating climate-change adaptation and mitigation actions, particularly in industries (including the ICT sector), cities, rural areas and communities. To this end, Study Group 5 is also working to develop standards and guidelines for building resilient ICT infrastructures in rural areas and communities as well as to develop assessment methodologies for the trajectories of the ICT sector with the United Nations Sustainable Development Agenda 2030 and the Paris Agreement.

In addition to its climate-focused activities, Study Group 5 has five other objectives. The first is to protect ICT (including telecommunication equipment and installations) against damage and malfunction due to electromagnetic phenomena, such as lightning, as well as from particle radiations. In this field, Study Group 5 is one of the world's most experienced and respected standardization bodies. The second is to ensure safety of personnel and users of networks against electrical hazards existing in ICT networks. The third is to avoid health risks from EMF produced by telecommunication devices and installations. Study Group 5 will develop standards to give operators, manufacturers, and government agencies the tools required to assess EMF levels and to verify compliance with the World Health Organization (WHO) recommended human exposure guidelines and limits. The fourth is to guarantee good reliability and low latency for high-speed network services by providing requirements on resistibility and electromagnetic compatibility (EMC). The fifth is EMC, which is another key component of Study Group 5's work, by ensuring that the functionality of telecommunication equipment is not compromised by electromagnetic interference related to radiated and conducted disturbances emitted by other electrical or communications systems. EMC is becoming particularly relevant in taking into account the convergence of telecommunication and IT equipment, as well as in ensuring the efficient operation of home networks.

Study Group 5 is responsible for studies on how to use ICTs and digital technologies to tackle environmental challenges in line with the Sustainable Development Goals (SDGs).

## **ITU-T Study Group 9**

### **Audiovisual content transmission and integrated broadband cable networks**

ITU-T Study Group 9 is responsible for studies relating to:

- use of telecommunication systems for contribution, primary distribution and secondary distribution of audiovisual content, e.g. television programmes and related data services, including interactive services and applications, providing advanced capabilities, e.g. ultra-high definition and high-dynamic range, 3D, virtual reality, augmented reality and multiview;
- use of cable networks, e.g., coaxial cable, optical fibre, hybrid fibre coaxial (HFC), etc., to also provide integrated broadband services. The cable network, primarily designed for audiovisual content delivery to the home, also carries time-critical services like voice, gaming, video-on-demand, interactive and multiscreen services, etc., to customer premises equipment (CPE) in the home or enterprise;
- use of cloud computing, artificial intelligence (AI) and other advanced technologies to enhance audiovisual content contribution and distribution as well as integrated broadband services over the cable networks;
- use of accessibility services (like captioning, audio caption) and new interaction technologies (like haptic, gesture, eye tracking and so on) to enhance accessibility of audiovisual content and related data services for people with different ranges of abilities.

## **ITU-T Study Group 11**

### **Signalling requirements, protocols, test specifications and combating counterfeit telecommunication/information and communication technology (ICT) devices**

ITU-T Study Group 11 has been attributed the responsibility for studies related to signalling-system architecture, signalling requirements and protocols, for all types of networks such as future networks (FN), cloud-computing networks, VoLTE/ViLTE-based network interconnection, virtual networks, multimedia, next-generation networks (NGN), signalling for legacy network interworking, satellite-terrestrial networks, software-defined networking (SDN) technologies, network function virtualization (NFV) technologies, IMT-2020 networks and beyond, quantum key distribution network (QKDN) and related technologies, and augmented reality.

Study Group 11 is also responsible for studies to combat counterfeit telecommunication/ICT devices and mobile device theft.

Study Group 11 will also develop test specifications for testing conformance and interoperability (C&I) for all types of networks, technologies and services, a testing methodology and test suites for standardized network parameters in relation to the framework for Internet-related performance measurement, as well as for existing and emerging technologies.

In addition, Study Group 11 will study a way to implement a testing laboratory recognition procedure in ITU-T through the work of the ITU-T Conformity Assessment Steering Committee (CASC).

## **ITU-T Study Group 12**

### **Performance, quality of service and quality of experience**

ITU-T Study Group 12 is responsible for Recommendations on performance, quality of service (QoS) and quality of experience (QoE) for the full spectrum of terminals, networks, services and applications ranging from speech over fixed circuit-based networks to multimedia applications over networks that are mobile and packet based. Included in this scope are the operational aspects of performance, QoS and QoE; the end-to-end quality aspects of interoperability, and the development of multimedia quality assessment methodologies, both subjective and objective.

## **ITU-T Study Group 13**

### **Future networks and emerging network technologies**

ITU-T Study Group 13 is responsible for studies relating to the requirements, architectures, capabilities and application programming interfaces (APIs) as well as softwarization and orchestration aspects of converged future networks (FN) including the application of machine learning technologies. It develops standards related to information-centric networking (ICN) and content-centric networking (CCN). Regarding IMT-2020 and beyond it particularly focuses on non-radio related parts. Study Group 13's responsibility also includes IMT-2020 and beyond project management coordination across all ITU-T study groups and release planning.

It is also responsible for studies relating to future computing including cloud computing and data handling in telecommunication networks. This covers capabilities and technologies from the network side to support data utilization, exchange, sharing, and data quality assessment and computing-aware networking as well as end-to-end awareness, control and management of future computing, including cloud, cloud security and data handling.

Study Group 13 studies aspects relating to fixed, mobile and satellite convergence for multi-access networks, mobility management, and enhancements to existing ITU-T Recommendations on mobile communications, including the energy-saving aspects. It develops standards for quantum key distribution networks (QKDN) and related technologies. It further studies the concepts and mechanisms to enable trusted ICT, including framework, requirements, capabilities, architectures

and implementation scenarios of trusted network infrastructures and trusted cloud solutions in coordination with all study groups concerned.

### **ITU-T Study Group 15**

#### **Networks, technologies and infrastructures for transport, access and home**

ITU-T Study Group 15 is responsible in ITU-T for the development of standards for the optical transport network, access network, home network and power utility network infrastructures, systems, equipment, optical fibres and cables. This includes related installation, maintenance, management, test, instrumentation and measurement techniques, and control plane technologies to enable the evolution toward intelligent transport networks, including the support of smart-grid applications.

### **ITU-T Study Group 16**

#### **Multimedia and related digital technologies**

ITU-T Study Group 16 is responsible for studies relating to ubiquitous multimedia applications, multimedia capabilities, multimedia services and multimedia applications for existing and future networks.

This encompasses information and communication technologies (ICTs) for multimedia systems, applications, terminals and delivery platforms; accessibility for digital inclusion; ICTs for active assisted living; human interfaces; multimedia aspects of distributed ledger technologies; media and signal coding and systems; and digital multimedia services in various verticals (health, culture, mobility, etc.).

NOTE – When ITU-T SG16 was created in 1996, one of its mandates was to continue ITU-T SG1's studies on multimedia services. Accordingly, reference to "services" in the context of SG16's mandate is to be understood as "multimedia services".

### **ITU-T Study Group 17**

#### **Security**

ITU-T Study Group 17 is responsible for building confidence and security in the use of information and communication technologies (ICTs).

Providing security by ICTs and ensuring security for ICTs are both major study areas for Study Group 17. This includes studies relating to cybersecurity, managed security services, endpoint detection and response, security management, countering spam and identity management. It also includes security architecture and framework, quantum-based security, distributed ledger technology (DLT) security, intelligent transport system (ITS) security, security aspects related to artificial intelligence (AI), and security of networks, applications and services such as Internet of things (IoT) and smart cities, various kinds of networks including IMT-2020/5G and beyond, smart grid, industrial control systems (ICS), supply chain, smartphone, software-defined networking (SDN), network function virtualization (NFV), Internet protocol television (IPTV), web services, over-the-top (OTT), social network, cloud computing, big data analytics, digital financial system (DFS) and telebiometrics.

Building confidence and security in the use of ICTs also includes protecting personally identifiable information (PII) such as technical and operational aspects of data protection with respect to ensuring confidentiality, integrity and availability of PII.

Study Group 17 is also responsible for the application of open system communications, including directory and object identifiers, and for technical languages, the method for their usage and other issues related to the software aspects of telecommunication systems, and for test specification languages in support of conformance testing to improve the quality of Recommendations.

## ITU-T Study Group 20

### Internet of Things (IoT) and smart cities and communities

Study Group 20 is responsible for studies relating to Internet of Things (IoT) and its applications, and smart cities and communities (SC&C). This includes studies relating to big data aspects of IoT and SC&C, digital services for SC&C, and digital transformation relevant IoT and SC&C aspects.

#### Part 2 – Lead ITU-T study groups in specific areas of study

- SG2    Lead study group on numbering, naming, addressing and identification (NNAI)  
       Lead study group on administration of global NNAI resources  
       Lead study group on routing and interworking  
       Lead study group on number portability and carrier switching  
       Lead study group on telecommunication/ICT capabilities and applications  
       Lead study group on telecommunication/ICT service definition  
       Lead study group on telecommunications for disaster relief/early warning, network resilience and recovery  
       Lead study group on telecommunication management
- SG3    Lead study group on tariff and accounting principles relating to international telecommunications/ICT  
       Lead study group on economic issues relating to international telecommunications/ICT  
       Lead study group on policy issues relating to international telecommunications/ICT
- SG5    Lead study group on electromagnetic compatibility, resistibility and lightning protection  
       Lead study group on soft error caused by particle radiations  
       Lead study group on human exposure to electromagnetic fields  
       Lead study group on circular economy and e-waste management  
       Lead study group on ICTs related to the environment, energy efficiency, clean energy and sustainable digitalization for climate actions
- SG9    Lead study group on integrated broadband cable networks  
       Lead study group on audiovisual content delivery over cable networks
- SG11    Lead study group on signalling and protocols  
       Lead study group on establishing test specifications, conformance and interoperability testing for all types of networks, technologies and services that are the subject of study and standardization by all ITU-T study groups  
       Lead study group on combating counterfeiting of ICT devices  
       Lead study group on combating the use of stolen ICT devices
- SG12    Lead study group on quality of service and quality of experience  
       Lead study group on driver distraction and voice aspects of car communications  
       Lead study group on quality assessment of video communications and applications
- SG13    Lead study group on future networks such as IMT-2020 networks and beyond (non-radio related parts)  
       Lead study group on fixed-mobile convergence  
       Lead study group on cloud computing  
       Lead study group on machine learning
- SG15    Lead study group on access network transport  
       Lead study group on home networking  
       Lead study group on optical technology
- SG16    Lead study group on multimedia technologies, applications, systems and services  
       Lead study group on IP-based television services and digital signage  
       Lead study group on human factors and ICT accessibility for digital inclusion

Lead study group on multimedia aspects of automotive-related intelligent services  
 Lead study group on multimedia aspects of digital health  
 Lead study group on digital culture  
 Lead study group on multimedia aspects of distributed ledger technology (DLT) and its applications

SG17 Lead study group on security  
 Lead study group on identity management  
 Lead study group on languages and description techniques

SG20 Lead study group on Internet of Things (IoT) and its applications  
 Lead study group on smart cities and communities and related digital services  
 Lead study group for IOT identification  
 Lead study group on digital health related to IoT and smart cities and communities

## ANNEX B (to Resolution 2 (Rev. Geneva, 2022))

### **Points of guidance to ITU-T study groups for development of the post-2022 work programme**

**B.1** This annex provides points of guidance to study groups for the development of post-2022 study Questions in accordance with their proposed structure and general areas of responsibility. The points of guidance are intended to clarify, where appropriate, interaction between study groups in certain areas of common responsibility, and are not intended to provide a comprehensive list of such responsibilities.

**B.2** This annex will be reviewed by TSAG as necessary to facilitate interaction between study groups, to minimize duplication of effort and to harmonize the overall ITU-T work programme.

#### **ITU-T Study Group 2**

ITU-T Study Group 2 is the lead study group for numbering, naming, addressing and identification (NNAI), routing and interworking and service definition (including future telecommunication/ICT architectures, capabilities, technologies, applications and services) and will continue to be responsible for creating principles of service and operational requirements, including NNAI aspects, billing and operational quality of service/network performance. Service principles and operational requirements will also continue to be developed for current and evolving telecommunications/ICTs.

Study Group 2 is responsible for studying, developing and recommending general principles of NNAI as well as routing for all types of future and evolving telecommunication/ICT architectures, capabilities, technologies, applications and services and operational aspects relating to end-to-end routing for all types of current and future networks.

Study Group 2 is responsible for studying, developing and recommending general principles and operational aspects related to interworking, number portability and carrier switching.

Study Group 2 will study and describe services and capabilities from a user's point of view to facilitate global interconnection and interoperation and, to the extent practicable, ensure compatibility with the International Telecommunication Regulations and related intergovernmental agreements.

Study Group 2 should continue to study service policy aspects, including those that may arise in the operation and provision of transborder, global and/or regional services, taking due account of national sovereignty.

The chairman of Study Group 2 (or, if necessary, the chairman's delegated representative), and the designated advisers through the Numbering Coordination Team (NCT), shall provide technical advice to the Director of TSB concerning general principles for NNAI, assignment, reassignment and/or reclamation of international NNAI directly assigned global resources and routing, and the effect on allocation of directly assigned NNAI resources.

Study Group 2 shall provide the Director of TSB with advice on technical, functional and operational aspects in the assignment, reassignment and/or reclamation of international numbering and addressing resources in accordance with the relevant ITU-T E- and F-series Recommendations, taking into account the results of any ongoing studies, or requests raised by NCT.

Study Group 2 should recommend measures to be taken to assure operational performance of all networks (including network management) in order to meet the requisite in-service network performance and quality of service.

As the lead study group on telecommunication management, Study Group 2 is also responsible for the development and maintenance of a consistent ITU-T work plan, prepared with the cooperation of relevant ITU-T study groups, on activities associated with telecommunication management and with operations, administration and management (OAM). In particular, this work plan will focus on activities involving two types of interfaces:

- for fault, configuration, accounting, performance and security management (FCAPS) interfaces between network elements and management systems, and between management systems; and
- for transmission interfaces between network elements.

In support of market-acceptable FCAPS interface solutions, Study Group 2 studies will identify service-provider and network-operator requirements and priorities for telecommunication management, continue the evolution of the telecommunication management framework currently based on telecommunication management network (TMN), next-generation network (NGN), software-defined networking (SDN) and network function virtualization (NFV) concepts, and address the management of NGN, cloud computing, future networks (including future telecommunication/ICT architectures, capabilities, technologies, applications and services), SDN, NFV, IMT-2020 and distributed ledger technology (DLT).

Study Group 2 will study FCAPS interface solutions that will specify reusable management information definitions via protocol-neutral techniques, continue management information modelling for the major telecommunication technologies, such as optical and IP-based networking, and extend management technology choices consistent with market needs, industry recognized value, and major, emerging technical directions.

Additional studies will also cover network and service operational requirements and procedures, including support for network traffic management, support for the Service and Network Operations (SNO) group, and designations for interconnections among network operators.

To support the generation of such interface solutions, Study Group 2 will strengthen the collaborative relationships with standards development organizations (SDOs), forums, consortia and other experts as appropriate.

Study Group 2 will work on relevant identification aspects in collaboration with Study Group 20 for Internet of Things (IoT) and with Study Group 17, as per the mandate of each study group.

### **ITU-T Study Group 3**

ITU-T Study Group 3 should study and develop Recommendations, technical reports, handbooks and other publications for members to respond positively and proactively to the development of international telecommunication/ICT markets, in order to ensure that policy and regulatory

frameworks remain supportive of innovation, competition and investment, for the benefit of users and the global economy.

In particular, Study Group 3 should ensure that tariffs, economic policies and regulatory frameworks related to international telecommunication/ICT services and networks are forward-looking and serve to encourage take-up and use, as well as industry innovation and investment. Furthermore, these frameworks need to be adequately flexible to adjust to rapidly evolving markets, technologies, and business models, while ensuring the necessary competitive safeguards and the protection of consumers.

In this context, the work of Study Group 3 should also consider new and emerging technologies and services so its work will help drive new economic opportunities and enhance societal benefits in different areas including healthcare, education and sustainable development.

Study Group 3 should study and develop appropriate instruments, with a view to creating an enabling policy environment for the transformation of markets and industries, through the promotion of open, innovation-driven and accountable institutions.

All study groups shall notify Study Group 3 at the earliest opportunity of any development that may have an impact on tariff and accounting principles and international telecommunication/ICT economic and policy issues.

### **ITU-T Study Group 5**

ITU-T Study Group 5 will develop Recommendations, supplements and other publications to:

- study the environmental performance of ICTs and digital technologies and their effects on climate change, biodiversity and other environmental impacts;
- accelerate climate-change adaptation and mitigation actions through the use of ICTs and other digital technologies;
- study the environmental aspects of ICTs and digital technologies, including issues related to electromagnetic fields (EMF), electromagnetic compatibility (EMC), energy feeding and efficiency, and resistibility;
- play an active role in reducing the volume of e-waste and facilitate its management, in order to enhance the transition to a circular economy;
- study lifecycle and rare-metal recycling approaches for ICT equipment to minimize the environmental and health impact of e-waste;
- achieve energy efficiency and sustainable clean energy use in ICTs and digital technologies, including, but not limited to, labelling, procurement practices, standardized power supplies/connectors, eco-rating schemes, etc.;
- build resilient and sustainable ICT infrastructures in urban and rural areas as well as in cities and communities;
- study the role of ICTs and digital technologies in climate-change adaptation and mitigation;
- reduce the volume of e-waste and its environmental impacts (including the environmental impact of counterfeit devices);
- study the transition to a circular economy and implementing circular actions in cities;
- study the role of ICTs and digital technologies to achieve Net Zero within the ICT sector and other sectors as well as in cities;
- develop methodologies for assessing the environmental impact of ICT and other digital technologies;
- develop standards and guidelines for using ICTs and other digital technologies in an eco-friendly way and enhancing rare-metal recycling and energy efficiency of ICT, including infrastructures/facilities

- develop standards, guidelines and metrics/key performance indicators (KPIs) for aligning the environmental performance of the ICT sector and digital technologies with the United Nations Sustainable Development Agenda 2030 the Paris Agreement and the Connect 2030 Agenda;
- develop energy efficiency/performance metrics/KPIs and related measurement methodologies for ICT and digital technologies including infrastructures and facilities;
- develop tools and guidance on proper, effective and simple communication to reach out to the general public on environmental issues including EMF, EMC, resistibility, climate-change adaptation and mitigation, etc.;
- study of methodologies for assessing the environmental impact of ICT, in terms of both its own emissions and power usage and the savings created through ICT applications in other industry sectors;
- study of power-feeding methodologies that effectively reduce power consumption and resource usage, increase safety and increase global standardization for economic gains;
- set up a low-cost sustainable ICT infrastructure to connect the unconnected;
- study how to use ICTs to help countries and the ICT sector to adapt and build resilience to the effects of environmental challenges, including climate change;
- assess the sustainability impact of ICT to promote the Sustainable Development Goals (SDGs);
- study the protection of ICT networks and equipment from interference, lightning and power faults;
- develop standards related to the assessment of human exposure to electromagnetic fields (EMF) produced by ICT installations and devices;
- develop standards related to safety and implementation aspects related to ICT powering and to powering through networks and sites;
- develop standards related to components and application references for protection of ICT equipment and the telecommunication network;
- develop standards related to electromagnetic compatibility (EMC), particle radiation effects, and assessment of human exposure to EMF produced by ICT installations and devices, including cellular phones, IoT devices and radio base stations;
- develop standards on the reutilization of the existing copper network outside plant and related indoor installations;
- develop standards to guarantee good reliability and low latency for high-speed network services by providing requirements on resistibility and EMC.

The meetings of Study Group 5 and its working parties/Questions should as far as practicable be collocated with other study groups/working parties/Questions involved in the study of environment, circular economy, energy efficiency and climate change to address the SDGs.

### **ITU-T Study Group 9**

Within its general area of responsibility, ITU-T Study Group 9 will develop and maintain Recommendations on:

- audiovisual content systems for contribution and distribution, including broadcasting, over cable networks, e.g. coaxial cable, optical fibre or hybrid fibre coaxial (HFC), etc.;
- procedures for the operation of audiovisual content delivery over cable networks;
- the use of IP or other appropriate protocols, middleware and operating systems to provide time-critical services, services on demand or interactive services over cable networks;



- artificial intelligence (AI) assisted delivery and transmission systems for audiovisual content and other data services over cable networks;
- cable network terminals and related interfaces (e.g. interfaces to home network devices, such as IoT devices, interfaces to the cloud);
- end-to-end integrated platforms for cable networks;
- advanced, interactive, time-critical and other services and applications over cable networks;
- cloud-based systems for audiovisual content services and control over cable networks;
- secured audiovisual content contribution and distribution, for example conditional access (CA) systems and digital rights management (DRM), over cable networks;
- accessibility applications to access audiovisual content over cable networks;
- common user profile and participation taxonomy for broadband cable-TV accessibility.

ITU-T Study Group 9 will develop and maintain implementation guidelines to support the deployment of audiovisual content contribution and distribution in developing countries.

Study Group 9 is responsible for coordination with the ITU Radiocommunication Sector (ITU-R) on broadcasting matters.

Intersector rapporteur group activities of different Sectors and/or joint rapporteur group activities of different study groups shall be seen as complying with the WTSA expectations for collaboration and coordination.

### **ITU-T Study Group 11**

ITU-T Study Group 11 will develop Recommendations on the following subjects:

- network signalling and control architectures in existing and emerging telecommunication environments (e.g. software-defined networking (SDN), network function virtualization (NFV), future networks (FN), cloud computing, VoLTE/ViLTE, IMT-2020 network and beyond, quantum key distribution networks (QKDN) and related technologies, etc.);
- signalling requirements and protocols for services and applications;
- security of signalling protocols;
- session control and signalling requirements and protocols;
- resource control and signalling requirements and protocols;
- signalling and control requirements and protocols to support attachment in emerging telecommunication environments;
- signalling and control requirements and protocols to support broadband network gateways;
- signalling and control requirements and protocols to support emerging multimedia services;
- signalling and control requirements and protocols to support emergency telecommunication services (ETS);
- signalling requirements for establishing the interconnection of packet-based networks, including VoLTE/ViLTE-based networks, IMT-2020 and beyond;
- test methodologies and test suites as well as monitoring of parameters set for emerging network technologies and their applications, including cloud computing, SDN, NFV, IoT, VoLTE/ViLTE, IMT-2020 technologies, etc., to enhance interoperability;
- conformance, interoperability testing and network/system/service/device testing, including benchmark testing, a testing methodology and testing specification of standardized network parameters in relation to the framework for Internet-related performance measurement, etc.;
- combating counterfeiting of ICT devices;
- combating the use of stolen ICT devices.

Study Group 11 is to lend assistance to developing countries in the preparation of technical reports and guidelines on the deployment of packet-based networks as well as emerging networks.

The development of signalling requirements, protocols and test specifications will be as follows:

- Study and develop signalling requirements;
- Develop protocols to meet the signalling requirements;
- Develop protocols to meet the signalling requirements of new services and technologies;
- Develop protocol profiles for the existing protocols;
- Study existing protocols to determine if they meet the requirements, and work with the relevant standards development organizations (SDOs) to avoid duplication and for necessary enhancements or extensions;
- Study existing open-source codes from open-source communities (OSCs) to support the implementation of ITU-T Recommendations;
- Develop signalling requirements and relevant test suites for interworking between new signalling protocols and existing ones;
- Develop signalling requirements and relevant test suites for interconnection between packet-based networks (e.g. VoLTE/ViLTE-based networks, IMT-2020 and beyond);
- Develop test methodologies and test suites for the relevant signalling protocols.

Study Group 11 will collaborate with Study Group 17 on security matters.

Study Group 11 is to work on enhancements to existing Recommendations on signalling protocols of legacy networks and new networks to ensure signalling security. The objective is to satisfy business needs of member organizations that wish to offer new features and services using networks based on existing Recommendations.

Study Group 11 is to continue coordination with the International Laboratory Accreditation Cooperation (ILAC) on the ITU Testing Laboratories recognition procedure and establishing collaboration with existing conformance assessment programmes.

Study Group 11 is to continue its work on any test specifications for use in benchmarks testing and testing specification for standardized network parameters in relation to the framework for Internet-related measurements.

Study Group 11 is to continue its work with relevant standards organizations and forums on subject areas established by the cooperation agreement.

Study Group 11 is to continue its work in developing ITU-T Recommendations, technical reports and guidelines to assist ITU Member States in combating counterfeiting, tampering and theft of ICT equipment and the adverse implications thereof.

### **ITU-T Study Group 12**

A particular focus of ITU-T Study Group 12 is on the end-to-end quality (as perceived by the customer) delivered using a path that, with increasing frequency, involves complex interactions between terminals and network technologies (e.g. mobile terminals, multiplexers, gateway and network signal processing equipment, and IP-based networks).

As the lead study group for quality of service (QoS) and quality of experience (QoE), Study Group 12 coordinates QoS and QoE activities not only within ITU-T, but also with other standards development organizations (SDOs) and forums, and develops frameworks to improve collaboration.

Study Group 12 is the parent group for the Quality of Service Development Group (QSDG); and the Regional Group of Study Group 12 on QoS for the Africa region (SG12RG-AFR).

Examples of the work Study Group 12 plans to undertake:

- end-to-end QoS planning, focusing on all-packet networks, but also considering hybrid IP/digital circuit-based paths;
- QoS operational aspects and related interworking guidance and resource management to support QoS;
- technology-specific (e.g. IP, Ethernet, multiprotocol label switching (MPLS)) performance guidance;
- application-specific (e.g. smart grid, Internet of Things (IoT), machine-to-machine (M2M), home network (HN), over-the-top (OTT)) performance guidance;
- definition of QoE requirements and performance targets, and associated evaluation methodologies, for multimedia services;
- definition of objective prediction models based on subjective assessment methodologies, data collection via crowdsourcing and customer surveys;
- definition of crowdsourcing-based methodologies for the assessment of QoS and QoE;
- subjective quality assessment methodologies for existing and emerging technologies (e.g. telepresence, virtual reality (VR) and augmented reality (AR));
- quality modelling (psychophysical models, parametric models, intrusive and non-intrusive methods, opinion models) for multimedia and speech (including wideband, superwideband and fullband);
- speech-based services in vehicles and aspects of mitigating driver distraction;
- speech terminal characteristics and electro-acoustic measurement methods (including wideband, superwideband and fullband);
- definition of QoS parameters and assessment methods related to artificial intelligence (AI) and machine learning;
- development of test specifications for ITU-T Recommendations on performance, QoS and QoE.

### **ITU-T Study Group 13**

The key areas of competence of ITU-T Study Group 13 include:

- IMT-2020 and beyond network aspects: Studies on the requirements and capabilities for networks based on the service scenarios of IMT-2020 and beyond. This includes development of Recommendations on the framework and architecture design including also network-related aspects of reliability, quality of service (QoS) and security. Furthermore, it includes interworking with current networks including IMT-Advanced, etc.
- Application of machine learning technology aspects for future networks: Studies on how to incorporate network intelligence into IMT-2020 and beyond. Development of Recommendations on overall requirements, functional architecture and application support capabilities for networks, which include artificial intelligence (AI) and machine learning mechanisms, based on, but not limited to, the gap analysis identified by Focus Group on Machine Learning for Future Networks including 5G.
- Software-defined networking (SDN), network slicing and orchestration aspects: Studies on SDN and data plane programmability to support functions such as network virtualization and network slicing necessary for exploding and diversifying services taking into account scalability, security and distribution of functions. Development of Recommendations on the orchestration and related management-control continuum capabilities/policies of network function components, softwarized network and network slices, including enhancement and support of distributed networking capabilities.
- Information-centric networking (ICN) and public packet telecom data network aspects: Studies related to analysis of ICN applicability to IMT-2020 and beyond. Development of

new Recommendations on ICN general requirements, functional architecture and mechanisms of ICN networking and use-case specific mechanisms and architectures, including deployment of corresponding identifiers. Development of Recommendations on packet data network based on the study of requirements, frameworks and candidate mechanisms. Development of Recommendations on architecture, network virtualization, resource control and other technical issues of future packet-based network (FPBN), including migration from the conventional IP-based network to FPBN.

- Fixed, mobile and satellite convergence aspects: Studies related to access-agnostic core, which integrates fixed, mobile and satellite, and the application of innovative technologies to enhance such convergence, such as AI/machine learning., etc. This also includes the development of Recommendations on full connectivity for various types of user equipment.
- Knowledge-centric trustworthy networking and services aspects: Studies related to requirements and functions to support the building of trusted ICT infrastructures. Development of Recommendations regarding environmental and socio-economic awareness in order to minimize the environmental impact of future networks, as well as to reduce the barriers to entry for various actors involved in the network ecosystem.
- Quantum-enhanced networks: Studies related to quantum key distribution networks (QKDN). Furthermore, development of new Recommendations related to user networks interacting with quantum-enhanced networks.
- Aspects related to future computing, including cloud computing and data handling in telecommunication networks: Studies of the requirements, functional architectures and their capabilities, mechanisms and deployment models of future computing, including cloud computing and data handling, covering inter- and intra-cloud scenarios as well as the applications of future computing in vertical domains. Studies include the development of technologies from the network side to support end-to-end awareness, control and management of future computing, including cloud, cloud security and data handling.

Study Group 13 activities will also cover regulatory implications, including deep packet inspection, and lower energy consumption networks. Furthermore, it includes activities related to innovative service scenarios, deployment models and migration issues based on future networks.

In order to assist countries with economies in transition, developing countries and especially the least developed countries in the application of networks of the future, including IMT-2020 and beyond and other innovative technologies, Study Group 13 maintains a dedicated Question on this topic and its regional group for Africa. Consultations should thereby be enabled with representatives of the ITU Telecommunication Development Sector (ITU-D) with a view to identifying how this assistance might best be done through an appropriate activity conducted in conjunction with ITU-D.

Joint rapporteur group activities of different study groups shall be seen as complying with the WTSA expectations for collocation.

### **ITU-T Study Group 15**

ITU-T Study Group 15 is the focal point in ITU-T for the development of standards on networks, technologies and infrastructures for transport, access and home. This encompasses the development of related standards for the customer premises, access, metropolitan and long-haul sections of communication networks.

Particular emphasis is given to providing global standards for a high-capacity (terabit) optical transport network (OTN) infrastructure, and for high-speed (multi-Mbit/s and Gbit/s) network access and home networking. This includes the related work on modelling for network, system and equipment management, transport network architectures and layer interworking. Special

consideration is being given to the changing telecommunication environment, for example, supporting the evolving needs of mobile communication networks.

Access network technologies addressed by the study group include passive optical network (PON), point-to-point optical, and copper-based digital subscriber line (DSL) technologies, including ADSL, VDSL, HDSL, SHDSL, G.fast and MGfast. These access technologies find application in their traditional uses as well as in backhaul and fronthaul networks for emerging services such as broadband wireless and data centre interconnect. Home networking technologies include wired broadband, wired narrowband, wireless narrowband, optical fibre and free-space optical communications. Both access and home networking for smart-grid applications are supported.

Network, system and equipment features covered include: routing, switching, interfaces, multiplexers; secure transport; network synchronization (including frequency, time and phase); cross-connect (including optical cross-connect (OXC)), add/drop multiplexers (including fixed or reconfigurable optical add/drop multiplexers (ROADM)), amplifiers, transceivers, repeaters, regenerators; multilayer network protection switching and restoration; operations, administration and maintenance (OAM); transport resource management and control capabilities to enable increased transport network agility, resource optimization, and scalability (e.g. the application of software-defined networking (SDN) to transport networks, together with enabling the use of artificial intelligence (AI)/machine learning (ML) to support the automation of transport network operations). Many of these topics are addressed for various media and transport technologies, such as metallic and terrestrial/submarine optical fibre cables, dense and coarse wavelength-division multiplexing (DWDM and CWDM) optical systems for fixed and flex-grid networks, optical transport network (OTN), including the evolution of OTN beyond 400 Gbit/s rates, Ethernet and other packet-based data services.

The study group will handle the entire range of fibre and cable performance (including test methods), field deployment and installation, taking into account the need for additional specifications driven by new optical fibre technologies and new applications. The activity on field deployment and installation will address reliability, security aspects and social issues, such as the reduction of excavation, the problems caused to traffic and the generation of construction noise, and will include the investigation and standardization of new techniques allowing faster, cost-effective and safer cable installation. Planning, construction, maintenance and management of the physical infrastructure will take into account the advantages of emerging technologies. Approaches that improve network resilience and recovery from disasters will be studied.

In its work, Study Group 15 will take into account related activities in other ITU study groups, standards development organizations (SDOs), forums and consortia, and will collaborate with them to avoid duplication of effort and identify any gaps in the development of global standards.

Study Group 15 has developed standards on networks, technologies and infrastructures for transport, access and home related to WSIS Action Line C2 "Information and communication infrastructure" and United Nations Sustainable Development Goal 9 "Industry, innovation and infrastructure".

### **ITU-T Study Group 16**

ITU-T Study Group 16 will work on the following items:

- terminology for various multimedia services;
- operation of multimedia systems and applications, including interoperability, scalability and interworking over different networks;
- ubiquitous multimedia services and applications;
- multimedia aspects of digital services;
- multimedia system and service accessibility for digital inclusion;

- development of multimedia end-to-end architectures, including vehicle gateway for intelligent transport systems (ITS);
- high-layer protocols and middleware for multimedia systems and applications, including IP-based television services (managed and non-managed networks), Internet-based streaming media services and digital signage;
- media and signal coding;
- multimedia and multimode terminals;
- human-machine interaction;
- signal processing network equipment and terminals, gateway implementations, and characteristics;
- quality of service (QoS), quality of experience (QoE) and end-to-end performance in multimedia systems;
- security of multimedia systems and services;
- multimedia aspects of distributed ledger technology (DLT) and its applications;
- digital multimedia services and applications in various vertical industries;
- AI-enabled multimedia applications.

In developing its studies, Study Group 16 will take into consideration societal and ethical aspects of intelligent applications.

ITU-T Study Group 16 will work collaboratively with all stakeholders working in the standardization areas under ITU-T Study Group 16, in particular with ITU-T Study Groups 2, 9, 12 and 20 and other ITU study groups, other United Nations agencies, the International Organization for Standardization (ISO), the International Electrotechnical Commission (IEC), industry forums and consortia, and regional and international standards development organizations (SDOs).

### **ITU-T Study Group 17**

ITU-T Study Group 17 is responsible for developing key technical Recommendations in supporting building confidence and security in the use of information and communication technologies (ICT).

To this end, this includes studies relating to security, including cybersecurity, countering spam and identity management. It also includes security architecture and framework, security management, and security of networks, applications and services such as the Internet of Things (IoT), intelligent transport systems (ITS), secure application services, social networks, cloud computing, distributed ledger technology (DLT), and telebiometrics. Study Group 17 is also responsible for the application of open system communications, including directory and object identifiers, and for technical languages, the method for their usage and other issues related to the software aspects of telecommunication systems, and for conformance testing to improve quality of Recommendations.

Study Group 17's role is to provide technical solutions for addressing security for ICTs and ensuring security by ICTs. Studies focus especially on security for new emerging areas, such as security for IMT-2020/5G and beyond, IoT, smart cities, DLT, big data analytics, ITS, security aspects related to artificial intelligence (AI) and quantum-related technologies. Its study areas also include the management of personally identifiable information (PII) such as technical and operational aspects of data protection with respect to ensuring confidentiality, integrity and availability of PII.

In the area of security, Study Group 17 is responsible for developing the core Recommendations on ICT security, such as security architecture and frameworks; the fundamentals related to cybersecurity, including threats, vulnerabilities and risks, incident handling/response and digital forensics; security management, including management of PII such as technical and operational aspects of data protection; and countering spam by technical means.

Study Group 17 provides overall coordination of security work in ITU-T in its capacity as lead study group on security, on identity management, and on languages and description techniques.

In addition, Study Group 17 is responsible for developing the core Recommendations on security for DLT, security for ITS, security aspects of applications and services in the areas of IPTV, various kinds of networks including IMT-2020/5G and beyond, smart grid, industrial control systems (ICS), supply chains, IoT and smart cities, software-defined networking (SDN), network function virtualization (NFV), social networks, cloud computing, big data analytics, smartphones, digital financial systems and telebiometrics.

Study Group 17 is also responsible for developing the core Recommendations on a generic identity management model that is independent of network technologies and supports the secure exchange of identity information between entities. This work also includes studying the process for discovery of authoritative sources of identity information; generic mechanisms for the bridging/interoperability of a diverse set of identity information formats; identity management threats; the mechanisms to counter these threats; the protection of PII; and the development of mechanisms to ensure that access to PII is only authorized when appropriate.

In the area of open system communication, Study Group 17 is responsible for Recommendations in the following areas:

- directory services and systems, including public key infrastructure (PKI) (ITU-T F.500- and ITU-T X.500-series);
- object identifiers (OIDs) and associated registration authorities (ITU-T X.660/ITU-T X.670-series);
- open systems interconnection (OSI), including Abstract Syntax Notation One (ASN.1) (ITU-T F.400-, ITU-T X.200-, ITU-T X.400-, ITU-T X.600-, ITU-T X.800-series); and
- open distributed processing (ODP) (ITU-T X.900-series).

In the area of languages, Study Group 17 is responsible for studies on modelling, specification and description techniques, which includes languages such as ASN.1, SDL, MSC, URN and TTCN-3.

Study Group 17 coordinates security work across all study groups in ITU-T. This work will be developed in line with the requirements of and in cooperation with the relevant study groups such as Study Groups 2, 9, 11, 13, 15, 16 and 20.

Study Group 17 will work on relevant identity management aspects in collaboration with Study Group 20 and Study Group 2, as per the mandate of each study group.

### **ITU-T Study Group 20**

ITU-T Study Group 20 will work on the following items:

- framework and roadmaps for the harmonized and coordinated development of Internet of things (IoT), including machine-to-machine (M2M) communications, ubiquitous sensor networks and smart sustainable cities, in ITU-T and in close cooperation with the ITU Radiocommunication Sector (ITU-R) and ITU Telecommunication Development Sector (ITU-D) study groups and other regional and international standards organizations and industry forums;
- requirements and capabilities for IoT and smart cities and communities (SC&C) including verticals;
- definitions and terminology for IoT and SC&C;
- solutions provided by emerging digital technologies and their technical impact on IoT and SC&C;
- IoT and SC&C network infrastructure, connectivity and devices and digital services and applications, including architectures and architecture frameworks for IoT and SC&C;

- evaluation, assessment, service analysis and infrastructure for SC&C for the use of emerging digital technologies in the smartness of cities;
- guidelines, methodologies and best practices related to standards to help cities , communities, rural areas and villages deliver services using emerging digital technologies;
- identification aspects of IoT and SC&C in collaboration with other study groups, as appropriate;
- protocols and interfaces for IoT and SC&C systems, services and applications;
- platforms for IoT and SC&C;
- interoperability and interworking of IoT and SC&C systems, services and applications;
- quality of service (QoS) and end-to-end performance for IoT and SC&C in collaboration with Study Group 12, as appropriate;
- security, privacy<sup>4</sup> and trustworthiness<sup>4</sup> of IoT and SC&C systems, services and applications;
- database maintenance of IoT and SC&C standards;
- big data aspects, including big data ecosystems, of IoT and SC&C;
- digital and smart services for SC&C;
- IoT and SC&C data processing and management, including data analytics, and AI-enabled applications;
- technical aspects of data value chain for IoT and SC&C, in collaboration with Study Group 3, as appropriate;
- datasets and semantics-based capabilities for IoT and SC&C including verticals.

## ANNEX C (to Resolution 2 (Rev. Geneva, 2022))

### **List of Recommendations under the responsibility of the respective ITU-T study groups and TSAG in the 2022-2024 study period**

#### **ITU-T Study Group 2**

ITU-T E-series, except those in conjunction with Study Group 17 or under the responsibility of Study Groups 3, 12 and 16

ITU-T F-series, except those under the responsibility of Study Groups 13, 16 and 17

Recommendations of the ITU-T I.220-, ITU-T I.230-, ITU-T I.240-, ITU-T I.250-series and ITU-T I.750-series

ITU-T G.850-series

ITU-T M-series

ITU-T O.220-series

ITU-T Q.513, ITU-T Q.800 – ITU-T Q.849, ITU-T Q.940-series

Maintenance of the ITU-T S-series

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<sup>4</sup> Some relevant aspects of this term may be considered differently from one Member State to another. The use of this term is framed in terms of international telecommunication standardization.



ITU-T V.51/M.729

ITU-T X.160-, ITU-T X.170-, ITU-T X.700-series

ITU-T Z.300-series

### **ITU-T Study Group 3**

ITU-T D-series

ITU-T D.103/E.231

ITU-T D.104/E.232

ITU-T D.1140/X.1261

### **ITU-T Study Group 5**

ITU-T K-series

ITU-T L.1 – ITU-T L.9, ITU-T L.18 – ITU-T L.24, ITU-T L.32, ITU-T L.33, ITU-T L.71, ITU-T L.75, ITU-T L.76, ITU-T L.1000-series

### **ITU-T Study Group 9**

ITU-T J-series, except those under the responsibility of Study Groups 12 and 15

ITU-T N-series

### **ITU-T Study Group 11**

ITU-T Q-series, except those under the responsibility of Study Groups 2, 13, 15, 16 and 20

Maintenance of the ITU-T U-series

ITU-T X.290-series (except ITU-T X.292) and ITU-T X.600 – ITU-T X.609

ITU-T Z.500-series

### **ITU-T Study Group 12**

ITU-T E.420 – ITU-T E.479, ITU-T E.800 – ITU-T E.859

ITU-T G.100-series, except ITU-T G.160- and ITU-T G.180-series

ITU-T G.1000-series

ITU-T I.350-series (including ITU-T G.820/I.351/Y.1501), ITU-T I.371, ITU-T I.378, ITU-T I.381

ITU-T J.140-, ITU-T J.240- and ITU-T J.340-series

ITU-T P-series

ITU-T Y.1220-, ITU-T Y.1530-, ITU-T Y.1540-, ITU-T Y.1550- and ITU-T Y.1560-series

### **ITU-T Study Group 13**

ITU-T F.600-series

ITU-T G.801, ITU-T G.802, ITU-T G.860-series

ITU-T I-series, except those under the responsibility of Study Groups 2, 12 and 15, and those having double/triple numbering in other series

ITU-T Q.933, ITU-T Q.933*bis*, ITU-T Q.10xx-series and ITU-T Q.1700-series

ITU-T X.1 – ITU-T X.25, ITU-T X.28 – ITU-T X.49, ITU-T X.60 – ITU-T X.84, ITU-T X.90 – ITU-T X.159, ITU-T X.180 – ITU-T X.199, ITU-T X.272, ITU-T X.300-series

ITU-T Y-series, except those under the responsibility of Study Groups 12, 15, 16 and 20

**ITU-T Study Group 15**

ITU-T G-series, except those under the responsibility of Study Groups 2, 12, 13 and 16

ITU-T I.326, ITU-T I.414, ITU-T I.430-series, ITU-T I.600-series and ITU-T I.700-series, except ITU-T I.750-series

ITU-T J.190 and ITU-T J.192

ITU-T L-series, except those under the responsibility of Study Group 5

ITU-T O-series (including ITU-T O.41/ITU-T P.53), except those under the responsibility of Study Group 2

ITU-T Q.49/O.22 and ITU-T Q.500-series, except ITU-T Q.513

Maintenance of the ITU-T R-series

ITU-T X.50-series, ITU-T X.85/ Y.1321, ITU-T X.86/ Y.1323, ITU-T X.87/Y.1324

ITU-T V.38, ITU-T V.55/ O.71, ITU-T V.300

ITU-T Y.1300 – ITU-T Y.1309, ITU-T Y.1320 – ITU-T Y.1399, ITU-T Y.1501 and ITU-T Y.1700-series

**ITU-T Study Group 16**

ITU-T E.120 – ITU-T E.139 (except ITU-T E.129), ITU-T E.161, ITU-T E.180-series, ITU-T E.330-series, ITU-T E.340-series

ITU-T F.700-series, except those under the responsibility of Study Group 20, and ITU-T F.900-series

ITU-T G.160-series, ITU-T G.710 – ITU-T G.729 (except ITU-T G.712), ITU-T G.760-series (including ITU-T G.769/Y.1242), ITU-T G.776.1, ITU-T G.799.1/ Y.1451.1, ITU-T G.799.2, ITU-T G.799.3

ITU-T H-series, except those under the responsibility of Study Group 20

ITU-T T-series

ITU-T Q.50-series, ITU-T Q.115-series

ITU-T V-series, except those under the responsibility of Study Groups 2 and 15

ITU-T X.26/V.10 and ITU-T X.27/V.11

**ITU-T Study Group 17**

ITU-T E.104, ITU-T E.115, ITU-T E.409 (in conjunction with Study Group 2)

ITU-T F.400-series; ITU-T F.500 – ITU-T F.549

ITU-T X-series, except those under the responsibility of Study Groups 2, 3, 11, 13, 15 and 16

ITU-T Z-series, except ITU-T Z.300-series and ITU-T Z.500-series

**ITU-T Study Group 20**

ITU-T F.744, ITU-T F.747.1 – ITU-T F.747.8, ITU-T F.748.0 – ITU-T F.748.5 and ITU-T F.771

ITU-T H.621, ITU-T H.623, ITU-T H.641, ITU-T H.642.1, ITU-T H.642.2 and ITU-T H.642.3

ITU-T L.1600, ITU-T L.1601, ITU-T L.1602, ITU-T L.1603

ITU-T Q.3052

ITU-T Y.4000-series, ITU-T Y.2016, ITU-T Y.2026, ITU-T Y.2060 – ITU-T Y.2070, ITU-T Y.2074 – ITU-T Y.2078, ITU-T Y.2213, ITU-T Y.2221, ITU-T Y.2238, ITU-T Y.2281 and ITU-T Y.2291

NOTE – Recommendations transferred from other study groups have double numbers in the Y.4000-series.

## **TSAG**

ITU-T A-series Recommendations

**MOD****RESOLUTION 7 (Rev. Geneva, 2022)****Collaboration with the International Organization for Standardization  
and the International Electrotechnical Commission**

*(Malaga-Torremolinos, 1984; Helsinki, 1993; Geneva, 1996; Montreal, 2000;  
Florianoópolis, 2004; Johannesburg, 2008; Dubai, 2012; Hammamet, 2016; Geneva, 2022)*

The World Telecommunication Standardization Assembly (Geneva, 2022),

*considering*

- a)* Articles 1 and 50 of the ITU Constitution;
- b)* Articles 2 and 20 of the Statutes of the International Organization for Standardization (ISO);
- c)* Article 2 of the Statutes and Rules of Procedure of the International Electrotechnical Commission (IEC);
- d)* the mandate of the ITU Telecommunication Standardization Sector (ITU-T) as set forth in the basic instruments of the Union, notably Chapter III of the Constitution and Section 6 of the ITU Convention;
- e)* the interest of both ISO and IEC in some aspects of telecommunications;
- f)* the common interest of ISO and IEC on the one hand and ITU-T on the other in the development of their respective standards in telecommunications/information and communication technology which take full account of the needs of all interested stakeholders, including manufacturers, users and those responsible for communication systems and services;
- g)* the need for mutual agreements on many areas of standardization activity of common interest;
- h)* the existing cooperation within the framework of the World Standards Cooperation (WSC), established in 2001 by ITU, ISO and IEC in order to advance the development of voluntary consensus-based international standards in ITU, ISO and IEC;
- i)* the relevance of the ITU conformance and interoperability (C&I) programme and its four pillars, and the action plan for the C&I programme (reviewed by the Council at its 2014 session),

*noting*

- a)* that the working methods and standards-development time-frames of the organizations concerned are not the same;
- b)* that the document-sharing mechanisms and requirements differ among the three organizations;
- c)* the importance of shared documents being accessible among the three organizations during the development of the work;
- d)* the increasing financial burdens on the professional experts who participate in the development of standards in these three organizations;
- e)* the coordination meeting established between the three organizations through their top management;

- f)* the progress made on the basis of existing procedures in the alignment of technical Recommendations with ISO, IEC and ISO/IEC Joint Technical Committee 1 (JTC 1) in areas of joint interest, thanks to the spirit of cooperation which has prevailed;
- g)* the principles of collaboration established between ISO and IEC and particularly with ISO/IEC JTC 1 on information technology as contained in Recommendation ITU-T A.23 and in the ISO/IEC JTC 1 Directives;
- h)* that other standardization activities of a collaborative nature may require coordination;
- i)* the increasing cost of developing international standards and Recommendations;
- j)* the role of the Common Patent Policy for ITU-R/ITU-T/ISO/IEC in furthering common approaches between ITU-T, ISO and IEC on certain standards-related intellectual property rights issues;
- k)* the value of identifying and setting priorities for cooperation between ITU-T, ISO and IEC,
- recognizing*

that the collaboration between ITU-T on one hand and ISO and IEC on the other is on the basis of overall win and mutual benefits to best serve international standardization efforts,

*resolves*

- 1 to request the Director of the Telecommunication Standardization Bureau (TSB) to report regularly to the Telecommunication Standardization Advisory Group (TSAG) on the status of collaboration with ISO and IEC;
- 2 to continue inviting ISO and IEC to examine, through TSAG, the ITU-T study programme, in the early stages of its studies and vice versa, and to further examine such programmes to take into account ongoing changes, in order to identify subjects where coordination seems desirable for common and complementary work, and which would benefit the membership, and to inform the Director of TSB;
- 3 to request the Director of TSB, after consultation with the study group management team concerned, to reply, and to furnish any additional information requested by ISO and IEC, as it becomes available;
- 4 to invite the Director of TSB, at the request of Member States and Sector Members, in consultation with TSAG, to review the agreement between ISO/IEC and ITU-T, with a view to exploring options for accessing and publishing common texts, with a possible unified approach;
- 5 to request the Director of TSB to examine and update the programme of cooperation and priority of the study items among ITU-T, ISO and IEC and highlight this information on the ITU-T website on a regular basis;
- 6 to request the Director of TSB, the study groups and TSAG, as appropriate, to consider and propose further improvements to the procedures for cooperation between ITU-T and ISO and IEC;
- 7 that the necessary contacts with ISO and/or IEC (including ISO/IEC JTC 1) at the appropriate levels and coordination methods should be mutually agreed and regular coordination events arranged:
  - for work where text should be drawn up mutually and kept aligned, procedures in accordance with Recommendation ITU-T A.23 and the Guidelines for Cooperation therein apply;
  - for other activities where coordination between ITU-T and ISO and IEC is required (for example in relation to any mutual agreements, such as the Memorandum of Understanding on standardization in the field of electronic business), clear means of coordination shall be established and regular coordination contacts made;

8 to request the chairmen of study groups to take into account the related work programmes and the progress of projects in ISO, IEC and ISO/IEC JTC 1; further, to cooperate with these organizations as widely as possible and by appropriate and balanced means, in order to:

- ensure that the specifications which have been jointly drawn up remain aligned;
- collaborate in drawing up other specifications in fields of shared interest;

9 that, for reasons of economy, any necessary collaborative meetings take place to the extent possible in association with other relevant meetings;

10 that the report concerning such coordination indicate the status of alignment and compatibility of draft texts on points of shared interest, in particular identifying cases where cross-referencing would be helpful to users of published International Standards and Recommendations;

11 to invite administrations to contribute significantly to the coordination between ITU-T on the one hand and ISO and IEC (including ISO/IEC JTC 1) on the other by ensuring adequate coordination of national activities associated with the three organizations.

**MOD****RESOLUTION 18 (Rev. Geneva, 2022)<sup>1</sup>**

**Principles and procedures for the allocation of work to, and strengthening coordination and cooperation among, the ITU Radiocommunication, ITU Telecommunication Standardization and ITU Telecommunication Development Sectors**

*(Helsinki, 1993; Geneva, 1996; Montreal, 2000; Florianópolis, 2004; Johannesburg, 2008; Dubai, 2012; Hammamet, 2016; Geneva, 2022)*

The World Telecommunication Standardization Assembly (Geneva, 2022),

*recalling*

- a)* that the responsibilities of the ITU Radiocommunication (ITU-R), the Telecommunication Standardization (ITU-T) and the Telecommunication Development (ITU-D) Sectors are enshrined in the ITU Constitution and Convention, in particular No. 119 of the Constitution, Nos. 151 to 154 (relating to ITU-R), No. 193 (relating to ITU-T), Nos. 211 and 214 (relating to ITU-D) and No. 215 of the Convention;
- b)* Resolution 191 (Rev. Dubai, 2018) of the Plenipotentiary Conference, on strategy for the coordination of efforts among the three Sectors of the Union;
- c)* Resolution ITU-R 6 (Rev. Sharm el-Sheikh, 2019) of the Radiocommunication Assembly (RA), on liaison and collaboration with ITU-T, and RA Resolution ITU-R 7 (Rev. Sharm el-Sheikh, 2019), on telecommunication development including liaison and collaboration with ITU-D;
- d)* Resolution 59 (Rev. Buenos Aires, 2017) of the World Telecommunication Development Conference (WTDC), on strengthening coordination and cooperation among the three ITU Sectors on matters of mutual interest;
- e)* Resolution 44 (Rev.[Geneva, 2022]) of this assembly, on bridging the standardization gap between developing and developed countries,

*considering*

- a)* that a basic principle for cooperation and collaboration among the ITU-R, ITU-T and ITU-D is the need to avoid duplication of activities of the Sectors, and to ensure that work is undertaken efficiently and effectively;
- b)* that there are a growing number of issues of mutual interest and concern to all Sectors, in accordance with Resolution 191 (Rev. Dubai, 2018);
- c)* that the Inter-Sector Coordination Group on issues of mutual interest (ISCG), which is composed of representatives from the three advisory groups, works to identify subjects of common interest and mechanisms to enhance collaboration and cooperation among the Sectors and the General Secretariat, and considers reports from the Directors of the Bureaux and the Inter-Sectoral Coordination Task Force (ISC-TF) on options for improving cooperation and coordination within the secretariat;

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<sup>1</sup> This resolution should also be brought to the attention of the ITU Radiocommunication and Telecommunication Development Sectors.

d) that an ISC-TF in the secretariat, headed by the Deputy Secretary-General, an ISCG, and a subgroup of the Telecommunication Standardization Advisory Group (TSAG) on intra-ITU collaboration and coordination have been established,

*recognizing*

a) that there is a need to improve the participation of developing countries in the work of ITU, as outlined in Resolution 5 (Rev. Buenos Aires, 2017) of WTDC;

b) that one such mechanism – the Inter-Sectoral Emergency Communications Team – has been established to ensure close collaboration within the Union as a whole, as well as with interested entities and organizations outside ITU, on this key priority issue for the Union;

c) that all the advisory groups are collaborating in the implementation of Resolution 123 (Rev. Dubai, 2018) of the Plenipotentiary Conference, on bridging the standardization gap between developing and developed countries,

*noting*

that Resolution ITU-R 6 (Rev. Sharm el-Sheikh, 2019) provides mechanisms for ongoing review of the allocation of work and cooperation between ITU-R and ITU-T,

*resolves*

1 that the Radiocommunication Advisory Group (RAG), TSAG and the Telecommunication Development Advisory Group (TDAG), meeting jointly as necessary, shall continue the review of new and existing work and its distribution among ITU-R, ITU-T and ITU-D, for approval by Member States in accordance with the procedures laid down for the approval of new and/or revised Questions;

2 that, if considerable responsibilities in any two or all Sectors in a particular subject are identified:

i) the procedure given in Annex A to this resolution should be applied; or

ii) the matter should be studied by relevant study groups of the Sectors involved, with appropriate coordination and matching of relevant Question topics of interest to the study groups in ITU-T, ITU-D and ITU-R (see Annexes B and C to this resolution); or

iii) a joint meeting may be arranged by the Directors of the Bureaux involved,

*invites*

1 RAG, TSAG and TDAG to continue to assist ISCG in the identification of subjects of mutual interest to the three Sectors and mechanisms to enhance their cooperation and collaboration;

2 the Directors of the Radiocommunication (BR), Telecommunication Standardization (TSB) and Telecommunication Development (BDT) Bureaux and ISC-TF to report to ISCG and the respective Sector advisory groups on options for improving cooperation at the secretariat level to ensure that close coordination is maximized,

*invites Member States and Sector Members*

to support efforts to improve inter-Sector coordination, including taking an active part in groups established by the Sector advisory groups for coordination activities,

*instructs*

1 the ITU-T study groups to continue cooperation with the study groups of the other two Sectors so as to avoid duplication of effort and proactively make use of the results of work done by the study groups of those two Sectors;



2 the Director of TSB to report annually to TSAG on the results of the implementation of this resolution.

ANNEX A  
(to Resolution 18 (Rev. Geneva, 2022))

**Procedural method of cooperation**

With respect to *resolves* 2 i), the following procedure should be applied:

- a) The joint meeting of the advisory groups referred to in *resolves* 1 will nominate the Sector which will lead the work and will finally approve the deliverable.
- b) The lead Sector will request the other Sectors to indicate those requirements which it considers essential for integration in the deliverable.
- c) The lead 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 lead Sector shall consult with the other Sectors in case it has 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 lead Sector shall seek once more the views of the other Sectors.

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

ANNEX B  
(to Resolution 18 (Rev. Geneva, 2022))

**Coordination of radiocommunication, standardization and development activities through intersector coordination groups**

With respect to *resolves* 2 ii), the following procedure shall be applied:

- a) The joint meeting of the advisory groups referred to in *resolves* 1 may, in exceptional cases, establish an intersector coordination group (ICG) to coordinate the work of the Sectors involved 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 lead 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 chairman and a vice-chairman, one representing each Sector.
- e) The ICG shall be open to members of the participating Sectors in accordance with Nos. 86-88, 110-112 and 134-136 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 participating Sectors.

- h) An ICG may also be established by WTSA or by RA or by WTDC following a recommendation by the advisory group(s) of the other Sector(s).
- i) The cost of an ICG shall be supported by the participating Sectors on an equal basis and each Director shall include budgetary provisions for such meetings in the budget of his or her Sector.

ANNEX C  
(to Resolution 18 (Rev. Geneva, 2022))

**Coordination of radiocommunication, telecommunication standardization and development activities through intersector rapporteur groups**

With respect to *resolves 2 ii*), the following procedure shall be applied when work on a specific subject could be best performed by bringing together technology experts from the study groups or working parties concerned of either two or three Sectors to cooperate on a peer-to-peer basis in a technical group:

- a) The study groups or working parties concerned in each Sector may, in special cases, agree by mutual consultation to establish an intersector rapporteur group (IRG) to coordinate their work on a specific technical subject, informing RAG, TSAG and TDAG of this action through a liaison statement.
- b) The study groups or working parties concerned in each Sector 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 study groups or working parties concerned in each Sector shall also designate the chairman (or co-chairmen) of the IRG, taking into account the requested specific expertise and ensuring equitable representation of each Sector.
- d) Being a rapporteur group, the IRG shall be regulated by the provisions applicable to rapporteur groups, given in the most recent versions of Resolution ITU-R 1, Recommendation ITU-T A.1 and WTDC Resolution 1; participation is limited to members of the Sectors involved.
- e) In fulfilling its mandate, an IRG may develop draft new Recommendations or draft revisions to Recommendations, as well as draft technical reports or draft revisions of technical 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 IRG or reflect the diversity of views of the participants in the IRG.
- 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 and/or by teleconference; however, it may occasionally take the opportunity of a meeting 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.

**MOD****RESOLUTION 20 (Rev. Geneva, 2022)****Procedures for allocation and management of international telecommunication numbering, naming, addressing and identification resources**

*(Helsinki, 1993; Geneva, 1996; Montreal, 2000; Florianópolis, 2004; Johannesburg, 2008; Dubai, 2012; Hammamet, 2016; Geneva, 2022)*

The World Telecommunication Standardization Assembly (Geneva, 2022),

*recognizing*

- a)* the relevant rules of the International Telecommunication Regulations (Dubai, 2012) regarding the integrity and use of numbering resources and calling line identification;
- b)* the instructions in the resolutions adopted by plenipotentiary conferences relevant for the stability of numbering and identification plans, especially the ITU-T E.164 and ITU-T E.212 plans, and in particular in Resolution 133 (Rev. Dubai, 2018) of the Plenipotentiary Conference, where it resolves to instruct the Secretary-General and the Directors of the Bureaux: "to take any necessary action to ensure the sovereignty of ITU Member States with regard to Recommendation ITU-T E.164 numbering plans whatever the application in which they are used";
- c)* Resolution 49 (Rev. Hammamet, 2016) of this assembly, on ENUM;
- d)* that international telecommunication numbering, naming, addressing and identification (NNAI) resources and related codes are crucial to maintain global interoperability;
- e)* the impact of new and emerging telecommunications/information and communication technologies (ICTs) on the allocation and management of international telecommunication NNAI resources ,

*noting*

- a)* that the procedures governing the allocation and management of international telecommunication NNAI resources and related codes (e.g. new telephone country codes, telex destination codes, signalling area/network codes, data country codes, mobile country codes, identification), including ENUM, are laid down in the relevant Recommendations in the ITU-T E-, ITU-T F-, ITU-T Q-, ITU-T X- and ITU-T Y-series;
- b)* that the principles concerning future NNAI plans to deal with emerging services or applications and relevant NNAI resource allocation procedures to meet international telecommunication needs will be studied in accordance with this resolution and the work programme approved by this assembly for study groups of the ITU Telecommunication Standardization Sector (ITU-T);
- c)* the deployment of current and future telecommunications/ICTs, including Internet protocol (IP)-based networks to support new and innovative services that may require NNAI resources;
- d)* that several international telecommunication NNAI resources are developed and maintained by ITU-T study groups and are in widespread use;
- e)* that the national authorities responsible for allocation of NNAI resources, including Recommendation ITU-T Q.708, on specifications of Signalling System No. 7 – Message transfer part (MTP), Recommendation ITU-T E.164, on the international public telecommunication numbering plan, and Recommendation ITU-T E.212, on the international identification plan for public networks and subscriptions, normally participate in ITU-T Study Group 2;

- f)* that it is in the common interest of ITU Member States and Sector Members that the Recommendations and guidelines for international telecommunication NNAI resources should:
- i)* be known, recognized and applied by all;
  - ii)* be used to build and maintain confidence of all in the related services;
  - iii)* address deterrence of misuse of such resources;
  - iv)* be governed and administered in a consistent and appropriate manner;
- g)* Articles 14 and 15 of the ITU Convention concerning the activities of ITU-T study groups and the responsibilities of the Director of the Telecommunication Standardization Bureau (TSB), respectively;
- h)* No. 196 of the ITU Convention which stipulates that "In the performance of their studies, the telecommunication standardization study groups shall 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. They shall conduct their work giving due consideration to the work of national, regional and other international standardization organizations, and cooperate with them, keeping in mind the need for the Union to maintain its pre-eminent position in the field of worldwide standardization for telecommunications.",

*considering*

- a)* that the assignment of international telecommunication NNAI resources is a responsibility of the Director of TSB and the relevant administrations;
- b)* the evolution of telecommunication services, and the requirements for NNAI resources to support new telecommunications/ICTs and innovative services;
- c)* the ongoing cooperation between ITU-T and several consortia and standards entities in the allocation and management of international telecommunication NNAI resources as referred to in Supplement 3 to the ITU-T A-series Recommendations,

*resolves to instruct*

- 1 the Director of TSB, before assigning, reassigning and/or reclaiming international telecommunication NNAI resources, to consult:
  - i)* the chairman of Study Group 2, in liaison with the chairmen of the other relevant study groups, or if needed the chairman's delegated representative, to resolve requirements as specified in relevant ITU-T Recommendations; and
  - ii)* the relevant administration(s); and/or
  - iii)* the authorized applicant/assignee when direct communication with TSB is required in order to perform its responsibilities;

in the Director's deliberations and consultations, the Director will consider the general principles for the allocation of NNAI resources, and the provisions of the relevant Recommendations in the ITU-T E-, ITU-T F-, ITU-T Q-, ITU-T X- and ITU-T Y-series, and those to be further adopted;

- 2 Study Group 2, in liaison with other relevant study groups, to provide to the Director of TSB advice on technical, functional and operational aspects in the assignment, reassignment and/or reclamation of international telecommunication NNAI resources in accordance with the relevant Recommendations, taking into account the results of any ongoing studies, information and guidance in cases of reported complaints about misuse of international telecommunication NNAI resources;

- 3 the Director of TSB, in close collaboration with Study Group 2, and any other relevant study groups, to follow up with the administrations involved on the misuse of any international telecommunication NNAI resources, and inform the ITU Council accordingly;

4 the Director of TSB to encourage all relevant study groups to study the impact of new and emerging telecommunications/ICTs on the allocation and management of international telecommunication NNAI resources;

5 the Director of TSB to take the appropriate measures and actions where Study Group 2, in liaison with the other relevant study groups, has provided information, advice and guidance in accordance with *resolves to instruct* 2 and 3 above;

6 Study Group 2 to continue to study necessary action to ensure that the sovereignty of ITU Member States with regard to country-code NNAI plans is fully maintained, including ENUM, as enshrined in Recommendation ITU-T E.164 and other relevant Recommendations and procedures; this shall cover ways and means to address and counter any misuse of any international telecommunication NNAI resources,

*invites Member States*

to share their experiences regarding the implementation of this resolution.

**MOD****RESOLUTION 22 (Rev. Geneva, 2022)****Authorization for the Telecommunication Standardization Advisory Group to act between world telecommunication standardization assemblies**

*(Geneva, 1996; Montreal, 2000; Florianópolis, 2004; Johannesburg, 2008; Dubai, 2012; Hammamet, 2016; Geneva, 2022)*

The World Telecommunication Standardization Assembly (Geneva, 2022),

*considering*

- a)* that, under the provisions of Article 14A of the ITU Convention, the Telecommunication Standardization Advisory Group (TSAG) is to provide guidelines for the work of study groups and recommend measures to foster coordination and cooperation with other standards bodies;
- b)* that the rapid pace of change in the telecommunication/information and communication technology (ICT) environment and in industry groups dealing with telecommunications/ICT demands that the ITU Telecommunication Standardization Sector (ITU-T) make decisions on matters such as work priorities, study group structure and meeting schedules in shorter periods of time, between world telecommunication standardization assemblies (WTSA), in order to maintain its relevance and responsiveness in accordance with No. 197C of the Convention;
- c)* that Resolution 122 (Rev. Guadalajara, 2010) of the Plenipotentiary Conference resolves that WTSA shall continue, in accordance with its responsibilities, and subject to available financial resources, to promote the continued evolution of the standardization sector and adequately address strategic issues in standardization by means such as, but not limited to, the strengthening of TSAG;
- d)* that Resolution 122 (Rev. Guadalajara, 2010) instructs the Director of the Telecommunication Standardization Bureau (TSB) to continue, in consultation with relevant bodies, and the ITU membership, and in coordination with the ITU Radiocommunication Sector (ITU-R) and the ITU Telecommunication Development Sector (ITU-D), as appropriate, to organize a Global Standards Symposium (GSS);
- e)* that GSS was held in conjunction with this assembly to consider bridging the standardization gap and examining global ICT standards challenges;
- f)* that TSAG continues to make proposals for enhancing the operational efficiency of ITU-T, for improving the quality of ITU-T Recommendations and for methods of coordination and cooperation;
- g)* that TSAG helps to improve coordination of the study process and provide improved decision-making processes for the important areas of ITU-T activities;
- h)* that flexible administrative procedures, including those related to budgetary considerations, are needed in order to adapt to rapid changes in the telecommunication/ICT environment;
- i)* the importance of TSAG to act in the four years between WTSA's in order to meet the needs of the marketplace in a timely manner and to be able to address unforeseen issues requiring urgent action in the interim period between assemblies;
- j)* that it is desirable for TSAG to consider the implications of new and emerging technologies for the standardization activities of ITU-T, related to technical, operating and tariff questions on the basis of contributions submitted by the membership, and how such technologies can be included within the ITU-T work programme;

- k) that TSAG plays an important role in ensuring coordination between study groups, as appropriate, on standardization issues including, as required, avoiding duplication of work, and identifying linkages and dependencies between related work items;
- l) that TSAG, in providing advice to study groups, may take account of the advice of other groups;
- m) that there is a need to continue improving coordination and collaboration with other relevant bodies, within ITU-T, with ITU-R and ITU-D and the General Secretariat, and with other standardization organizations, forums and consortia outside of ITU, and relevant entities;
- n) that effective coordination between study groups is critical to ITU-T's ability to meet emerging standardization challenges and the needs of its membership,

*noting*

- a) that ITU-T is one of the pre-eminent global standardization bodies, comprising administrations, equipment vendors, operators and regulators, universities and research institutes;
- b) that Article 13 of the Convention states the duties of WTSA, among them that it may assign specific matters within its competence to TSAG indicating the action required on those matters;
- c) that TSAG meets at least on a yearly basis;
- d) that TSAG has already exhibited the capability to act effectively on matters assigned to it by WTSA;
- e) that Resolution 68 (Rev. Geneva, 2022) of this assembly instructs the Director of TSB to organize meetings for high-level industry executives, e.g. chief technology officer meetings, in order to assist in identifying and coordinating standardization priorities and subjects and minimize the number of forums and consortia;
- f) that effective coordination can be achieved by means of joint coordination activities (JCA), joint rapporteur group meetings, liaison statements between study groups and the study group chairmen's meetings organized by the Director of TSB to meet emerging standardization challenges and the needs of the ITU-T membership,

*recognizing*

- a) that Nos. 191A and 191B of the Convention allow WTSA to maintain, establish or terminate other groups as needed, as well as their mandates;
- b) that coordination should serve to improve the effectiveness of ITU-T activities and should not limit the work of each study group to develop Recommendations;
- c) that the tasks undertaken in ITU-T cover technical, operating and tariff questions,

*resolves*

1 to assign to TSAG the following specific matters within its competence between this assembly and the next assembly to act in the following areas in consultation with the Director of TSB:

- a) maintain and provide up-to-date, efficient and flexible working guidelines;
- b) promote high-priority standardization activities related to technical, operating and tariff questions on the basis of contributions submitted by the membership from a global viewpoint and to coordinate among ITU-T study groups in this regard;
- c) assume responsibility, including development and submission for approval under appropriate procedures, for the ITU-T A-series Recommendations;
- d) restructure and establish ITU-T study groups, taking into account the needs of the ITU-T membership and in response to changes in the telecommunication/ICT marketplace, and

assign chairmen and vice-chairmen to act until the next WTSA in accordance with Resolution 208 (Dubai, 2018) of the Plenipotentiary Conference;

- e)* issue advice on study group schedules to meet standardization priorities;
- f)* while recognizing the primacy of the study groups in carrying out the activities of ITU-T, create, terminate or maintain other groups, including focus groups, appoint their chairmen and vice-chairmen, and establish their terms of reference with a defined duration, in accordance with Nos. 191A and 191B of the Convention, in order to enhance and improve the effectiveness of ITU-T's work as well as promoting flexibility in responding rapidly to high-priority issues; such groups shall not adopt Questions or Recommendations, in accordance with Article 14A of the Convention, but work on a specific mandate;
- g)* identify changing requirements and provide advice on appropriate changes to be made to the priority of work in ITU-T study groups, planning and allocation of work between study groups, having due regard for the cost and availability of resources;
- h)* take an active role in ensuring coordination among ITU-T activities, particularly on standardization issues that are being studied in more than one group;
- i)* review reports of and consider appropriate proposals made by coordination groups and other groups, and implement those that are agreed;
- j)* identify requirements and provide determination on appropriate changes to be made where overlapping issues arise, which includes, but is not limited to, assignment of a mandate to a study group to lead on coordination work;
- k)* establish the appropriate mechanism and encourage the utilization, for example, of coordination groups or other groups, to address key topics of work which span several study groups, with a view to ensuring effective coordination of standardization topics in order to achieve suitable global solutions;
- l)* review progress in the implementation of the ITU-T work programme, including fostering coordination and collaboration with other relevant bodies such as standardization organizations, forums and consortia outside of ITU;
- m)* cooperate and coordinate with ITU-R and ITU-D and with other, external, standardization bodies;
- n)* advise the Director of TSB on financial and other matters;
- o)* approve the programme of work arising from the review of existing and new Questions and determine the priority, urgency, estimated financial implications and time-scale for the completion of their study;
- p)* group, as far as practicable, Questions of interest to developing countries<sup>1</sup>, including the least developed countries, small island developing states, landlocked developing countries and countries with economies in transition, in order to facilitate their participation in these studies;
- q)* address other specific matters within the competence of WTSA, subject to the approval of Member States, using the approval procedure contained in Resolution 1 (Rev. Hammamet, 2016) of this assembly, Section 9;
- r)* take into account the interests of developing countries and encourage and facilitate their involvement in these activities,

2 that TSAG examine implementation of the actions and achievement of the goals as reflected in the annual ITU-T operational plan and in the WTSA-20 Action Plan, which includes the

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<sup>1</sup> These include the least developed countries, small island developing states, landlocked developing countries and countries with economies in transition.



WTSA resolutions, for the purpose of identifying possible difficulties and possible strategies for implementing key elements, and recommending solutions to the Director of TSB regarding them;

3 that revisions to the relevant procedures for the adoption of Questions and Recommendations by study groups, other than those referred to in Nos. 246D, 246F and 246H of the Convention, may be initiated by TSAG for approval by Member States between WTSA's, using the approval procedure contained in Resolution 1 (Rev. Geneva, 2022) of this assembly, Section 9;

4 that TSAG provide liaison on its activities to relevant organizations outside ITU in consultation with the Director of TSB, as appropriate;

5 that TSAG consider the implications, for ITU-T, of market needs and new and emerging technologies that have not yet been considered for standardization by ITU-T, establish an appropriate mechanism to facilitate the examination of their consideration, for example assigning Questions, coordinating the work of study groups or establishing coordination groups or other groups, and appoint their chairmen and vice-chairmen;

6 that TSAG review and coordinate standardization strategies for ITU-T by identifying the main technological trends and market, economic and policy needs in the fields of activity relevant to the mandate of ITU-T, and identify possible topics and issues for consideration in ITU-T's standardization strategies;

7 that TSAG establish an appropriate mechanism to facilitate standardization strategies, for example assigning Questions, coordinating the work of study groups or establishing coordination groups or other groups, and appoint their chairmen and vice-chairmen;

8 that TSAG consider the result of this assembly concerning GSS and take follow-up actions, as appropriate;

9 that a report on the above TSAG activities shall be submitted to the next WTSA,  
*instructs the Director of the Telecommunication Standardization Bureau*

1 to take into consideration the advice and guidance of TSAG in order to improve the effectiveness and efficiency of ITU-T;

2 to provide to each TSAG meeting a report on:

- the implementation of WTSA resolutions and actions to be undertaken pursuant to their operative paragraphs;

- the progress of the ITU-T annual operational plan and WTSA-20 Action Plan, identifying difficulties, if any, that hinder the progress, and possible solutions;

3 to provide information about any work item that has not given rise to any contribution in the time interval of the previous two study group meetings through his or her report about study group activity;

4 to report to TSAG on the experience in the implementation of the A-series Recommendations for consideration by the ITU-T membership.

**MOD****RESOLUTION 29 (Rev. Geneva, 2022)****Alternative calling procedures on international telecommunication networks**

*(Geneva, 1996; Montreal, 2000; Florianópolis, 2004; Johannesburg, 2008; Dubai, 2012; Hammamet, 2016; Geneva, 2022)*

The World Telecommunication Standardization Assembly (Geneva, 2022),

*recalling*

- a) Resolution 1099, adopted by the Council at its 1996 session, concerning alternative calling procedures on international telecommunication networks, which urged the ITU Telecommunication Standardization Sector (ITU-T) to develop, as soon as possible, the appropriate Recommendations concerning alternative calling procedures;
- b) Resolution 22 (Rev. Buenos Aires, 2017) of the World Telecommunication Development Conference, on alternative calling procedures on international telecommunication networks, identification of origin and apportionment of revenues in providing international telecommunication services;
- c) Resolution 21 (Rev. Dubai, 2018) of the Plenipotentiary Conference, on measures concerning alternative calling procedures on international telecommunication networks;
- d) Recommendation ITU-T E.370, on interconnection between IP-based networks and legacy networks,

*recognizing*

- a) that alternative calling procedures, which may be potentially harmful, are not permitted in many countries and permitted in some others;
- b) that although alternative calling procedures may be potentially harmful, they may be attractive for users;
- c) that alternative calling procedures, which may be potentially harmful and may impact the revenue of international telecommunication operators or operating agencies authorized by Member States, may seriously hamper, in particular, the efforts of developing countries<sup>1</sup> for the sound development of their telecommunication networks and services;
- d) that distortions in traffic patterns resulting from some forms of alternative calling procedures, which may be potentially harmful, may impact traffic management and network planning;
- e) that some forms of alternative calling procedures seriously degrade the performance and quality of telecommunication networks;
- f) that the ubiquity of Internet Protocol (IP)-based networks, including the Internet, in the provision of telecommunication services has impacted the ways and means of alternative calling procedures, and that it is becoming necessary to identify and redefine these procedures,

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<sup>1</sup> These include the least developed countries, small island developing states, landlocked developing countries and countries with economies in transition.

*considering*

- a) the results of the ITU workshop on alternative calling procedures and origin identification held in Geneva on 19-20 March 2012;
- b) the results of the ITU workshop on caller ID spoofing held by ITU-T Study Group 2 in Geneva on 2 June 2014;
- c) that any calling procedure should aim to maintain acceptable levels of quality of service (QoS) and quality of experience (QoE), as well as to enable calling line identification (CLI) and/or origin identification (OI) information,

*reaffirming*

- a) that it is the sovereign right of each country to regulate its telecommunications;
- b) that the ITU Constitution, in its Preamble, gave regard to "the growing importance of telecommunication for the preservation of peace and the economic and social development of all States", and that Member States agreed in the Constitution with "the object of facilitating peaceful relations, international cooperation among peoples and economic and social development by means of efficient telecommunication services",

*noting*

that, in order to minimize the effect of alternative calling procedures:

- i) international telecommunication operators or operating agencies authorized by Member States should, within their national law, make every effort to establish the level of collection charges on a cost-oriented basis, taking into account Article 6.1.1 of the International Telecommunication Regulations and Recommendation ITU-T D.5;
- ii) administrations and international telecommunication operators or operating agencies authorized by Member States should follow the guidelines developed by Member States on the measures to be applied to deter the impact of alternative calling procedures on other Member States,

*resolves*

- 1 to continue identifying and defining all forms of alternative calling procedures, to study their impact on all parties, and to develop appropriate Recommendations concerning alternative calling procedures;
- 2 that administrations and international telecommunication operators or operating agencies authorized by Member States should take, to the furthest extent practicable, all measures to suspend the methods and practices of any form of alternative calling procedures which seriously degrade the QoS and QoE of telecommunication networks, or prevent the delivery of CLI or OI information;
- 3 that administrations and international telecommunication operators or operating agencies authorized by Member States should take a cooperative approach to respect the national sovereignty of others, and suggested guidelines for this collaboration are attached;
- 4 to instruct ITU-T Study Group 2 to study other aspects, forms and definition of alternative calling procedures, including those associated with the interworking of legacy and IP-based infrastructures, and the consequent instances of hindrance, obscuring or spoofing of OI or CLI information, and the evolution of alternative calling procedures, including the use of over-the-top telephone applications that use telephone numbers, that may give rise to instances of fraudulent practices, and to develop appropriate Recommendations and guidelines;
- 5 to instruct ITU-T Study Group 3 to continue studying the economic effects of alternative calling procedures, origin non-identification or spoofing and over-the-top telephone applications, on

the efforts of developing countries for sound development of their local telecommunication networks and services, and to develop appropriate Recommendations and guidelines;

6 to instruct ITU-T Study Group 12 to develop guidelines regarding the minimum QoS and QoE threshold to be fulfilled during the use of alternative calling procedures;

7 to instruct ITU-T Study Groups 2, 3 and 12 to continue the ongoing collaboration in studying issues related to alternative calling procedures,

*instructs the Director of the Telecommunication Standardization Bureau*

to continue to cooperate with the Director of the Telecommunication Development Bureau in order to facilitate the participation of developing countries in these studies and to make use of the results of the studies, and in the implementation of this resolution,

*invite Member States*

1 to adopt national legal and regulatory frameworks requesting administrations and international telecommunication operators or operating agencies authorized by Member States to avoid using alternative calling procedures that degrade the level of QoS and QoE, to encourage the delivery of international CLI and OI information, at least to the destination operating agency, and to ensure the appropriate charging, taking into account the relevant ITU-T Recommendations;

2 to contribute to this work.

## ATTACHMENT (to Resolution 29 (Rev. Geneva 2022))

### **Suggested guidelines for administrations and international telecommunication operators or operating agencies authorized by Member States for consultation on alternative calling procedures**

In the interest of global development of international telecommunications, it is desirable for administrations and international telecommunication operators or operating agencies authorized by Member States to cooperate with others and to take a collaborative approach to ensure connectivity of country codes, where a preferable option is the selective blocking of particular international numbers, authorized on a case-by-case basis by national regulators.

Any cooperation and any subsequent actions would have to take account of the constraints of national laws. The following guidelines regarding alternative calling procedures (ACP) are recommended to be applied in country X (the location of the ACP user) and country Y (the location of the ACP provider). When ACP traffic is destined to a country other than countries X or Y, the sovereignty and the regulatory status of the destination country should be respected.

<b>Country X (location of ACP user)</b>	<b>Country Y (location of ACP provider)</b>
A generally collaborative and reasonable approach is desirable	A generally collaborative and reasonable approach is desirable
Administration X, wishing to restrict or prohibit ACP, should establish a clear policy position	
Administration X should make known its national position	Administration Y should bring this information to the attention of international telecommunication operators or operating agencies authorized by Member States and ACP

Country X (location of ACP user)	Country Y (location of ACP provider)
	providers in its territory using whatever official means are available
Administration X should instruct operating agencies authorized by Member States operating in its territory as to the policy position, and those operating agencies authorized by Member States should take steps to ensure that their international operating agreements comply with that position	Operating agencies authorized by Member States in Y should cooperate in considering any necessary modifications to international operating agreements
	Administration Y and/or operating agencies authorized by Member States in Y should seek to ensure that ACP providers establishing an operation in their territory are aware that: <ul style="list-style-type: none"> <li>a) ACP should not be provided in a country where it is expressly prohibited, and</li> <li>b) the ACP configuration must be of a type which will not degrade the quality and performance of the international PSTN</li> </ul>
Administration X should take all reasonable steps within its jurisdiction and responsibility to stop the offering and/or usage of ACP in its territory which is: <ul style="list-style-type: none"> <li>a) prohibited; and/or</li> <li>b) harmful to the network.</li> </ul> Operating agencies authorized by Member States in country X will cooperate in the implementation of such steps.	Administration Y and operating agencies authorized by Member States in Y should take all reasonable measures to stop ACP providers in its territory offering ACP: <ul style="list-style-type: none"> <li>a) in other countries where it is prohibited; and/or</li> <li>b) which is harmful to the networks involved.</li> </ul>

NOTE 1 – For relations between countries which regard ACP as an "international telecommunication service" as defined in the International Telecommunication Regulations, bilateral operating agreements should be required between the operating agencies authorized by Member States concerned as to the conditions under which ACP will be operated.

NOTE 2 – All forms of ACP should be defined by ITU-T Study Group 2 and documented in the appropriate ITU-T Recommendation (e.g. call-back, over-the-top, refiling, etc.).

**MOD****RESOLUTION 34 (Rev. Geneva, 2022)****Voluntary contributions**

*(Montreal, 2000; Florianópolis, 2004; Johannesburg, 2008; Dubai, 2012; Geneva, 2022)*

The World Telecommunication Standardization Assembly (Geneva, 2022),

*considering*

- a)* Resolution 71 (Rev. Dubai, 2018) of the Plenipotentiary Conference, on the strategic plan for the Union for 2020-2023, targeting ambitious strategic objectives in the activities of the ITU Telecommunication Standardization Sector (ITU-T);
- b)* Resolution 123 (Rev. Dubai, 2018) of the Plenipotentiary Conference, which invites Member States and Sector Members to make voluntary contributions to the fund for bridging the standardization gap;
- c)* Decision 5 (Rev. Dubai, 2018) of the Plenipotentiary Conference and the annexes thereto, limiting expenses of the Union for the period 2020-2023;
- d)* Resolution 44 (Rev. [Geneva, 2022]) of this assembly, on bridging the standardization gap between developed and developing countries<sup>1</sup>, which describes the sources from which funds will be raised for the purpose of bridging the standardization gap,

*recalling*

- a)* that the ITU Constitution, Convention and Financial Regulations stipulate that the Secretary-General may accept voluntary financial contributions in cash or in kind, in addition to the regular contributions from the Member States, Sector Members and Associates;
- b)* that expenditures under voluntary contributions are outside the limits of expenditure set by ITU plenipotentiary conferences;
- c)* that important voluntary contributions made to ITU-T in the past permitted ITU-T to make significant progress in its work,

*considering further*

that voluntary contributions are valuable, rapid and efficient instruments in the financing of extra activities for the Sector,

*resolves*

- 1 to encourage the financing of specific projects, focus groups, regional groups of ITU-T study groups or other new initiatives, including any activities which help achieve the objectives of Resolution 44 (Rev. [Geneva, 2022]), on bridging the standardization gap, by voluntary contributions;
- 2 to invite Sector Members and Associates to finance voluntarily the participation of developing countries, and in particular remote participation using electronic working methods, in ITU-T meetings and workshops;

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<sup>1</sup> These include the least developed countries, small island developing states, landlocked developing countries and countries with economies in transition.

3 to invite Member States, Sector Members and Associates from both developing and developed countries to make voluntary contributions and to submit to the Director of the Telecommunication Standardization Bureau projects and other initiatives of interest for ITU-T to be financed under voluntary contributions.

**MOD****RESOLUTION 40 (Rev. Geneva, 2022)****Regulatory and policy aspects of the work of the ITU  
Telecommunication Standardization Sector**

*(Montreal, 2000; Florianópolis, 2004; Johannesburg, 2008; Dubai, 2012; Hammamet, 2016; Geneva, 2022)*

The World Telecommunication Standardization Assembly (Geneva, 2022),

*recognizing*

- a) the provisions of Nos. 246D to 246H of the ITU Convention;
- b) Resolution 20 (Rev. Hammamet, 2016) of this assembly, on the procedures for allocation and management of international telecommunication numbering, naming, addressing and identification resources,

*considering*

- a) that the tasks undertaken in the ITU Telecommunication Standardization Sector (ITU-T) cover both technical matters and matters having policy or regulatory implications;
- b) that rules pertaining to certain aspects of the Sector's work are being framed in terms that will rely upon clear and certain identification of the boundary between technical matters and matters having policy or regulatory implications;
- c) that administrations are encouraging a larger role for Sector Members in the work of ITU-T, particularly on technical matters;
- d) that many matters having policy or regulatory implications may involve technical implementation and therefore need to be considered in appropriate technical study groups,

*noting*

- a) that the ITU Member States have identified significant policy responsibilities in Chapter VI of the ITU Constitution (Articles 33-43) and in Chapter V of the Convention (Articles 36-40), and in relevant resolutions of plenipotentiary conferences;
- b) that the International Telecommunication Regulations further describe policy and regulatory obligations incumbent upon Member States;
- c) that No. 191C of the Convention empowers the World Telecommunication Standardization Assembly (WTSA) to assign matters within its competence to the Telecommunication Standardization Advisory Group (TSAG), indicating the action required on those matters,

*resolves*

1 that, when determining whether all New Work Items, Questions or Recommendations have policy or regulatory implications, study groups shall more generally consider possible topics such as:

- the right of the public to correspond;
- protection of telecommunication channels and installations;
- use of the limited numbering and addressing resources;
- naming and identification;
- secrecy and authenticity of telecommunications;



- safety of life;
- practices applicable to competitive markets;
- misuse of numbering resources; and
- any other relevant matters, including those identified by a decision of Member States, or recommended by TSAG, or Questions or Recommendations where there is any doubt about their scope;

2 to instruct TSAG to study and identify the operational and technical areas related to quality of service/quality of experience (QoS/QoE) of telecommunications/information and communication technologies that might have policy and regulatory nature, taking into account the studies being carried out by the relevant study groups, and report that to the next WTSA,

*invites Member States*

to contribute actively to the work to be carried out on this matter.

**MOD****RESOLUTION 43 (Rev. Geneva, 2022)****Regional preparations for world telecommunication standardization assemblies**

*(Florianópolis, 2004; Johannesburg, 2008; Dubai, 2012; Geneva, 2022)*

The World Telecommunication Standardization Assembly (Geneva, 2022),

*recalling*

- a) 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;
- b) Resolution 25 (Rev. Dubai, 2018) of the Plenipotentiary Conference, on strengthening the regional presence,

*considering*

- a) that many regional telecommunication organizations and 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), seek close cooperation with the Union and have coordinated their preparations for this and preceding assemblies;
- b) that many common proposals have been submitted to this and preceding assemblies from administrations participating in the preparatory work of regional telecommunication organizations;
- c) that this consolidation of views at regional level, together with the opportunity for interregional discussions prior to the assembly, has eased the task of reaching a consensus during the assembly;
- d) that the burden of preparation for future assemblies is likely to increase;
- e) that the coordination of preparations at regional level is consequently of great benefit to the Member States and Sector Members;
- f) that greater efficiency of regional coordination and interaction at interregional level prior to future assemblies will help ensure their success;
- g) that there is a need for regional telecommunication organizations to collaborate closely with relevant subregional organizations within their region;
- h) that some regional organizations lack the necessary resources to organize adequately and participate in such preparations;
- i) that there is a need for overall coordination of the interregional consultations,

*recognizing*

- a) the benefits of regional coordination as already experienced in the preparation of plenipotentiary conferences, world radiocommunication conferences and world telecommunication development conferences;
- b) that regional preparatory meetings for the World Telecommunication Standardization Assembly (WTSA) have helped in identifying and coordinating regional views on issues considered

to be of particular relevance to each region, and in developing common regional proposals for submission to WTSA's,

*taking into account*

the efficiency benefits that WTSA's have gained from an increased amount and level of prior preparation by the Member States,

*noting*

- a) that many regional telecommunication organizations have expressed the need for the Union to cooperate more closely with them;
- b) that the relationship between ITU regional offices and regional telecommunication organizations has proved to be of great benefit,

*resolves to instruct the Director of the Telecommunication Standardization Bureau*

to maintain the organization, within the financial limitations established by the Plenipotentiary Conference, of at least one regional preparatory meeting per region, in close coordination with relevant regional organizations, with the assistance of regional offices when necessary, covering all Member States from ITU without exception, even if they do not belong to any of the six regional telecommunication organizations; the regional preparatory meetings should be the closest in time possible to the next WTSA, followed by an informal meeting of the chairmen and vice-chairmen of the regional preparatory meetings and other interested parties, to be held not earlier than six months prior to WTSA,

*invites the Secretary-General, in cooperation with the Directors of the Bureaux of the three Sectors*

1 to consult with Member States and regional and subregional telecommunication organizations on the means by which assistance can be provided in support of their preparations for future WTSA's, including support for the organization of a "Bridging the Standardization Gap Forum" per region to address major issues of the next WTSA of interest to developing countries<sup>1</sup>;

2 on the basis of such consultations, to assist Member States and regional and subregional telecommunication organizations in such areas as:

- i) the organization of informal regional and interregional preparatory meetings, and formal regional preparatory meetings if a region so requests;
- ii) the identification of major issues to be resolved by the next WTSA;
- iii) the development of coordination methods;
- iv) the organization of information sessions on expected work for WTSA;

3 to submit, no later than the session of the ITU Council following WTSA, a report on feedback from Member States concerning WTSA regional preparatory meetings, their results and the application of this resolution,

*invites Member States*

to participate actively in the implementation of this resolution,

*invites regional and subregional telecommunication organizations*

1 to participate in coordinating and harmonizing the contributions of their respective Member States in order to generate common proposals where possible;

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<sup>1</sup> These include the least developed countries, small island developing states, landlocked developing countries and countries with economies in transition.

- 2 to take an active part in the preparation and holding of regional preparatory meetings for WTSA;
- 3 to take part in the preparatory meetings of other regional telecommunication organizations, at their invitation, and to convene, if possible, informal interregional meetings in order to exchange information and to arrive at interregional common proposals.

**MOD****RESOLUTION 44 (Rev. Geneva, 2022)****Bridging the standardization gap between developing<sup>1</sup>  
and developed countries**

*(Florianópolis, 2004; Johannesburg, 2008; Dubai, 2012; Hammamet 2016; Geneva, 2022)*

The World Telecommunication Standardization Assembly (Geneva, 2022),

*considering*

- a)* that Resolution 71 (Rev. Dubai, 2018) of the Plenipotentiary Conference includes under the objectives of the ITU Telecommunication Standardization Sector (ITU-T) the promotion of active participation of the membership, in particular developing countries, in the definition and adoption of non-discriminatory international standards (ITU-T Recommendations) with a view to bridging the standardization gap;
- b)* Resolution 123 (Rev. Dubai, 2018) of the Plenipotentiary Conference, on bridging the standardization gap between developing and developed countries;
- c)* Resolution 139 (Rev. Dubai, 2018) of the Plenipotentiary Conference, on the use of telecommunications/information and communication technologies (ICTs) to bridge the digital divide and build an inclusive information society;
- d)* Resolution 154 (Rev. Dubai, 2018) of the Plenipotentiary Conference, on the use of the six official languages of the Union on an equal footing;
- e)* Resolution 169 (Rev. Dubai, 2018) of the Plenipotentiary Conference, on the admission of Academia to participate in the work of the Union;
- f)* Resolution 191 (Rev. Dubai, 2018) of the Plenipotentiary Conference, on the strategy for the coordination of efforts among the three Sectors of the Union;
- g)* Resolution 195 (Busan, 2014) of the Plenipotentiary Conference, on the implementation of the Smart Africa Manifesto;
- h)* Resolution 197 (Rev. Dubai, 2018) of the Plenipotentiary Conference, on facilitating the Internet of Things and smart sustainable cities and communities;
- i)* Resolution 34 (Rev. Geneva, 2022) of this assembly, on voluntary contributions;
- j)* Resolution 67 (Rev. Geneva, 2022) of this assembly, on use in ITU-T of the languages of the Union on an equal footing,

*recognizing*

- a)* that the harmonious and balanced development of the worldwide telecommunication facilities and services is of mutual advantage to the developing as well as the developed countries;
- b)* that there is a need to reduce the cost of equipment and of rolling out networks and facilities taking into account the needs and requirements of developing countries;
- c)* that the disparity between developing and developed countries in standardization has five components: disparity of voluntary standardization, disparity of mandatory technical regulations,

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<sup>1</sup> These include the least developed countries, small island developing states, landlocked developing countries and countries with economies in transition.

disparity of conformity assessment, disparity in human resources skilled in standardization and disparity in effective participation in ITU-T activities;

- d) that it is of high importance for developing countries to increase their participation in the establishment and widespread use of telecommunication standards, and to enhance their contribution in ITU-T study groups;
- e) that developing countries would benefit from effective participation by their operators in ITU-T activities and that this participation by operators would contribute to enhancing capacity building in the developing countries, increase their competitiveness and support innovation in the markets of developing countries;
- f) that coordination at national level in many developing countries needs to be more developed to handle ICT standardization activities in order to contribute to work in ITU-T and the regional groups of ITU-T study groups;
- g) that the development of guidelines and the establishment of national standardization secretariats could enhance standardization activities at national level and the participation and contribution of developing countries in ITU-T study groups;
- h) that developing countries would benefit from new services and applications enabled by the digital transformation provided by the emergence of key technologies, and from the building of the information society and progress towards sustainable development;
- i) that interpretation service needs to be provided in some ITU-T meetings so as to contribute to bridging the standardization gap and ensure maximum involvement of all delegates, in particular those from developing countries, and help them to be fully aware of and engaged in standardization decisions that are taken in ITU-T meetings,

*recognizing further*

- a) that the achievements of ITU-T in the standardization of transformative digital technologies will contribute towards achievement of the 2030 Agenda for Sustainable Development;
- b) that while ITU has made significant progress in defining and bridging the standardization gap, developing countries are still encountering multifarious difficulties in ensuring their efficient participation in the work of ITU-T, in particular engaging in and following up the work of the ITU-T study groups, especially given budgetary limitations;
- c) that the actual participation by developing countries in ITU-T study group activities has been progressively increased, but it is often limited to the final approval and implementation stages, rather than in the preparation of proposals elaborated in the various working groups;
- d) that coordination at national level in many developing countries needs to be improved to handle ICT standardization activities in order to contribute to work in ITU-T;
- e) that the biennial budget structure includes a separate expenditure line item for bridging the standardization gap activities, while at the same time voluntary contributions are being encouraged, and a management mechanism for this line item has been implemented by the Telecommunication Standardization Bureau (TSB) in close coordination with Telecommunication Development Bureau (BDT);
- f) that ITU's programmes for fostering partnerships, under the patronage of ITU-T, continue to strengthen and expand the assistance ITU provides to its members, particularly developing countries;
- g) the importance of having appropriate consultative frameworks for developing countries for the formulation and study of Questions, the preparation of contributions and capacity building;
- h) that the structure and working methods of ITU-T study groups could serve to improve the level of developing-country participation in standardization activities;

- i) that joint meetings of regional groups of different ITU-T study groups, in particular if concatenated with a regional workshop and/or a meeting of a regional standardization body and also meetings of the ITU regional counterparts, such as the Inter-American Telecommunication Commission (CITEL), the Regional Commonwealth in the field of Communications (RCC), 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), the Asia-Pacific Telecommunity (APT) and the European Conference of Postal and Telecommunications Administrations (CEPT), will encourage the participation of developing countries in these meetings and increase the effectiveness of such meetings;
- j) that holding ITU-T study group meetings in developing countries has shown potential to increase the participation of ITU-T members from the region in these meetings;
- k) that ITU can further improve the active participation of developing countries in the standardization work of ITU-T in terms of both quality and quantity, through the role of the Telecommunication Standardization Advisory Group (TSAG) and ITU-T study group vice-chairmen and chairmen who are appointed on the basis of regional representation and can be charged with specific responsibilities;
- l) that a mentor role in ITU-T study groups was created by TSAG for coordination with representatives from developed and developing countries with the objective of sharing information and best practices with regard to the application of ITU-T Recommendations in order to enhance standardization activities in developing countries and in the regional groups,

*recalling*

- a) that Resolution 1353 of the Council recognizes that telecommunications and ICT are essential components for developed and developing countries for achieving sustainable development, and instructs the Secretary-General, in collaboration with the Directors of the Bureaux, to identify new activities to be undertaken by ITU to support the developing countries to achieve sustainable development through telecommunications and ICT;
- b) the relevant conclusions of the Global Standards Symposium;
- c) that in certain regions there are regional institutions or organizations that undertake standardization work;
- d) that some developing countries are unable to participate in the work of regional standardization organizations,

*resolves*

- 1 that the action plan annexed to this resolution, having the objective of bridging the standardization gap between developed and developing countries, should be continued and be reviewed on an annual basis to take into account the requirements of developing countries;
- 2 that ITU-T, in collaboration with the other Sectors, especially the ITU Telecommunication Development Sector (ITU-D), as appropriate, shall develop a programme to:
  - i) assist developing countries in developing strategies and methods that facilitate the process of linking their challenges and innovations to the standardization process in support of the digital transformation of society;
  - ii) assist developing countries in developing means to align their national industrial and innovation strategies towards the goal of achieving highest impact on their socio-economic ecosystems;
  - iii) assist developing countries to develop strategies for establishing test laboratories which are nationally, regionally and internationally recognized for emerging technologies;

3 that, subject to Council approval, there should be free online access to the manuals, handbooks, directives and other ITU material related to understanding and implementation of ITU-T Recommendations, particularly in the area of developing planning, operation and maintenance of telecommunication equipment and networks;

4 to support, within available or otherwise contributed resources, and on a case-by-case basis, the coordinated creation of regional groups of ITU-T study groups, according to approval or procedures set forth in Resolution 54 (Rev. Geneva, 2022) of this assembly, and encourage cooperation and collaboration of these groups with other regional standardization entities;

5 to maintain in the annual budget of the Union a separate expenditure line item for bridging the standardization gap activities, while at the same time voluntary contributions should be further encouraged;

6 that interpretation shall be provided, based on the requests of participants, at all study group and working party plenary meetings and the entire meeting of TSAG;

7 to encourage the participation of members, particularly Academia, from developing countries in ITU-T standardization activities,

*resolves further that ITU regional offices*

1 be engaged in the activities assigned by TSAG in order to further enhance the implementation of the action plan annexed to this resolution, promoting and coordinating standardization activities in their regions, including raising awareness among prospective Sector Members, Associates and Academia from developing countries, and providing the necessary assistance to the regional groups of ITU-T study groups;

2 assist, within the offices' budgets, the vice-chairmen of TSAG and ITU-T study groups appointed with specific responsibilities, including, among others, the following:

- i) closely work with ITU members in the region in order to mobilize them to participate in ITU standardization activities to assist in bridging the standardization gap;
- ii) make mobilization and participation reports to the ITU body concerning the region;
- iii) prepare and submit a mobilization programme for the regions that they represent at the first meeting of TSAG or a study group and send a report to TSAG;
- iv) inform ITU members of programmes and initiatives within ITU-D that could assist in bridging the standardization gap;

3 organize and coordinate the activities of the regional groups of ITU-T study groups,

*invites the Council*

1 in view of the above *resolves*, in particular *resolves* 6, to increase the ITU-T budgetary provisions for fellowships, interpretation and translation of documents for meetings of TSAG, ITU-T study groups and regional groups of ITU-T study groups;

2 to consider the exemption from payment of the membership fees for a limited time of up to one full study period for new Academia members from developing countries in order to encourage them to get involved in ITU-T activities and the standardization process,

*instructs the Director of the Telecommunication Standardization Bureau, in collaboration with the Directors of the Radiocommunication Bureau and the Telecommunication Development Bureau*

within available resources,

1 to continue implementing the objectives of the action plan annexed to this resolution;



- 2 to encourage the formation of partnerships under the patronage of ITU-T as one of the means for financing and implementing the objectives of the action plan annexed to this resolution;
- 3 to consider, whenever possible, holding workshops concurrently with the meetings of their respective regional groups of ITU-T study groups, or organizing other workshops or events in coordination and collaboration with the Director of BDT and ITU regional offices alongside these meetings;
- 4 to assist developing countries with their studies, particularly in respect of their priority questions and towards developing and implementing ITU-T Recommendations;
- 5 to continue the activities of the implementation group established within TSB to organize, mobilize resources, coordinate efforts and monitor work related to this resolution and the associated action plan;
- 6 to continue to carry out the necessary studies on the role of innovation management and innovation stimulation programmes on bridging the standardization gap between the developed and developing countries;
- 7 to include in the TSB budget proposal to the Council funds identified for the implementation of this resolution, taking into account financial constraints and existing and planned BDT activities;
- 8 to report on the implementation of this plan to future world telecommunication standardization assemblies and plenipotentiary conferences, with a view to reviewing this resolution and introducing the appropriate amendments in the light of implementation outcomes, as well as the budgetary adjustments needed;
- 9 to provide support and assistance to developing countries, if requested, in drafting/developing a set of guidelines on the application of ITU-T Recommendations at the national level in order to enhance their participation in ITU-T study groups, with the assistance of the ITU regional offices, for bridging the standardization gap;
- 10 to enhance the use of electronic channels such as webinars or e-learning for education and training on the implementation of ITU-T Recommendations, in close collaboration with the ITU Academy and other capacity-building initiatives of BDT;
- 11 to provide all necessary support and take all necessary measures for creating and ensuring the smooth functioning of the regional groups, and to facilitate the organization of regional group meetings and workshops for disseminating information and increasing understanding of new Recommendations, in particular for developing countries;
- 12 to report on the effectiveness of the regional groups of ITU-T study groups to the Council;
- 13 to conduct workshops and seminars, as appropriate, for disseminating information and increasing understanding of new ITU-T Recommendations and implementation guidelines for Recommendations, in particular for developing countries;
- 14 to ensure equal access to the ITU electronic meetings to the maximum extent possible and to provide remote participation, where possible, for more ITU-T workshops, seminars and forums, encouraging greater participation by developing countries;
- 15 to leverage existing ITU-D tools in order for developing countries to have greater involvement in ITU-T's standardization work;
- 16 to study the possibility of generating additional revenue for ITU-T activities on bridging the standardization gap, through identifying new financial resources not related to the voluntary contributions mentioned above,

*instructs study groups of the ITU Telecommunication Standardization Sector and the Telecommunication Standardization Advisory Group*

1 to be actively involved in the implementation of the programmes set forth in the action plan annexed to this resolution;

2 to consider including implementation guidelines for ITU-T Recommendations where these could provide advice to assist developing countries in adopting them, with emphasis on Recommendations having regulatory and policy implications;

3 to coordinate joint meetings of regional groups of ITU-T study groups,

*further instructs the study groups*

1 to take account of the specific characteristics of the telecommunication/ICT environment of the developing countries in establishing standards in the fields of planning, services, systems, operation, tariffs and maintenance, and to provide solutions relevant to developing countries wherever possible;

2 to take appropriate steps to have studies carried out on questions connected with standardization which are identified by WTDCs or which are identified via specific studies or surveys targeting developing countries carried out by other ITU-T study groups;

3 to continue liaising with ITU-D study groups, where appropriate, when developing new or revised ITU-T Recommendations, on the specific needs and requirements of developing countries, in order to broaden the appeal and applicability of the Recommendations in those countries;

4 to identify the challenges that developing countries are facing with a view to bridging the standardization gap among Member States,

*invites the Director of the Telecommunication Standardization Bureau*

1 to work closely with the Directors of BDT and the Radiocommunication Bureau (BR) in order to encourage the formation of partnerships under the patronage of ITU-T as one of the means for financing the action plan;

2 to encourage Sector Members from the developed countries to promote the participation in ITU-T activities of their subsidiaries based in developing countries;

3 to develop mechanisms to support the effective participation by members, including telecommunication operators, from developing countries in standardization activities;

4 to consider, whenever possible, holding meetings of ITU-T study groups in developing countries,

*invites regions and their Member States*

1 to pursue, if necessary, the creation of regional groups of ITU-T study groups in in accordance with Resolution 54 (Rev. Geneva, 2022);

2 to take an active part in the activities of the regional groups of ITU-T study groups and support regional telecommunication organizations in setting up regional frameworks for the development of standardization activities;

3 to create regional standardization bodies, as appropriate, and encourage joint and coordinated meetings of such bodies with the regional groups of the ITU-T study groups in the respective regions, so that these standardization bodies act as an umbrella for such regional group meetings;

4 to develop draft terms of reference and working methods for regional groups, for approval by the parent study group;

5 to share information on utilizing ITU-T Recommendations;

6 to encourage the participation of their Sector Members and Associates, especially industry from developing countries, in ITU-T activities;

7 to host regional group and study group meetings and other ITU-T events in particular in developing countries,

*encourages Member States and Sector Members*

1 to communicate their standardization priorities via contributions and responses to ITU-T surveys;

2 to take the objectives set out in the action plan in the annex to this resolution into account in their participation in ITU-T.

## ANNEX (to Resolution 44 (Rev. Geneva, 2022))

### **Action plan for the implementation of Resolution 123 (Rev. Dubai, 2018) of the Plenipotentiary Conference**

#### **I Programme 1: Strengthening standards-making capabilities**

##### 1) Objective

- To improve the standards-making capabilities of developing countries.

##### 2) Activities

- Developing guidelines to assist developing countries in their involvement in ITU-T activities, covering, but not limited to, ITU-T working methods, formulating draft Questions and making proposals.
- Creating methods to increase the access of developing countries to essential technical information in order to enhance their knowledge and capacity (i) to implement global standards, (ii) to effectively contribute to the work of ITU-T, (iii) to include their own specificities and necessities in the global standards-making process, and (iv) to influence global standards-making discussions by having active roles in ITU-T study groups, in close collaboration with other BDT capacity-building initiatives.
- Improving procedures and tools for remote participation via electronic means so as to enable experts in developing countries to participate actively in ITU-T meetings (including TSAG, study groups, focus groups, joint coordination activities, global standardization initiatives, among others), workshops and training, from their own countries.
- Conducting consultancy projects designed to support developing countries in the development of standardization plans, strategies, policies, etc. The outputs should be further transformed into best practices.
- Developing methods, tools and indicators for accurate measurement of the results and the level of effectiveness of the efforts and activities applied in bridging the standardization gap and providing statistics on the involvement of developing countries in the work and meetings of TSAG, ITU-T focus groups, ITU-T study groups and regional groups in addition to other ITU-T events.
- Working with Sector Members, and in particular manufacturers, academia and research and development organizations, on exchanging information on new technologies and requirements of developing countries, and on providing technical assistance to encourage the establishment of standardization programmes in academia and research and development organizations in the field of ICT.

## **II Programme 2: Assisting developing countries with respect to the application of standards**

### 1) Objective

- To assist developing countries in:
  - Having a clear understanding of ITU-T Recommendations;
  - Enhancing the application of ITU-T Recommendations in developing countries.

### 2) Activities

- Assisting developing countries in:
  - Establishing a standardization secretariat to coordinate standardization activities and participation in ITU-T study groups;
  - Determining whether their existing national standards are consistent and in accordance with the current ITU-T Recommendations.
- Actions to be performed by TSB with BDT cooperation:
  - Developing guidelines on the application of ITU-T Recommendations, in particular on manufactured products and interconnection, with emphasis on Recommendations having regulatory and policy implications.
  - Providing advice and assistance for better utilization and adoption of ITU-T Recommendations in national standards.
  - Compiling and maintaining an up-to-date database with information on new standardized technologies, as well as products that are compliant with ITU-T Recommendations.
  - Organizing capacity-building events that enable better application of specific Recommendations and on methods of examining compliance of manufactured products with these Recommendations, in close collaboration with other BDT capacity-building initiatives.
  - Promoting the use of a standardization forum for "questions and answers on standards" where developing countries can raise questions concerning the understanding and application of Recommendations and seek advice from study group experts.
  - Providing assistance to developing countries to develop strategies for establishing test laboratories which are nationally, regionally and internationally recognized for emerging technologies, in coordination with other related actions in other ITU Sectors, especially ITU-D.
  - Continuing launching ITU-T initiatives and programmes that focus on the implementation of existing ITU-T Recommendations while exploring new topics of study, and encouraging the participation of developing countries in these initiatives and programmes.

## **III Programme 3: Human resources capacity building**

### 1) Objective

- To increase the human resources capacity of developing countries in ITU-T and national standardization activities.

### 2) Activities

- Promoting the organization of events, seminars, workshops and study group meetings at the regional and global levels in order to promote standardization capacity building and the development of telecommunications/ICT in developing countries, in close collaboration with other BDT capacity-building initiatives.

- In close collaboration with BDT and BR, providing training courses on standardization to developing countries.
- Providing more internship, secondment and short-term employment, etc., opportunities for developing countries at ITU.
- Encouraging the election of more candidates from developing countries to the TSAG and ITU-T study group chairmanship and vice-chairmanship positions.
- Encouraging secondment and short-term employment opportunities for experts from developing countries in test laboratories of international standards development organizations (SDOs) and manufacturers, in particular in the area of conformance and interoperability testing.
- Organizing in-depth tutorials on understanding and implementation of ITU-T Recommendations.
- Providing guidance and support material to developing countries to assist them in developing and providing undergraduate and postgraduate courses on standardization in their universities.
- Offering, to the extent possible, through TSB, a greater number of fellowships to eligible developing countries to attend relevant ITU-T meetings.
- The BSG Programme should take actions to ensure more participation of women and girls, and vulnerable groups, in standards development in order to capture their requirements in standardization activities, especially in respect of emerging technologies, taking into account geographical and regional balance.

#### **IV Programme 4: Fundraising for bridging the standardization gap**

- a)* Contributions to the action plan through the following forms of partnerships and other means:
- Partnership contributions
  - Additional budget allocated by ITU
  - Voluntary contributions by developed countries
  - Voluntary contributions by the private sector
  - Voluntary contributions by others.
- b)* Management of funds by TSB:
- The Director of TSB, in close coordination with the Director of BDT, shall be responsible for the management of funds raised as above, which shall be used principally for achieving the objectives of these programmes.
- c)* Principles for the use of funds.

**MOD****RESOLUTION 48 (Rev. Geneva, 2022)****Internationalized (multilingual) domain names**

*(Florianópolis, 2004; Johannesburg, 2008; Dubai, 2012, Geneva 2022)*

The World Telecommunication Standardization Assembly (Geneva, 2022),

*recognizing*

- a) relevant parts of Resolution 102 (Rev. Dubai, 2018) of the Plenipotentiary Conference;
- b) Resolution 133 (Rev. Dubai, 2018) of the Plenipotentiary Conference;
- c) relevant outcomes of the two phases of the World Summit on the Information Society (WSIS);
- d) the evolving role of the World Telecommunication Standardization Assembly, in accordance with Resolution 122 (Rev. Guadalajara, 2010) of the Plenipotentiary Conference;
- e) the ITU strategic plan 2011 reflecting the important role of multilingualism in enabling the full participation of all countries in the work of ITU, in building a global information society that is open to all, and in achieving the goals and objectives of WSIS,

*considering*

- a) that there needs to be further in-depth discussion of the political, economic and technical issues related to internationalized (multilingual) domain names arising out of the interaction between national sovereignty and the need for international coordination and harmonization;
- b) that intergovernmental organizations have had, and should continue to have, a facilitating role in the coordination of Internet-related public policy issues;
- c) that international organizations have also had, and should continue to have, an important role in the development of Internet-related technical standards and relevant policies;
- d) that the ITU Telecommunication Standardization Sector (ITU-T) has a record of successfully handling similar issues in a timely manner, especially as to the use of non-Latin character sets;
- e) the ongoing activities of other relevant organizations,

*resolves to instruct ITU-T Study Group 16 and other relevant study groups*

to continue to study internationalized (multilingual) domain names, and to continue to liaise and cooperate with appropriate entities, whether intergovernmental or non-governmental, in this area,

*instructs the Director of the Telecommunication Standardization Bureau*

to take appropriate action to facilitate the above and to report to the ITU Council annually regarding the progress achieved in this area,

*invites Member States, Sector Members and concerned regional groups*

to contribute to these activities.

**MOD****RESOLUTION 50 (Rev. Geneva, 2022)****Cybersecurity**

*(Florianópolis, 2004; Johannesburg, 2008; Dubai, 2012; Hammamet, 2016; Geneva, 2022)*

The World Telecommunication Standardization Assembly (Geneva, 2022),

*recalling*

- a)* Resolution 130 (Rev. Dubai, 2018) of the Plenipotentiary Conference, on the role of ITU in building confidence and security in the use of information and communication technologies (ICT);
- b)* Resolution 174 (Rev. Dubai, 2018) of the Plenipotentiary Conference, on ITU's role with regard to international public policy issues relating to the risk of illicit use of ICT;
- c)* Resolution 179 (Rev. Dubai, 2018) of the Plenipotentiary Conference, on ITU's role in child online protection;
- d)* Resolution 181 (Guadalajara, 2010) of the Plenipotentiary Conference, on definitions and terminology relating to building confidence and security in the use of ICT;
- e)* Resolutions 55/63 and 56/121 of the United Nations General Assembly (UNGA), which established the legal framework on countering the criminal misuse of information technologies;
- f)* UNGA Resolution 57/239, on the creation of a global culture of cybersecurity;
- g)* UNGA Resolution 58/199, on the creation of a global culture of cybersecurity and the protection of essential information infrastructures;
- h)* UNGA Resolution 41/65, on principles relating to remote sensing of the Earth from outer space;
- i)* UNGA Resolution 70/125, on the outcome document of the high-level meeting of the General Assembly on the overall review of the implementation of the outcomes of the World Summit on the Information Society (WSIS);
- j)* Resolution 45 (Rev. Dubai, 2014) of the World Telecommunication Development Conference (WTDC), on mechanisms for enhancing cooperation on cybersecurity, including countering and combating spam;
- k)* Resolution 52 (Rev. Geneva, 2022) of the World Telecommunication Standardization Assembly, on countering and combating spam;
- l)* Resolution 58 (Rev. Dubai, 2012) of the World Telecommunication Standardization Assembly, on encouraging the creation of national computer incident response teams, particularly in developing countries<sup>1</sup>;
- m)* that ITU is the lead facilitator for WSIS Action Line C5 in the Tunis Agenda for the Information Society (Building confidence and security in the use of ICTs);
- n)* the cybersecurity-related provisions of the WSIS outcomes,

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<sup>1</sup> These include the least developed countries, small island developing states, landlocked developing countries and countries with economies in transition.

*considering*

- a) the crucial importance of telecommunication/ICT infrastructure and their applications to practically all forms of social and economic activity;
- b) that the legacy public switched telephone network (PSTN) has a level of inherent security properties because of its hierarchical structure and built-in management systems;
- c) that IP networks provide reduced separation between user components and network components if adequate care is not taken in the security design and management;
- d) that the converged legacy networks and IP networks are therefore potentially more vulnerable to intrusion if adequate care is not taken in the security design and management of such networks;
- e) that cybersecurity is a cross-cutting issue, and the cybersecurity landscape is complex and dispersed, with many different stakeholders at the national, regional and global levels with responsibility for identifying, examining and responding to issues related to building confidence and security in the use of ICTs;
- f) that the considerable and increasing losses which users of telecommunication/ICT systems have incurred from the growing problem of cybersecurity alarm all developed and developing nations of the world without exception;
- g) that the fact, *inter alia*, that critical telecommunication/ICT infrastructures are interconnected at the global level means that inadequate infrastructure security in one country could result in greater vulnerability and risks in others and, therefore, cooperation is important;
- h) that the number and methods of cyberthreats and cyberattacks are growing, as is dependence on the Internet and other networks that are essential for accessing services and information;
- i) that standards can support the security aspects of Internet of things (IoT) and smart cities and communities (SC&C);
- j) that in order to protect global telecommunication/ICT infrastructures from the threats and challenges of the evolving cybersecurity landscape, coordinated national, regional and international action is required for prevention, preparation, response, and recovery in respect of cybersecurity incidents;
- k) the work undertaken and ongoing in the ITU, including ITU Telecommunication Standardization Sector (ITU-T) Study Group 17, ITU Telecommunication Development Sector (ITU-D) Study Group 2, including the final report of ITU-D Study Group 1 Question 22/1-1, and under the Dubai Action Plan adopted by WTDC (Dubai, 2014);
- l) that ITU-T has a role to play, within its mandate and competencies, in regard to *considering* j),

*considering further*

- a) that Recommendation ITU-T X.1205 provides a definition, a description of technologies, and network protection principles;
- b) that Recommendation ITU-T X.805 provides a systematic framework for identifying security vulnerabilities, and Recommendation ITU-T X.1500 provides the cybersecurity information exchange (CYBEX) model and discusses techniques that could be used to facilitate the exchange of cybersecurity information;
- c) that ITU-T and the Joint Technical Committee for Information Technology (JTC 1) of the International Organization for Standardization (ISO) and the International Electrotechnical Commission (IEC), as well as several consortia and standards entities such as the World Wide Web



consortium (W3C), the Organization for Advancement of Structured Information Standards (OASIS), the Internet Engineering Task Force (IETF), and the Institute of Electrical and Electronics Engineers (IEEE), among others, already have a significant body of published materials and ongoing work that is directly relevant to this topic, which needs to be considered;

*d)* the importance of ongoing work on security reference architecture for lifecycle management of e-commerce business data,

*recognizing*

*a)* the operative paragraph of Resolution 130 (Rev. Dubai, 2018) instructing the Director of the Telecommunication Standardization Bureau (TSB) to intensify work within existing ITU-T study groups;

*b)* that Resolution 71 (Rev, Dubai 2018) adopted the Strategic Plan for 2020-23, including Strategic Goal 3 *Sustainability: Manage emerging risks, challenges and opportunities resulting from the rapid growth of telecommunications/ICT*, under which the Union will focus on enhancing the quality, reliability, sustainability and resilience of networks and systems as well as building confidence and security in the use of telecommunications/ICTs;

*c)* that the ITU Global Cybersecurity Agenda (GCA) promotes international cooperation aimed at proposing strategies for solutions to enhance confidence and security in the use of ICTs, considering security aspects throughout the whole lifecycle of the standards-development process;

*d)* the challenges that States, particularly in developing nations, face in building confidence and security in the use of ICTs,

*recognizing further*

*a)* that cyberattacks such as phishing, pharming, scan/intrusion, distributed denials of service, web-defacements, unauthorized access, etc., are emerging and having serious impacts;

*b)* that botnets are used to distribute bot-malware and carry out cyberattacks;

*c)* that sources of attacks are sometimes difficult to identify;

*d)* that critical cybersecurity threats in software and hardware may require timely vulnerability management and timely hardware and software updates;

*e)* that securing data is a key component of cybersecurity as data are often the target in cyberattacks;

*f)* that cybersecurity is one of the elements for building confidence and security in the use of telecommunications/ICTs,

*noting*

*a)* the vigorous activity and interest in the development of telecommunication/ICT security standards and Recommendations in Study Group 17, the lead ITU-T study group on security and identity management, and in other standardization bodies, including the Global Standards Collaboration (GSC) group;

*b)* that there is a need for national, regional and international strategies and initiatives to be harmonized to the extent possible, in order to avoid duplication and to optimize the use of resources;

*c)* the significant and collaborative efforts by and among governments, the private sector, civil society, the technical community and academia, within their respective roles and responsibilities, to build confidence and security in the use of ICTs,

*resolves*

- 1 to continue to give this work high priority within ITU-T, in accordance with its competencies and expertise, including promoting common understanding among governments and other stakeholders of building confidence and security in the use of ICTs at the national regional and international level;
- 2 that all ITU-T study groups continue to evaluate existing and evolving new Recommendations, with respect to their robustness of design and potential for exploitation by malicious parties, and take into account new services and emerging applications to be supported by the global telecommunication/ICT infrastructure (e.g. including, but not limited to, cloud computing and IoT, which are based on telecommunication/ICT networks), according to their mandates in Resolution 2 (Rev. Geneva, 2022);
- 3 that ITU-T continue to raise awareness, within its mandate and competencies, of the need to harden and defend information and telecommunication systems from cyberthreats and malicious cyber activity, and continue to promote cooperation among appropriate international and regional organizations in order to enhance exchange of technical information in the field of information and telecommunication network security;
- 4 that ITU-T should raise global awareness regarding security in ICTs through the development of Recommendations and technical reports which support cybersecurity procedures, technical policies and standards frameworks;
- 5 that ITU-T should work with ITU-D, particularly in the context of ITU-D Question 3/2 (Securing information and communication networks: Best practices for developing a culture of cybersecurity);
- 6 that relevant ITU-T study groups should keep pace with the development of the new and emerging technologies, according to their mandates, to develop Recommendations, Supplements and technical reports that help to overcome challenges related to security;
- 7 that ITU-T continue work on the development and improvement of terms and definitions related to building confidence and security in the use of telecommunications/ICTs, including the term cybersecurity;
- 8 that global, consistent and interoperable processes for sharing incident-response related information should be promoted;
- 9 that ITU-T study groups continue to liaise with standards organizations and other bodies active in this field and encourage the engagement of experts in the ITU's activities in the area of building confidence and security in the use of ICTs;
- 10 that security aspects should be considered throughout the ITU-T standards-development process;
- 11 that secure, trusted and resilient telecommunication/ICT networks and services should be developed and maintained to enhance confidence in the use of ICT;
- 12 that ITU-T study group 17 needs to develop cooperative security analysis and incident management frameworks;
- 13 that the resilience of ICT networks and systems should be considered as a priority in network and infrastructure development,

*instructs Study Group 17*

- 1 to promote the studies on cybersecurity including security for new services and emerging applications to be supported by the global telecommunication/ICT infrastructure;

2 to support the Director of the Telecommunication Standardization Bureau to maintain the "ICT Security Standards Roadmap", which should include work items to progress standardization work related to security, and share this with relevant groups of ITU-R and ITU-D as the mission of the lead group for security;

3 to promote joint coordination activities on security among all relevant study groups and focus groups in ITU and other SDOs;

4 to collaborate closely with all other ITU T study groups, to establish an action plan to assess existing, evolving and new ITU T Recommendations to counter security vulnerabilities, and continue to provide regular reports on security of telecommunications/ICT to the Telecommunication Standardization Advisory Group (TSAG);

5 to define a general/common set of security capabilities for each phase of information systems/networks/applications lifecycle, so that consequently security by design (security capabilities and features available by design) could be achieved for systems/networks/applications from day one;

6 to design security architecture reference framework(s) with security functional components which could be considered as the basis of security architecture design for various systems/networks/applications in order to improve the quality of recommendations on security,

*instructs the Director of the Telecommunication Standardization Bureau*

1 to continue to maintain, in building upon the information base associated with the "ICT Security Standards Roadmap" and the ITU-D efforts on cybersecurity, and with the assistance of other relevant organizations, an inventory of national, regional and international initiatives and activities to promote, to the maximum extent possible, the worldwide harmonization of strategies and approaches in this critically important area, including the development of common approaches in the field of cybersecurity;

2 to contribute to annual reports to the ITU Council on building confidence and security in the use of ICTs, as specified in Resolution 130 (Rev. Dubai, 2018);

3 to report to the Council on the progress of the activities on the "ICT Security Standards Roadmap";

4 to continue to recognize the role played by other organizations with experience and expertise in the area of security standards, and coordinate with those organizations as appropriate;

5 to continue the implementation and follow-up of relevant WSIS activities on building confidence and security in the use of ICTs, in collaboration with the other ITU Sectors and in cooperation with relevant stakeholders, as a way to share information and best practices on national, regional and international non-discriminatory cybersecurity-related initiatives globally;

6 to cooperate with the Secretary-General's GCA and other global or regional cybersecurity projects, as appropriate, in promoting capacity building and developing relationships and partnerships with various regional and international cybersecurity-related organizations and initiatives, as appropriate, and to invite all Member States, particularly developing countries, to take part in these activities and to coordinate and cooperate with these different activities;

7 to support the Director of the Telecommunication Development Bureau in assisting Member States in the establishment of an appropriate framework among developing countries allowing rapid response to major incidents, and to propose an action plan to increase their protection, taking into account mechanisms and partnerships, as appropriate;

8 to support relevant ITU-T study group activities related to strengthening and building confidence and security in the use of ICTs;

9 to disseminate information to all stakeholders related to cybersecurity through the organization of training programmes, forums, workshops, seminars, etc., for policy makers, regulators, operators and other stakeholders, especially from developing countries to raise awareness and identify needs in collaboration with the Director of BDT,

*invites Member States, Sector Members, Associates and academia, as appropriate*

1 to closely collaborate in strengthening regional and international cooperation, taking into account Resolution 130 (Rev. Dubai, 2018), with a view to enhancing confidence and security in the use of ICTs, in order to mitigate risks and threats;

2 to cooperate and participate actively in the implementation of this resolution and the associated actions;

3 to participate in relevant ITU-T study group activities to develop cybersecurity standards and guidelines in order to build confidence and security in the use of ICTs;

4 to utilize relevant ITU-T Recommendations and supplements;

5 To continue to contribute to study group 17 work on cyber risk management approaches.

**MOD****RESOLUTION 54 (Rev. Geneva, 2022)****Regional groups of study groups of the ITU Telecommunication Standardization Sector**

*(Florianópolis, 2004; Johannesburg, 2008; Dubai, 2012; Hammamet 2016; Geneva, 2022)*

The World Telecommunication Standardization Assembly (Geneva, 2022),

*considering*

- a) that Article 14 of the ITU Convention authorizes the creation of study groups with a view to standardizing telecommunications on a worldwide basis;
- b) that Article 17 of the ITU Constitution states that "the functions of the Telecommunication Standardization Sector shall be, bearing in mind the particular concerns of the developing countries, to fulfil the purposes of the Union relating to telecommunication standardization ...";
- c) that Resolution 58 (Rev. Busan, 2014) of the Plenipotentiary Conference resolves that ITU "should continue developing stronger relations with regional telecommunication organizations, including the organization of six ITU regional preparatory meetings for plenipotentiary conferences, as well as other Sector conferences and assemblies as necessary";
- d) that Resolution 123 (Rev. Dubai, 2018) of the Plenipotentiary Conference instructs 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<sup>1</sup> and developed countries, and to further collaborate with relevant regional organizations and support their work in this area;
- e) that Resolution 191 (Rev. Dubai, 2018) of the Plenipotentiary Conference recognizes that the basic principle of cooperation and collaboration among the Sectors is to avoid duplication of the Sectors' activities and to ensure that work is carried out efficiently and effectively;
- f) the following outcome for the ITU Telecommunication Standardization Sector (ITU-T) in the strategic plan for the Union for 2020-2023, adopted in Resolution 71 (Rev. Dubai, 2018) of the Plenipotentiary Conference, focused on the promotion of active participation of the membership, in particular developing countries, in the definition and adoption of non-discriminatory international standards with a view to bridging the standardization gap:
  - increased participation in the ITU-T standardization process, including attendance of meetings, submission of contributions, taking leadership positions and hosting of meetings/workshops, especially from developing countries;
- g) that the work of certain study groups, particularly in relation to, among other things, tariff and accounting principles, international telecommunication/information and communication technology (ICT) economic and policy issues, next-generation networks (NGN), the Internet of things (IoT) and future networks (FN), security, quality, mobility and multimedia, continues to be of considerable strategic significance for developing countries,

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<sup>1</sup> These include the least developed countries, small island developing states, landlocked developing countries and countries with economies in transition.

*recognizing*

- a) that Article 43 of the Constitution (No. 194) states that "Member States reserve the right to convene regional conferences, to make regional arrangements and to form regional organizations, for the purpose of settling telecommunication questions which are susceptible of being treated on a regional basis ...";
- b) that Article 14A of the ITU Convention and Resolution 1 (Rev. Geneva, 2022) of this assembly both affirm the principal duties of the Telecommunication Standardization Advisory Group (TSAG) to "review priorities, programmes, operations, financial matters and strategies for activities in the Telecommunication Standardization Sector," "provide guidelines for the work of study groups," and "recommend measures, *inter alia*, to foster cooperation and coordination with other relevant bodies";
- c) that Resolution 1 (Rev. Geneva, 2022) establishes the rules of procedure of ITU-T;
- d) that Resolution 22 (Rev. Geneva, 2022) of this assembly authorizes TSAG to act between world telecommunication standardization assemblies and assigns TSAG responsibility for the ITU-T A-series Recommendations (Organization of the work of ITU-T);
- e) the growing level of participation and involvement of developing countries in all the ITU-T study groups;
- f) that specific regional groups have been successfully established within ITU-T Study Groups 2, 3, 5, 11, 12, 13, 17, and 20
- g) that meetings of the above-mentioned regional groups of ITU-T study groups are held by ITU and can be supported by regional organizations and/or regional standardization bodies;
- h) the satisfactory results obtained by the regional approach within the framework of the activities of the parent study groups;
- i) that the activities of most of these regional groups have become increasingly important, and encompass a growing number of issues,

*noting*

- a) the need to increase the participation of developing countries in the work of study groups, with a view to ensuring that their specific needs and concerns in bridging the standardization gap, within the mandate of ITU-T and its study groups, are better taken into account;
- b) the need to improve and strengthen the organization and working methods of the ITU-T study groups in the interests of enhancing the participation of developing countries, to increase the efficiency and effectiveness of international standardization work and to improve synergies with other ITU Sectors;
- c) the importance of having appropriate consultative frameworks for the formulation and study of Questions, the preparation of contributions and capacity building;
- d) the need for developing countries to be more present and more active within ITU-T's standardization forums;
- e) the need to encourage more inclusive participation in the work of ITU-T, e.g. by Academia, in accordance with Resolution 169 (Rev. Dubai, 2018) of the Plenipotentiary Conference, the private sector and experts working in the field of international standardization of telecommunications/information and communication technologies (ICTs), particularly from developing countries;
- f) the budgetary limitations, especially in developing-country institutions, for attendance at ITU-T events of specific interest to them,

*bearing in mind*

that 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), seek close cooperation with the Union, as delineated in Resolution 58 (Rev. Busan, 2014),

*taking into consideration*

- a) the experiences and lessons learned by study groups and their regional groups, regarding the operational as well as organizational set-up and working methods, consistent with the ITU-T rules of procedure in Resolution 1 (Rev. Geneva, 2022), which could serve to expand and improve the level of developing-country participation in international standardization activities and contribute to achieving the objectives of Resolution 123 (Rev. Dubai, 2018);
- b) the specific process for approving Recommendations foreseen for the regional groups of ITU-T Study Group 3 in clause 9.2.1.1 of Resolution 1 (Rev. Geneva, 2022),

*recognizing further*

- a) that a common and coordinated approach in regard to international standardization could serve to foster the promotion of standardization activities in developing countries;
- b) that joint meetings of regional groups of different ITU-T study groups, in particular if concatenated with a regional workshop and/or a meeting of a regional organization and/or regional standardization body, could encourage the participation of developing countries in these meetings and increase the effectiveness of such joint meetings;
- c) that, in developing countries, a few standardization experts are usually responsible for handling numerous standardization areas within their administrations, including issues that concern Questions under study simultaneously by a number of ITU-T study groups,

*resolves*

- 1 to support, on a case-by-case basis, to the extent practicable, the coordinated creation of regional groups of ITU-T study groups, with at least two supporting members from the region concerned that are committed to contributing actively on the topics assigned to the regional groups;
- 2 that ITU-T study groups develop terms of reference and working methods for these regional groups and inform TSAG for coordination among study groups;
- 3 that the composition of regional groups of ITU-T study groups is consistent with considering c), and supported by the regional telecommunications organizations identified under *bearing in mind* of this resolution;
- 4 that representatives of Member States and Sector Members who belong to the region concerned may participate fully in the regional groups of ITU-T study groups;
- 5 that representatives of Associates and Academia that belong to a parent ITU-T study group, and belong to the region concerned, may participate in regional groups of that ITU-T study group, but should not participate in any decision-making or liaison activity, taking into account Resolution 169 (Rev. Dubai, 2018);
- 6 that meetings of regional groups of other study groups shall, in principle, be limited to delegates and representatives from Member States, Sector Members, Academia and Associates of the study group concerned in the region; however, each regional group may invite other participants

to attend all or part of a meeting, to the extent that these other participants would be eligible to attend the meetings of the full study group;

7 to encourage cooperation of regional groups of ITU-T study groups with regional standardization entities (regional telecommunication organizations, regional standardization bodies, and so forth), especially with the regional telecommunication organizations identified under *bearing in mind* in this resolution, as well as the holding of meetings of regional groups of ITU-T study groups jointly with ITU workshops in the region,

*invites the regions and their Member States*

1 to pursue the creation of regional groups of parent ITU-T study groups in their respective regions, in accordance with *resolves* of this resolution, and to support meetings and activities of the regional groups, as appropriate, in coordination with the Telecommunication Standardization Bureau;

2 to develop draft terms of reference and working methods for these regional groups, which are to be consistent with and approved by the parent study group, as regards areas of concern to them;

3 to create regional standardization bodies, as appropriate, and encourage joint and coordinated meetings of such bodies with the regional groups of ITU-T study groups in their respective regions, so that these standardization bodies act as an umbrella for such regional group meetings; the regional group meetings should be held jointly with thematic ITU workshops being conducted in the region, whenever possible;

4 to propose candidates for regional group chairmanships and vice-chairmanships;

5 to encourage the candidacy of women for the regional group management positions;

6 to encourage eligible ITU-T members from the respective region to participate in the meetings of their regional groups, and to consider terminating a regional group when it is no longer required,

*invites the regional groups thus created*

1 to disseminate information about telecommunication standardization and encourage the involvement of developing countries in standardization activities in their regions, and to submit written contributions to the parent study group in which they work in accordance with approved terms of reference reflecting the priorities of their respective regions;

2 to cooperate closely with the relevant respective regional telecommunication organizations, standardization bodies and ITU regional offices, to create possible synergies and to report on their work in their regions to the relevant parent ITU-T study groups,

*instructs study groups and the Telecommunication Standardization Advisory Group*

1 to coordinate joint meetings of the regional groups of ITU-T study groups;

2 to consider and identify questions of greatest interest to Member States and Sector Members from developing countries with a view to keeping them updated on the development of international standards in the context of the regional groups of ITU-T study groups,

*instructs the Director of the Telecommunication Standardization Bureau, in collaboration with the Director of the Telecommunication Development Bureau*

within the allocated or contributed resources that are available,

1 to provide all necessary support for creating and ensuring the smooth functioning of the regional groups of the ITU-T study groups;



2 to consider, whenever possible, holding events (workshops, forums, seminars, training, etc.) concurrently with meetings of the ITU-T regional groups, in the relevant regions, and vice versa;

3 to take all necessary measures to facilitate the organization of meetings of the regional groups of ITU-T study groups and workshops in the relevant regions,

*calls upon the Director of the Telecommunication Standardization Bureau*

1 to cooperate with the Director of the Telecommunication Development Bureau and with the Director of the Radiocommunication Bureau, as appropriate, in order to:

- i) continue to provide specific assistance to regional groups of ITU-T study groups;
- ii) encourage the use of electronic working methods to assist the members of the regional groups;
- iii) take appropriate steps to facilitate meetings of regional groups in order to promote the necessary synergies among the three Sectors and thereby improve the effectiveness and efficiency of the study groups.

**MOD****RESOLUTION 55 (Rev. Geneva, 2022)****Promoting gender equality in ITU Telecommunication  
Standardization Sector activities**

*(Florianópolis, 2004; Johannesburg, 2008; Dubai, 2012; Hammamet, 2016; Geneva, 2022)*

The World Telecommunication Standardization Assembly (Geneva, 2022),

*considering*

- a)* that while standardization plays an important role in globalization and the effective development of information and communication technologies (ICT), statistically very few women participate in international standardization processes;
- b)* that the standardization work of ITU Telecommunication Standardization Sector (ITU-T) can be advanced most effectively through the active inclusion of women;
- c)* that there is a need to ensure that women participate actively and meaningfully in all ITU-T activities;
- d)* that the Telecommunication Standardization Bureau (TSB) has established the ITU Women in Standardization Expert Group (WISE), launched at the meeting of the Telecommunication Standardization Advisory Group (TSAG) in February 2016, dedicated to promoting women in standardization, telecommunications/ICTs and related fields and to recognize the men and women who have made a remarkable contribution in promoting the work of women in these fields,

*noting*

- a)* that ITU has adopted a Gender Equality and Mainstreaming (GEM) Policy, with the aim of becoming a model organization for gender equality that leverages the power of telecommunications/ICTs to empower both women and men;
- b)* the progress made by ITU in raising awareness on gender issues, specifically over the last decade, in increasing women's participation in and contribution to international forums, in studies, projects and training, and in the establishment of an internal Gender Task Force, as well as the successful establishment by ITU of an international "Girls in ICT" day to be held every year on the fourth Thursday of April;
- c)* the Gender Declaration approved at the World Radiocommunication Conference (Sharm El-Sheikh, 2019), which declared the commitment of the Sector to gender equality and balance, and which also declared that ITU Member States and Sector Members should encourage the adoption of proven measures to increase globally the number of women pursuing academic degrees at all levels in science, technology, engineering and mathematics (STEM) fields, particularly those related to ICTs;
- d)* Resolution 70 (Rev. Dubai, 2018) of the Plenipotentiary Conference, on gender mainstreaming in ITU and promotion of gender equality and the empowerment of women through ICTs;
- e)* Resolution 48 (Rev. Dubai, 2018) of the Plenipotentiary Conference, on human resources management and development and, in particular, its Annex 2, on facilitating the recruitment of women at ITU;

- f)* Resolution 55 (Rev. Buenos Aires, 2017) of the World Telecommunication Development Conference, on mainstreaming a gender perspective for an inclusive and egalitarian information society;
- g)* Resolution 1187, adopted by the ITU Council at its 2001 session, on a gender perspective in ITU human resources management, policy and practice, which requests the Secretary-General to allocate appropriate resources, within existing budgetary limits, to establish a gender unit with full-time dedicated staff;
- h)* Resolution 1327, adopted by the Council at its 2011 session, on ITU's role in ICTs and the empowerment of women and girls;
- i)* that the Secretary-General has issued an updated ITU English Language Style Guide, which addresses the use of non-discriminatory language;
- j)* that ITU, in its strategic plan, includes gender issues with a view to debating and exchanging ideas to define, throughout the organization, a concrete action plan with deadlines and goals;
- k)* the ITU-UN Women Gender Equality and Mainstreaming – Technology (GEM-TECH) awards, which celebrate exceptional personal or institutional achievement and innovative strategies that harness ICTs for women's empowerment;
- l)* the recommendation in the 2016 United Nations Joint Inspection Unit report that the "Secretary-General present to the Council for endorsement at its 2017 session an action plan to complement the Gender Equality and Mainstreaming Policy, with specific targets, indicative timelines and monitoring measures to improve gender balance, especially at senior management levels, within each component of the Union, and report annually to the Council on its implementation",

*recalling*

- a)* that a fundamental principle of the United Nations Charter adopted by world leaders in 1945 is "equal rights of men and women";
- b)* United Nations Economic and Social Council (ECOSOC) Resolution E/2012/L.8, on mainstreaming a gender perspective into all policies and programmes in the United Nations system, which welcomed the development of the UN System-Wide Action Plan on Gender Equality and the Empowerment of Women (UNSWAP), and the 60th session of the UN Commission on the Status of Women (March, 2016), which stressed the need to ensure women's full, equal and effective participation in all fields, and leadership at all levels of decision-making in the public and private sectors, and public, social, economic and political life;
- c)* the United Nations HeForShe initiative (2014) to involve men and boys in the promotion of gender equality;
- d)* the EQUALS Global Partnership, of which ITU is a founding member, which is made up of other United Nations agencies, governments, the private sector, academia and civil-society organizations, and which aims to reduce the gender digital divide in the world;
- e)* the United Nations International Gender Champion initiative and the ITU's Secretary-General's commitment to promote the Panel Parity Pledge,

*recognizing*

- a)* that society as a whole, particularly in the context of the information and knowledge society, will benefit from equal participation of women and men in policy-making and decision-making and from equal access to communication services for both women and men;

- b) that the outcome document of the overall review of the World Summit on the Information Society (WSIS) acknowledged that a gender digital divide exists, called for immediate measures to achieve gender equality in Internet users by 2020, especially by significantly enhancing women's and girls' education and participation in ICTs, as users, content creators, employees, entrepreneurs, innovators and leaders, and reaffirmed a commitment to ensure women's full participation in decision-making processes related to ICTs;
- c) that enhancing women's and girls' education and their participation in ICTs also contributes to the achievement of Sustainable Development Goal 5: Achieve gender equity and empower all women and girls;
- d) the 2013 report of the Working Group on Broadband and Gender of the Broadband Commission for Sustainable Development: Doubling Digital Opportunities – Enhancing the inclusion of women and girls in the information society,

*resolves*

1 that ITU-T continue efforts to ensure that all its policies, work programmes, information dissemination activities, publications, study groups, seminars, courses, assemblies and conferences reflect the commitment to gender equality, and promote gender balance:

- i) for posts, including those at the Professional and higher levels in TSB;
- ii) in the selection of chairmen, vice-chairmen and rapporteurs of the ITU-T study groups and of TSAG;

2 that high priority be accorded to gender mainstreaming in the management, staffing and operation of ITU-T, while taking into account geographical representation;

3 that ITU-T continue to support WISE,

*instructs the Director of the Telecommunication Standardization Bureau*

1 to take the necessary steps to continue implementing the ITU GEM Policy, including, supporting the implementation of recommendations from the Joint Inspection Unit relevant to gender mainstreaming, supporting the Gender Focal Points for ITU-T, and encouraging TSB staff to undertake relevant training;

2 to accelerate the integration of a gender perspective in the work of TSB in accordance with the principles already applied in ITU;

3 to accord high priority to gender mainstreaming in ITU-T management, financial assistance, staffing and operation;

4 to conduct an annual review on progress made in the Sector in advancing gender mainstreaming, including by circulating questionnaires, and by collecting and reviewing statistics on ITU-T standardization activities by gender and region, in order to identify challenges to women's participation, and subsequent solutions; and to share findings with TSAG and the next world telecommunication standardization assembly;

5 to encourage the participation of women in all aspects of ITU-T activities, and particularly the opportunity to participate in meetings, and support an increase in the number of women from all regions in ITU-T leadership positions by:

- i) encouraging membership to include women on their delegations, by, *inter alia*, including in all circulation letters the statement, "The membership is invited to include women on their delegations whenever possible";
- ii) making the selection of women for TSB positions at the Professional and higher levels a top priority;

- iii) providing training on participation in meetings, writing contributions and chairing meetings;
- 6 to enhance the ongoing work of WISE to ensure that all women have an opportunity to develop as ITU-T leaders;
  - 7 to continue posting on a public-facing WISE webpage current information on the number of women attending Sector events, including administration or Sector Member affiliation and study group distribution, and identify the study groups in which women hold leadership positions;
  - 8 to include gender balance as a factor in the distribution of financial assistance to attend ITU-T meetings where resources are available;
  - 9 to join the ITU Secretary-General in participating in the Planet 50/50 initiative sponsored by UN Women to tackle invisible gender bias as a Geneva Gender Champion on behalf of ITU-T,  
*invites the Secretary-General*
  - 1 to comply with the reporting obligations, as required by UNSWAP, on ITU-T activities aimed at promoting gender equality and the empowerment of women;
  - 2 to continue encouraging ITU staff to take account of the gender-neutral guidelines in the ITU English Language Style Guide and to avoid, as much as possible, the use of gender-specific terms,  
*invites Member States and Sector Members*
  - 1 to submit candidatures for chairman/vice-chairman posts in order to support the active involvement of women as well as men in standardization groups and activities and in their own administrations and delegations;
  - 2 to actively support and participate in the work of TSB, to nominate experts for the ITU-T WISE group and to promote the use of ICTs for the economic and social empowerment of women and girls;
  - 3 to encourage and actively support ICT education that encourages girls' and women's participation, and support all measures that will help prepare them for a professional career in ICT standardization;
  - 4 to encourage greater participation of women delegates and foster their expertise;
  - 5 to encourage the adoption of proven measures to increase globally the number of women pursuing academic degrees at all levels in STEM fields, particularly those related to telecommunication/ICT standardization.

**MOD****RESOLUTION 58 (Rev. Geneva, 2022)****Encouraging the creation of national computer incident response teams, particularly for developing countries<sup>1</sup>***(Johannesburg, 2008; Dubai, 2012; Geneva, 2022)*

The World Telecommunication Standardization Assembly (Geneva, 2022),

*considering*

that Resolution 123 (Rev. Dubai, 2018) of the Plenipotentiary Conference instructs 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,

*recognizing*

- a) the highly satisfactory results obtained by the regional approach within the framework of Resolution 54 (Rev. Hammamet, 2016) of the World Telecommunication Standardization Assembly;
- b) the increasing level of computer use and computer dependency in information and communication technologies (ICT) within developing countries;
- c) the increasing attacks and threat on ICT networks through computers;
- d) the work carried out by the ITU Telecommunication Development Sector (ITU-D) under Question 22/1 of ITU-D Study Group 1 on this subject,

*noting*

- a) that there is still a low level of computer emergency preparedness within many countries, particularly developing countries;
- b) that the high level of interconnectivity of ICT networks could be affected by the launch of an attack from networks of the less-prepared nations, which are mostly the developing countries;
- c) the importance of having an appropriate level of computer emergency preparedness in all countries;
- d) the need for establishment of computer incident response teams (CIRTs) on a national basis and the importance of coordination within and among the regions;
- e) the work of Study Group 17 of the ITU Telecommunication Standardization Sector (ITU-T) in the area of national CIRTs, particularly for developing countries, and cooperation between them, as contained in the outputs of the study group,

*bearing in mind*

that well-functioning CIRTs in developing countries will serve to improve the level of developing countries' participation in world computer emergency response activities and contribute to achieving an effective global ICT infrastructure,

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<sup>1</sup> These include the least developed countries, small island developing states, landlocked developing countries and countries with economies in transition.

*resolves*

to support the creation of national CIRTs in Member States where CIRTs are needed and are currently absent,

*instructs the Director of the Telecommunication Standardization Bureau, in collaboration with the Director of the Telecommunication Development Bureau*

- 1 to identify best practices to establish CIRTs in line with the ITU toolkit;
- 2 to identify where national CIRTs are needed, particularly in developing countries, and encourage their establishment;
- 3 to collaborate with international experts and bodies to establish national CIRTs;
- 4 to provide support, as appropriate, within existing budgetary resources;
- 5 to facilitate collaboration between national CIRTs, such as capacity building and exchange of information, within an appropriate framework;
- 6 to take necessary action to progress implementation of this resolution,

*invites the Member States*

- 1 to consider the creation of a national CIRT as a high priority;
- 2 to collaborate with other Member States and with Sector Members,

*invites Member States and Sector Members*

to cooperate closely with ITU-T and ITU-D in this regard.

**MOD****RESOLUTION 60 (Rev. Geneva, 2022)****Responding to the challenges of the evolution of the identification/numbering system and its convergence with IP-based systems/networks***(Johannesburg, 2008; Dubai, 2012; Geneva, 2022)*

The World Telecommunication Standardization Assembly (Geneva, 2022),

*recognizing*

- a) Resolution 133 (Rev. Dubai, 2018) of the Plenipotentiary Conference, with regard to the continuing progress towards integration of telecommunications and the Internet;
- b) Resolutions 101 and 102 (Rev. Dubai, 2018) of the Plenipotentiary Conference;
- c) the evolving role of the World Telecommunication Standardization Assembly, as reflected in Resolution 122 (Rev. Guadalajara, 2010) of the Plenipotentiary Conference,

*noting*

- a) the work in Study Group 2 of the ITU Telecommunication Standardization Sector (ITU-T), on investigating the evolutionary aspect of the numbering system, including the "future of numbering", considering next-generation networks (NGN) and future networks (FN) as the working environment of the numbering system in the future;
- b) that the transition from traditional networks to IP-based networks is taking place at a fast pace, whilst there is a transition to NGN and FN;
- c) the emerging issues concerning administrative control for international telecommunication service-based numbers;
- d) the forthcoming issues concerning the convergence of numbering, naming, addressing and identification systems along with the development of NGN and FNs, and associated issues concerning security, signalling, portability and migration;
- e) the growing demand for numbering/identification resources for communications referred to as machine-to-machine (M2M);
- f) the need for principles and a roadmap for the evolution of international telecommunication resources, which would be expected to help the timely, predictable deployment of advanced identification technologies,

*resolves to instruct ITU-T Study Group 2, within the mandate of ITU-T*

- 1 to continue studying, in liaison with the other relevant study groups, the necessary requirements for the structure and maintenance of telecommunication numbering, naming, addressing and identification resources in relation to the deployment of future telecommunications/ICTs including IP-based networks;
- 2 to ensure the continued development of the administrative requirements for the use of existing numbering, naming, addressing and identification resources management systems;
- 3 to continue developing guidelines, as well as a framework, for the evolution of the international telecommunication numbering, naming, addressing and identification systems and its convergence with IP-based systems and use for emerging telecommunications/ICTs and services, in coordination with related study groups and associated regional groups, so that a basis for any new application can be provided,



*instructs relevant study groups, and in particular ITU-T Study Group 13*

to support the work of Study Group 2, to ensure that such applications are based on appropriate guidelines, as well as a framework, for the evolution of the international telecommunication numbering/identification system to meet the needs of emerging telecommunications/ICTs and services to help investigate their impact on the numbering/identification system,

*instructs the Director of the Telecommunication Standardization Bureau*

1 to take appropriate action to facilitate the foregoing work regarding the evolution of the international telecommunication numbering, naming, addressing and identification system and its applications;

2 to share experiences in relation to this Resolution,

*invites Member States and Sector Members*

1 to contribute to these activities, taking into consideration their national concerns and experiences;

2 to participate in and to contribute to regional groups discussing the issue and to promote the participation of developing countries in those discussions.

**MOD****RESOLUTION 61 (Rev. Geneva, 2022)****Countering and combating misappropriation and misuse of international telecommunication numbering resources***(Johannesburg, 2008; Dubai, 2012; Geneva, 2022)*

The World Telecommunication Standardization Assembly (Geneva, 2022),

*recalling*

- a)* Resolution 190 (Busan, 2014) of the Plenipotentiary Conference, on countering misappropriation and misuse of international telecommunication numbering resources, which urged the ITU Telecommunication Standardization Sector (ITU-T) to continue to study ways and means to improve the understanding, identification and resolution of misappropriation and misuse of ITU-T E.164 telephone numbers;
- b)* Resolution 29 (Rev. Geneva, 2022) of this assembly, on alternative calling procedures on international telecommunication networks, which (citing ITU Council Resolution 1099) urges ITU-T to develop, as soon as possible, the appropriate Recommendations concerning alternative calling procedures;
- c)* Recommendation ITU-T E.156, which sets out guidelines for ITU-T action on reported misuse of ITU-T E.164 numbering resources, Recommendation ITU-T E.156 Supplement 1, which provides a best-practice guide on countering misuse of ITU-T E.164 numbering resources, and Recommendation ITU-T E.156 Supplement 2, which provides a set of possible actions to counter misuse;
- d)* the purposes of the Union to foster collaboration among the membership for the harmonious development of telecommunications and to enable the offering of services at lowest cost,

*noting*

the number of cases reported, so far, to the Director of the Telecommunication Standardization Bureau (TSB) regarding misappropriation and misuse of ITU-T E.164 numbers,

*recognizing*

- a)* that the fraudulent misappropriation and misuse of national telephone numbers and country codes are harmful and impact revenue, quality of service and customer confidence;
- b)* that the blocking of calls by barring the country code to a country in order to avoid fraud is harmful;
- c)* that inappropriate activities causing loss of revenue are an important issue to continue to be studied;
- d)* relevant provisions of the Preamble to the ITU Constitution which recognizes the sovereign right of each State to regulate its telecommunications;
- e)* that disputes regarding misuse and misappropriation of international numbering resources for geographic areas administered by Member States are for the Member States involved to resolve, with the assistance of the Director of TSB on request,

*resolves to invite Member States*

- 1 to ensure that ITU-T E.164 numbering resources are used only by the assignees and only for the purposes for which they were assigned, and that unassigned resources are not used;
- 2 to endeavour to ensure that operating agencies authorized by Member States release routing information to duly authorized agencies in cases of fraud or numbering misuse/misappropriation, in accordance with national law;
- 3 to encourage administrations, operating agencies and national regulators to collaborate and share information on fraudulent activities related to numbering misappropriation and misuse of international numbering resources, and to collaborate to counter and combat such activities;
- 4 to encourage all international telecommunication operators to enhance the effectiveness of ITU's role and to give effect to its Recommendations, particularly those of ITU-T Study Group 2, in order to promote a new and more effective basis to counter, combat and address fraudulent activities due to number misappropriation and misuse, which would help mitigate against them and limit the negative effects of these fraudulent activities and the blocking of international calls;
- 5 to encourage administrations and international telecommunication operators to implement ITU-T Recommendations in order to mitigate the adverse effects of fraudulent number misappropriation and misuse, including blocking of calls to certain countries,

*resolves further*

- 1 that administrations and operating agencies authorized by Member States take, to the furthest extent practicable, all reasonable measures to provide information necessary to address issues related to number misappropriation and misuse;
- 2 that administrations and operating agencies authorized by Member States should take note of and consider, to the furthest extent practicable, the "Suggested guidelines for regulators, administrations and operating agencies authorized by Member States for dealing with number misappropriation", in accordance with the attachment to this resolution;
- 3 that Member States and national regulators should take note of instances of activities related to misappropriation and misuse of international numbering resources, in accordance with Recommendation ITU-T E.164 that are notified through relevant ITU-T resources (e.g. the ITU-T Operational Bulletin) or directly to them;
- 4 to request Study Group 2 to continue to study all aspects and forms of misappropriation and misuse of numbering resources within its mandate, in particular of international country codes, with a view to amending Recommendation ITU-T E.156 and its supplements and guidelines to identify means to support countering and combating these activities;
- 5 to request ITU-T Study Group 3, in collaboration with Study Group 2, to develop definitions for inappropriate activities, including inappropriate activities causing loss of revenue, related to misappropriation and misuse of international numbering resources specified in the relevant ITU-T Recommendations, and to continue to study such matters;
- 6 to request Study Group 3 to continue to study the economic effects resulting from misappropriation and misuse of numbering resources, including call blocking.

**ATTACHMENT**  
**(to Resolution 61)**

**Suggested guidelines for regulators, administrations and operating agencies authorized by Member States for dealing with number misappropriation**

In the interest of global development of international telecommunications, it is desirable for regulators, administrations and operating agencies authorized by Member States to cooperate with others and to take a collaborative and reasonable approach to avoid the blocking of country codes, where a preferable option is the selective blocking of particular international numbers, authorized on a case-by-case basis by national regulators.

Cooperation and subsequent actions would have to take account of the constraints of national regulatory frameworks and laws. It is recommended that the following guidelines be applied in country X (the location of the calling party), country Y (the country through which the call is routed) and country Z (the country to which the call was originally destined) regarding number misappropriation.

**SCENARIO 1. Complaints generated by the destination side**

<b>Country X (location of call origination)</b>	<b>Country Y (country through which the call is routed)</b>	<b>Country Z (country to which the call was originally destined)</b>
		On receipt of a complaint, the national regulator finds the information: name of the carrier from which the call originated, time of the call and called number, and passes this information to the national regulator in country X.
When a complaint is received, the first information that is required is the name of the carrier from which the call originated, the time of the call and the called number.		
Once the call details are known, the national regulator requests relevant information from the carrier from which the call originated, to determine the next carrier through which the call was routed.		

Once the relevant information has been found, the national regulator is to advise the national regulator of the next country of the call details (including the call detail record) and request the national regulator to request further information.	The national regulator asks the other carriers for relevant information. This process continues until the information on where the call was misappropriated is found.	
Cooperation from national regulators, as appropriate, to manage these issues.	Cooperation is required from entities involved, to attempt to bring a criminal case against the perpetrators.	Cooperation is encouraged between and among national regulators involved, to resolve these issues.

### **SCENARIO 2. Complaints received on the origination side**

<b>Country X (location of call origination)</b>	<b>Country Y (country through which the call is routed)</b>	<b>Country Z (country to which the call was originally destined)</b>
On receipt of a complaint, the national regulator requires the name of the carrier from which the call originated, the time of the call and the called number.  It also requires the name of the carrier to whom the call is destined, time of the call and called number, and passes this information to the national regulator in country Z.		
Once the call details are known, the national regulator requests relevant information from the carrier from which the call originated, to determine the next carrier through which the call was routed.		
The national regulator may also advise the national regulator of the next country of the call details (including the call detail record) and, if needed, request the national regulator to request further information.	The national regulator may ask the other carriers for relevant information. This process may continue until all the countries through which the call is routed are advised.	
Cooperation from national regulators, as appropriate, to manage these issues.  Inform the relevant national regulators on the measures taken.	Cooperation is required from entities involved.	Cooperation is encouraged between and among national regulators involved, to resolve these issues.

**MOD****RESOLUTION 64 (Rev. Geneva, 2022)****Internet protocol address allocation and facilitating the transition to and deployment of IPv6***(Johannesburg, 2008; Dubai, 2012; Hammamet, 2016; Geneva, 2022)*

The World Telecommunication Standardization Assembly (Geneva, 2022),

*recognizing*

- a) Resolutions 101 (Rev. Dubai, 2018), 102 (Rev. Dubai, 2018) and 180 (Rev. Dubai, 2018) of the Plenipotentiary Conference, and Resolution 63 (Rev. Buenos Aires, 2017) of the World Telecommunication Development Conference;
- b) that the exhaustion of IPv4 addresses calls for acceleration of IPv4 to IPv6 migration, which becomes an important issue for Member States and Sector Members;
- c) the result of the ITU IPv6 Group, which has carried out the work that was assigned to it;
- d) that future work on IPv6 human capacity building is to be continued and led by the Telecommunication Development Bureau (BDT), in collaboration with other relevant organizations, if required,

*noting*

- a) that Internet protocol (IP) addresses are fundamental resources that are essential for the future development of IP-based telecommunication/information and communication technology (ICT) networks and for the world economy;
- b) that many countries believe that there are historical imbalances related to IPv4 allocation;
- c) that large contiguous blocks of IPv4 addresses are becoming scarce and that it is urgent to promote migration to IPv6;
- d) the ongoing collaboration and coordination between ITU and relevant organizations on IPv6 capacity building in order to respond to the needs of Member States and Sector Members;
- e) the progress towards adoption of IPv6 that has been made over the last few years,

*considering*

- a) that, among the relevant stakeholders in the Internet community, there is a need to continue discussions related to IPv6 deployment and disseminate information in this regard;
- b) that IPv6 deployment and migration is an important issue for Member States and Sector Members;
- c) that many developing countries<sup>1</sup> are still facing challenges in the IPv4 to IPv6 transition process, including due to the limited technical skills in this area;
- d) that there are Member States with sufficient technical skills in IPv6 that are nevertheless encountering a delay in the IPv4 to IPv6 transition due to various reasons;
- e) that Member States have an important role to play in promoting the deployment of IPv6;

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<sup>1</sup> These include the least developed countries, small island developing states, landlocked developing countries and countries with economies in transition.

- f) that prompt deployment of IPv6 is increasingly urgent on account of the rapid rate of depletion of IPv4 addresses;
- g) that many developing countries want the Telecommunication Standardization Sector (ITU-T) to become a registry of IP addresses in order to give the developing countries the option of obtaining IP addresses directly from ITU, while other countries prefer to use the current system;
- h) that deployment of IPv6 facilitates Internet of things (IoT) solutions, which require a huge amount of IP addresses;
- i) that new communication infrastructure such as 4G/LTE and 5G networks will require IPv6 support for better communication,

*resolves*

1 to instruct Study Groups 2 and 3, each according to its mandate, to analyse statistics for the purpose of assessing the pace and geography of IPv6 address allocation and registration for interested members and, especially, developing countries, in collaboration with all relevant stakeholders;

2 to enhance the exchange of experiences and information with all stakeholders regarding the deployment of IPv6, with the aim of creating opportunities for collaborative efforts and the enhancement of technical skills, and to ensure that feedback exists to enrich ITU efforts to support the transition and deployment of IPv6,

*instructs the Director of the Telecommunication Standardization Bureau, in close collaboration with the Director of the Telecommunication Development Bureau*

1 to continue the ongoing activities between the Telecommunication Standardization Bureau (TSB) and BDT, taking into consideration the involvement of those partners willing to participate and bring their expertise to assist developing countries with IPv6 migration and deployment, and respond to their regional needs as identified by BDT, taking into account Resolution 63 (Rev. Buenos Aires, 2017);

2 to update and maintain the website which provides information about global activities related to IPv6, in order to facilitate awareness-raising and highlight the importance of IPv6 deployment for all ITU members and interested entities, as well as information related to training events being undertaken by ITU and relevant organizations (e.g. regional Internet registries (RIR), network operator groups and the Internet Society (ISOC));

3 to promote awareness of the importance of IPv6 deployment, facilitate joint training activities, involving appropriate experts from the relevant entities, provide information, including roadmaps and guidelines, and assist in the continued establishment of IPv6 test-bed laboratories in developing countries in collaboration with appropriate relevant organizations, and to promote awareness of the need for IPv6 deployment with regard to IoT given the substantial demand for IP addresses for IoT devices;

4 to support BDT in relevant IPv6 training for engineers, network operators and content providers, mainly in developing countries, that can enhance their skills and which they can further apply to planning, deployment, and operation at their respective organizations,

*further instructs the Director of the Telecommunication Standardization Bureau*

to report to the ITU Council and also to the 2024 world telecommunication standardization assembly, regarding the progress on action taken with respect to *resolves* above,

*invites Member States and Sector Members*

1 through the knowledge gained under this Resolution, to promote specific initiatives at the national level which foster interaction with governmental, private and academic entities and civil

society for the purposes of the information exchange necessary for the deployment of IPv6 in their respective countries;

- 2 to ensure that newly deployed network equipment, computer equipment and software have IPv6 capability, and to collaborate with relevant international organizations in this regard;
- 3 to consider committing to an IPv6 transition and communicating progress;
- 4 to build relevant IPv6 deployment plans,

*invites Member States*

- 1 to develop national policies to promote the technological update of systems, in order to ensure that the public services provided utilizing the IP protocol and the communications infrastructure and relevant applications of the Member States are compatible with IPv6;
- 2 to consider the possibility of national programmes to encourage Internet service providers (ISPs) and other relevant organizations to deploy IPv6;
- 3 to encourage, with support from the ITU regional offices, the regional Internet registries (RIRs) and other regional organizations in coordinating research, dissemination and training actions with participation by governments, industry and the academic community in order to facilitate the deployment and adoption of IPv6 within the countries and in the region, and to coordinate initiatives between regions to promote its deployment worldwide;
- 4 to consider using government procurement requirements to encourage deployment of IPv6 among ISPs and other relevant organizations, if appropriate,
- 5 to share experiences regarding IPv6 deployment.



**MOD****RESOLUTION 65 (Rev. Geneva, 2022)****Calling party number delivery, calling line identification and origin identification information***(Johannesburg, 2008; Dubai, 2012; Hammamet, 2016; Geneva, 2022)*

The World Telecommunication Standardization Assembly (Geneva, 2022),

*concerned*

- a) that there appears to be a trend to either suppress or amend the transmission across international boundaries of calling party number (CPN), calling line identification (CLI) and origin identification (OI) information, in particular the country code and the national destination code;
- b) that such practices have an unfavourable effect on security and economic issues, in particular for developing countries<sup>1</sup>;
- c) about the number of cases so far reported to the Director of the Telecommunication Standardization Bureau (TSB) on ITU-T E.164 numbering misappropriation and misuse related to CPN non-delivery or spoofing;
- d) that work on this topic in Study Group 2 of the ITU Telecommunication Standardization Sector (ITU-T) needs to be expedited and expanded to cater for the changing environment of service delivery and network infrastructures, including emerging telecommunications/information and communication technologies (ICTs) and services, including next-generation networks (NGN) and future networks (FN),

*noting*

- a) relevant ITU-T Recommendations, in particular:
  - i) ITU-T E.156: Guidelines for ITU-T action on reported misuse of ITU-T E.164 number resources;
  - ii) ITU-T E.157: International calling party number delivery;
  - iii) ITU-T E.370: Service principles when public circuit switches international telecommunication networks interwork with IP-based networks;
  - iv) ITU-T E.164: The international public telecommunication numbering plan;
  - v) ITU-T I.251.3: Number identification supplementary services: Calling line identification presentation;
  - vi) ITU-T I.251.4: Number identification supplementary services: Calling line identification restriction;
  - vii) ITU-T I.251.7: Number identification supplementary services: Malicious call identification;
  - viii) ITU-T Q.731.x-series, concerning stage 3 descriptions for number identification supplementary services using Signalling System No. 7;
  - ix) ITU-T Q.731.7: Stage 3 description for number identification supplementary services using Signalling System No. 7: Malicious call identification (MCID);

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<sup>1</sup> These include the least developed countries, small island developing states, landlocked developing countries and countries with economies in transition.

- x) ITU-T Q.764: Signalling System No. 7 – ISDN User Part signalling procedures;
  - xi) ITU-T Q.1912.5: Interworking between Session Initiation Protocol (SIP) and Bearer Independent Call Control protocol or ISDN User Part;
  - xii) ITU-T Q.3057: Signalling requirements and architecture for interconnection between trustable network entities;
- b) relevant resolutions:
- i) Resolution 61 (Rev. Geneva, 2022) of this assembly, on misappropriation and misuse of international telecommunication numbering resources;
  - ii) Resolution 21 (Rev. Dubai, 2018) of the Plenipotentiary Conference, on measures concerning alternative calling procedures on international telecommunication networks;
  - iii) Resolution 29 (Rev. Geneva, 2022) of this assembly, on alternative calling procedures on international telecommunication networks;
- c) No. 31B (Article 3.6) of the International Telecommunication Regulations (Dubai, 2012) (ITR) regarding the provision of international CLI by the signatory Member States to the ITR,

*noting further*

- a) that some countries and regions have adopted national laws, directives and recommendations regarding CPN non-delivery and spoofing, and/or on ensuring confidence in OI, and that some countries have national data-protection and data-privacy laws, directives and recommendations;
- b) that the calling party number makes it possible to identify the party responsible for making the call;
- c) that the presence of verification mechanisms for the various calling party identifiers may increase the reliability of the information transmitted,

*reaffirming*

that it is the sovereign right of each country to regulate its telecommunications and, as such, regulate the provision of CLI, CPN delivery and OI information, taking into account the Preamble to the ITU Constitution and the relevant provisions of the ITR related to identification information provision of CLI,

*resolves*

- 1 that international CPN delivery shall be provided on the basis of the relevant ITU-T Recommendations;
- 2 that international CLI and OI delivery shall be provided on the basis of the relevant ITU-T Recommendations where technically possible;
- 3 that the delivered CPN should contain at least either the calling party number or the specially allocated number of the operator/service provider responsible for making the call, so that a terminating country can identify the operator/service provider of the outgoing call, or identify the terminal that originates the call, before it is delivered from the originating country to that terminating country;
- 4 that the delivered CPN and CLI, if delivered, shall include sufficient information to allow proper billing and accounting, for each international call;
- 5 that the OI information in a heterogeneous networking environment shall, where technically possible, be an identifier assigned to a subscriber by the originating service provider, or be replaced by a default identifier by the originating provider to identify the origin of the call, if specified by the administration;

6 that the CPN, CLI and OI information shall be transmitted transparently by transit networks (including hubs);

7 to encourage operators to make OI information, wherever applicable, CPN and CLI reliable and verifiable in order to combat spoofing and other forms of numbering misuse,

*instructs*

1 ITU-T Study Group 2, ITU-T Study Group 3 and, where required, ITU-T Study Group 11 and ITU-T Study Group 17 to further study the emerging issues of CPN delivery, CLI and OI information, in particular for a heterogeneous networking environment, including security methods and possible validation techniques;

2 the study groups concerned to expedite work on Recommendations that would provide additional detail and guidance for the implementation of this resolution;

3 the Director of TSB to report on the progress achieved by the study groups in implementing this resolution, which is intended to improve security and minimize fraud, and minimize technical harm as called for by Article 42 of the Constitution;

4 the Director of TSB to share information on country experiences regarding the implementation of this resolution, in a centralized location,

*invites Member States*

1 to contribute to this work, to share information regarding their experiences in implementing this resolution and to cooperate in the implementation of this resolution;

2 to consider developing, within their national regulatory and legal frameworks, guidelines or other means for implementing this resolution.

**MOD****RESOLUTION 67 (Rev. Geneva, 2022)****Use in the ITU Telecommunication Standardization Sector of the languages of the Union on an equal footing, and the Standardization Committee for Vocabulary***(Johannesburg, 2008; Dubai, 2012; Hammamet, 2016; Geneva, 2022)*

The World Telecommunication Standardization Assembly (Geneva, 2022),

*recognizing*

- a)* the adoption by the Plenipotentiary Conference of Resolution 154 (Rev. Dubai, 2018), on the use of the six official languages of the Union on an equal footing, which instructs the ITU Council and the General Secretariat on how to achieve equal treatment of the six languages and which appreciated the work accomplished by the ITU Coordination Committee for Terminology (ITU CCT) on the adoption and agreement of terms and definitions in the field of telecommunications/information and communication technologies (ICT) in all the official languages of the Union;
- b)* Resolution 1386, adopted by the Council at its 2017 session, on ITU CCT, which consists of the Coordination Committee for Vocabulary (CCV) of the ITU Radiocommunication Sector (ITU-R) and the Standardization Committee for Vocabulary (SCV) of the ITU Telecommunication Standardization Sector (ITU-T) functioning in accordance with the relevant resolutions of the Radiocommunication Assembly and the World Telecommunication Standardization Assembly (WTSA), respectively, and representatives of ITU Telecommunication Development Sector, in close collaboration with the secretariat;
- c)* Resolution 1 (Rev. Geneva, 2022) of this assembly, on ITU-T rules of procedure;
- d)* the decisions of the 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),

*considering*

- a)* that under Resolution 154 (Rev. Dubai, 2018), the Council is instructed to continue the work of the 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 the official languages of the Union on an equal footing on ITU-T webpages,
- c)* that Council Resolution 1386 considers the importance of collaborating with other interested organizations about terms and definitions, symbols and other means of expression, units of measurement, etc., with the objective of standardizing such elements;
- d)* the difficulty of achieving agreement on definitions when more than one ITU study group is involved,

*noting*

- a)* that SCV was established in accordance with Resolution 67 (Johannesburg, 2008) of WTSA, on the initiation of SCV;
- b)* that SCV is a part of the joint ITU CCT in accordance with Council Resolution 1386,

*resolves*

- 1 that the ITU-T study groups, within their terms of reference, should continue their work on technical and operational terms and their definitions in English only;
- 2 that the work of standardizing vocabulary within ITU-T shall be based on the proposals made by the study groups in the English language, with the consideration and adoption of the translation into the other official languages as proposed by the General Secretariat, and that this shall be ensured by ITU CCT, which is composed of experts fluent in the official languages from all ITU Sectors, and persons designated by interested organizations and other participants in the work of ITU, in close collaboration with the ITU General Secretariat and the Telecommunication Standardization Bureau (TSB) editor for the English language;
- 3 that, when proposing terms and definitions, the ITU-T study groups shall use the guidelines given in Annex B to the "Author's guide for drafting ITU-T Recommendations";
- 4 that, where more than one ITU-T 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 ITU-T study groups concerned;
- 5 that, when selecting terms and preparing definitions, the ITU-T study groups shall take into account the established use of terms and existing definitions in ITU, in particular those appearing in the online ITU Terms and Definitions database;
- 6 that TSB should collect all new terms and definitions which are proposed by the ITU study groups in consultation with ITU CCT, enter them in the online ITU Terms and Definitions database, and provide a search mechanism based on time ranges;
- 7 that the chairman and six vice-chairmen of SCV, each representing one of the official languages, should be nominated by the WTSA;
- 8 that the terms of reference of ITU-T SCV are given in the annex to this resolution,  
*instructs the Director of the Telecommunication Standardization Bureau*
- 1 to continue to translate all Recommendations approved under the traditional approval process (TAP) in all the official languages of the Union;
- 2 to translate all reports of the Telecommunication Standardization Advisory Group (TSAG), and the reports of study group plenary meetings, in all the official languages of the Union;
- 3 to translate all ITU-T A-series Recommendations (ITU-T working methods) in all the official languages of the Union;
- 4 to translate all ITU-T guidelines on intellectual property rights;
- 5 to translate documents relating to the mandates and working methods of the Director of TSB's ad-hoc groups;
- 6 to include in the circular that announces the approval of a Recommendation an indication of whether it will be translated;
- 7 to continue the practice of translating ITU-T Recommendations approved under the alternative approval process (AAP), up to 2 000 pages, within the financial resources of the Union;
- 8 to monitor the quality of translation and associated expenses;
- 9 to bring this resolution to the attention of the Directors of the Radiocommunication Bureau and the Telecommunication Development Bureau;
- 10 to continue to explore all possible options for the provision of interpretation and the translation of ITU documentation available, in order to promote the use of the official languages of

the Union on an equal footing during official meetings of ITU-T, in particular during study group meetings,

*invites Member States*

to cooperate with ITU in the refinement of the official language translation of terms and definitions at the request of CCT,

*instructs the Telecommunication Standardization Advisory Group*

- 1 to consider the best mechanism for deciding which Recommendations approved under AAP shall be translated, in light of the relevant Council decisions;
- 2 to continue consideration on use of all the official languages of the Union on an equal footing in ITU publications and sites.

## ANNEX

(to Resolution 67 (Rev. Geneva, 2022))

### **Terms of reference for the Standardization Committee for Vocabulary**

- 1 To represent the interests of ITU-T in the ITU Coordination Committee for Terminology (ITU CCT).
- 2 To provide, through ITU CCT, consultation on terms and definitions for vocabulary work for ITU-T in the official languages, in close collaboration with the General Secretariat (Conferences and Publications Department), the TSB editor for the English language as well as the relevant study group rapporteurs for vocabulary, and to seek harmonization among all ITU-T study groups concerned regarding terms and definitions.
- 3 To liaise, through ITU CCT, with other organizations dealing with vocabulary work in the telecommunication field, for example the International Organization for Standardization (ISO) and the International Electrotechnical Commission (IEC) as well as the ISO/IEC Joint Technical Committee for information technology (JTC 1), in order to eliminate duplication of terms and definitions.
- 4 To inform TSAG at least once per year of its activities and to report its results to the next WTSA.

**MOD****RESOLUTION 70 (Rev. Geneva, 2022)****Telecommunication/information and communication technology accessibility for persons with disabilities and persons with specific needs***(Johannesburg, 2008; Dubai, 2012; Hammamet, 2016; Geneva, 2022)*

The World Telecommunication Standardization Assembly (Geneva, 2022),

*recognizing*

- a)* Resolution 175 (Rev. Dubai, 2018) of the Plenipotentiary Conference, on telecommunication/information and communication technology (ICT) accessibility for persons with disabilities, including age-related disabilities and persons with specific needs;
- b)* Resolution 58 (Rev. Buenos Aires, 2017) of the World Telecommunication Development Conference (WTDC), on telecommunication/ICT accessibility for persons with disabilities and persons with specific needs, and WTDC Resolution 17 (Rev. Buenos Aires, 2017), on implementation of regionally approved initiatives at the national, regional, interregional and global levels;
- c)* Resolution ITU-R 67 (Rev. Sharm el-Sheikh, 2019) of the ITU Radiocommunication Assembly, on telecommunication/ICT accessibility for persons with disabilities and persons with specific needs;
- d)* the mandate of and work carried by the Joint Coordination Activity on Accessibility and Human Factors (JCA-AHF), and in particular ITU Telecommunication Standardization Sector (ITU-T) actions to increase cooperation with other United Nations organizations and activities, as well as all United Nations specialized agencies, in order to raise awareness about ICT accessibility in the framework of standardization, and ITU-T actions aimed at upholding JCA-AHF;
- e)* studies carried out by ITU-T study groups, in particular ITU-T Study Group 16, on the accessibility of multimedia systems and services for persons with disabilities and persons with specific needs;
- f)* studies under Question 7/1 of the ITU Telecommunication Development Sector (ITU-D), on access to telecommunication/ICT services by persons with disabilities and other persons with specific needs;
- g)* the mandate of JCA-AHF for the purposes of awareness-raising, advice, assistance, collaboration, coordination and networking;
- h)* the activity carried out by the Internet Governance Forum (IGF) Dynamic Coalition on Accessibility and Disability (DCAD) for the purposes of maximizing the benefits for all sectors of the global community of electronic communications and online information through the Internet;
- i)* the activity carried out by the Council Working Group on international Internet-related public policy issues (CWG-Internet) on issues related to access to the Internet for persons with disabilities and specific needs;
- j)* ongoing work in the ITU Radiocommunication Sector (ITU-R) in accordance with Resolution ITU-R 67 (Rev. Sharm el-Sheikh, 2019);
- k)* the publication by the Telecommunication Standardization Advisory Group (TSAG) of the guide for ITU study groups: Considering end-user needs in developing Recommendations;

*l)* the publication of Recommendation ITU-T F.930 (03/2018), on multimedia telecommunication relay services,

*considering*

- a)* that the World Health Organization estimates that more than one billion of the world's population live with some form of disability, of whom almost 200 million experience considerable difficulty in their daily lives, and it is to be expected that, in the future, disabilities will rise because of the increasing population of older persons and the risk that disability is greater among older persons;
- b)* that the United Nations has moved from a health and welfare perspective to an approach based on human rights, which recognizes that persons with disabilities are people first, and that society places barriers upon them as opposed to their disabilities, and which includes the goal of full participation in society by persons with disabilities (Resolution 175 (Rev. Busan, 2014));
- c)* that maximizing the accessibility and usability of telecommunication/ICT services, products and terminals through universal design will increase their uptake by all persons, including persons with disabilities and older persons, and thereby increase revenues;
- d)* that United Nations General Assembly (UNGA) Resolution 61/106 adopting the Convention on the rights of persons with disabilities requests the Secretary-General (§ 5) "... to implement progressively standards and guidelines for the accessibility of facilities and services of the United Nations system, taking into account relevant provisions of the Convention, in particular when undertaking renovations";
- e)* the importance of cooperation between governments, the private sector and relevant organizations to promote affordable access possibilities;
- f)* the RA resolution on telecommunication/ICT accessibility for persons with disabilities and persons with specific needs,

*recalling*

- a)* § 18 of the Tunis Commitment, made at the second phase of the World Summit on the Information Society (Tunis, 2005): "We shall strive unremittingly, therefore, to promote universal, ubiquitous, equitable and affordable access to ICTs, including universal design and assistive technologies, for all people, especially those with disabilities, everywhere, to ensure that the benefits are more evenly distributed between and within societies, ..." <sup>1</sup>;
- b)* the Phuket Declaration on Tsunami Preparedness for Persons with Disabilities (Phuket, 2007), which emphasizes the need for inclusive emergency warning and disaster management systems using telecommunication/ICT facilities based on open, non-proprietary, global standards;
- c)* Article 12 of the International Telecommunication Regulations,

*taking into account*

- a)* Resolution 44 (Rev. [Geneva, 2022]) of this assembly, on bridging the standardization gap between developing and developed countries, and Resolution 18 (Rev. Geneva, 2022) of this assembly, on strengthening coordination and cooperation among the three ITU Sectors on matters of mutual interest;
- b)* Resolution GSC-17/26 (revised), on user needs, considerations and involvement, agreed upon at the 17th Global Standards Collaboration meeting (Jeju, Republic of Korea, 2013);

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<sup>1</sup> Geneva Declaration of Principles §§ 13 and 30; Geneva Plan of Action §§ 9 (*e*) and (*f*), 12 and 23; Tunis Commitment §§ 18 and 20; Tunis Agenda for the Information Society §§ 90 (*c*) and (*e*).



- c) publications of the Special Working Group on Accessibility (ISO/IEC JTC 1 SWG – Accessibility) of the Joint Technical Committee on Information Technology (JTC 1) of the International Organization for Standardization (ISO) and the International Electrotechnical Commission (IEC), as well as the Mandate 376 project teams, identifying user needs and developing a comprehensive inventory of existing standards as part of the ongoing effort to identify areas where research or new standards work is needed;
- d) the activities of ITU-T Study Group 16 (Multimedia coding, systems and applications), which is the lead study group on telecommunication/ICT accessibility for persons with disabilities, and ITU-T Study Group 2 (Operational aspects of service provision and telecommunication management) for the part relating to human factors;
- e) activities relating to the development of new standards (e.g. ISO TC 159, JTC 1 SC35, IEC TC100, ETSI TC HF, and W3C WAI), and the implementation and maintenance of existing standards (e.g. ISO 9241-171);
- f) the joint efforts of ITU and the Global Initiative for Inclusive ICTs (G3ICT), including the development of the Model ICT accessibility policy;
- g) the Model ICT accessibility policy report (November 2014), the release of the report "Making TV accessible", on the occasion of the International Day of Persons with Disabilities (3 December 2011), the report on "Making Mobile Phones and Services Accessible to Persons with Disabilities" (August 2012), and the e-Accessibility Policy Toolkit for Persons with Disabilities (February 2010);
- h) various international, regional and national efforts to develop or revise guidelines and standards for telecommunication/ICT accessibility, compatibility and usability by persons with disabilities,

*resolves*

- 1 that ITU-T Study Group 16 shall continue giving high priority to work on the relevant Questions, Recommendation ITU-T F.790, the guide for ITU-T study groups on telecommunication accessibility guidelines for older persons and persons with disabilities, and Recommendation ITU-T F.791, on accessibility terms and definitions;
- 2 that ITU-T study groups should consider aspects of universal design in their work, including the drafting of non-discriminatory standards, service regulations and measures for all persons, including persons with disabilities and older persons, with cross-cutting user-protection actions;
- 3 that all ITU-T study groups utilize the Telecommunications Accessibility Checklist, which makes it possible to incorporate the principles of universal design and accessibility;
- 4 that ITU workshops be held to inform about the progress in the work and the results achieved by the study groups in charge of ICT accessibility before the next world telecommunication standardization assembly,

*instructs the Director of the Telecommunication Standardization Bureau*

- 1 to report to the ITU Council on the implementation of this resolution;
- 2 to contribute to the development of an ITU-wide internship programme for persons with disabilities who have expertise in the field of ICTs, so as to build capacity among persons with disabilities in the standards-making process and to raise awareness within ITU-T of the needs of persons with disabilities;
- 3 that ITU-T employ the technical papers FSTP-AM "Guidelines for accessible meetings" and FSTP-ACC-RemPart "Guidelines for supporting remote participation for all", as appropriate, to make it possible for persons with disabilities to be able to attend ITU meetings and events,

*invites the Director of the Telecommunication Standardization Bureau*

- 1 to work collaboratively on accessibility-related activities with the Directors of the Radiocommunication Bureau (BR) and the Telecommunication Development Bureau (BDT), taking into account JCA-AHF, in particular concerning awareness and mainstreaming of telecommunication/ICT accessibility standards, reporting findings to the Council as appropriate;
- 2 to work collaboratively on accessibility-related activities with ITU-D, in particular developing programmes that enable developing countries to introduce services that allow persons with disabilities to utilize telecommunication services effectively;
- 3 to work collaboratively and cooperatively with other standardization organizations and entities, in particular, in the interest of ensuring that ongoing work in the field of accessibility is taken into account, in order to avoid duplication;
- 4 to work collaboratively and cooperatively with disability organizations in all regions to ensure that the needs of the disabled community are taken into account in all standardization matters;
- 5 to continue JCA-AHF, and any other accessibility coordination functions and advisory function within ITU-T, in order to assist the Director of TSB in reporting the findings of the review of ITU-T services and facilities;
- 6 to consider using accessibility resources in the meetings organized by ITU-T in order to encourage the participation of persons with disabilities and persons with specific needs in the standardization process;
- 7 to consider the possibility of organizing, jointly with ITU-D and with the involvement of other standardization organizations and entities, coaching and training for developing countries on working with disability organizations;
- 8 to identify and document examples of best and good practices for accessibility in the field of telecommunications/ICT for dissemination among ITU Member States and Sector Members;
- 9 to review the accessibility of ITU-T services and facilities, and consider making changes, where appropriate, pursuant to UNGA Resolution 61/106, in the Convention on the Rights of Persons with Disabilities, and report to the Council on these matters,

*instructs the Telecommunication Standardization Advisory Group*

- 1 to revise the guide for ITU study groups: Considering end-user needs in developing Recommendations,
- 2 to consider how study groups facilitate, in their respective work, the implementation of new software, services and proposals enabling all persons with disabilities and persons with specific needs to effectively use telecommunication/ICT services, and relevant guidelines for end-user needs, in order specifically to include the needs of persons with disabilities and persons with specific needs, and to update the guide on a regular basis, based on contributions from Member States and Sector Members as well as the ITU-T study groups, as appropriate,

*invites Member States and Sector Members*

- 1 to consider developing, within their national legal frameworks, guidelines or other mechanisms to enhance the accessibility, compatibility and usability of telecommunication/ICT services, products and terminals;

- 2 to support the introduction of services or programmes, including telecommunication relay services<sup>2</sup>, to enable persons with hearing and speech disabilities to utilize telecommunication services that are functionally equivalent to telecommunication services for persons without disabilities;
- 3 to participate actively in accessibility-related studies in ITU-R, ITU-T and ITU-D, and to encourage and promote self-representation by persons with disabilities in the standardization process so as to ensure their experiences, views and opinions are taken into account in all the work of study groups;
- 4 to consider designating focal points for the implementation and monitoring of this resolution;
- 5 to encourage the provision of differentiated and affordable service plans for persons with disabilities in order to increase the accessibility and usability of telecommunications/ICT for these persons;
- 6 to encourage the development of applications for telecommunication products and terminals to increase the accessibility and usability of telecommunications/ICT for persons with visual, auditory, verbal and other physical and cognitive disabilities;
- 7 to encourage regional telecommunication organizations to contribute to the work and consider implementing the results achieved in the study groups and the workshop on this topic;
- 8 to encourage industry to consider accessible features when designing telecommunication devices and services.

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<sup>2</sup> Telecommunication relay services enable users of different modes of communication (e.g. text, sign, speech) to interact by providing convergence between the modes of communication, usually through human operators called communication assistants (CAs).

**MOD****RESOLUTION 72 (Rev. Geneva, 2022)****Measurement and assessment concerns related to human exposure to electromagnetic fields***(Johannesburg, 2008; Dubai, 2012; Hammamet, 2016, Geneva, 2022)*

The World Telecommunication Standardization Assembly (Geneva, 2022),

*recalling*

- a)* Resolution 176 (Rev. Dubai, 2018) of the Plenipotentiary Conference, on measurement and assessment concerns related to human exposure to electromagnetic fields (EMF);
- b)* Resolution 62 (Rev. Buenos Aires, 2017) of the World Telecommunication Development Conference, on measurement concerns related to assessment and measurement of human exposure to EMF,

*considering*

- a)* the importance of telecommunications and information and communication technologies (ICTs) for political, economic, social and cultural progress;
- b)* that in the framework of telecommunications/ICTs to help bridge the digital divide between developed and developing countries<sup>1</sup>, a significant part of the infrastructure needed involves various wireless technologies and the installation of base stations in the appropriate measure to ensure quality of service;
- c)* that there is a need to inform the public of the levels of electromagnetic fields (EMF) from different radio frequency (RF) sources, the limits of safe exposure from these sources, in a scientific and objective manner through measurements and other standardized methodologies, as well as the potential effects of EMF exposure;
- d)* that an enormous amount of research has been carried out regarding wireless systems and health, and many independent expert committees have reviewed this research;
- e)* that the World Health Organization (WHO) has the expertise and competency in the health field to assess the impact of radio waves on the human body;
- f)* that WHO advocates exposure limits that were established by international organizations such as the International Commission on Non-Ionizing Radiation Protection (ICNIRP);
- g)* that ITU works closely with the WHO on matters related to human exposure to EMF;
- h)* that the ITU has a mechanism for verifying compliance with radio signal levels by calculating and measuring the field strength and power density of these signals;
- i)* that the considerable development of the use of the RF spectrum has resulted in an increase in the sources of emission of electromagnetic fields in a given geographical area;
- j)* that regulatory authorities in many developing countries urgently need information on methods of assessing and measuring human exposure to RF-EMF, in order to put in place national regulations to protect populations;

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<sup>1</sup> These include the least developed countries, small island developing states, landlocked developing countries and countries with economies in transition.

- k) that the ICNIRP<sup>2</sup>, the Institute of Electrical and Electronics Engineers (IEEE)<sup>3</sup> and the International Organization for Standardization/International Electrotechnical Commission (ISO/IEC) have developed guidelines for EMF exposure limits and that many administrations have adopted national regulations based on those guidelines;
- l) that most developing countries do not have the necessary tools to measure and assess the impact of radio waves on the human body;
- m) relevant resolutions, recommendations and reports of the ITU Telecommunication Standardization Sector (ITU-T), the ITU Radiocommunication Sector (ITU-R) and the ITU Telecommunication Development Sector (ITU-D) related to human exposure to EMF;
- n) that there is continuous advancement in wireless communication technologies and ongoing work in the ITU Sectors related to such advancements and also the concomitant EMF exposure aspect, and that active coordination and collaboration between the Sectors and other specialized and expert organizations in this field are important to avoid duplication of efforts,

*recognizing*

- a) the work done within ITU-R study groups on radiowave propagation, electromagnetic compatibility (EMC) and related aspects, including measurement methods;
- b) the work done within ITU-T Study Group 5 on techniques for taking radio-frequency (RF) measurements and assessment;
- c) that Study Group 5, in establishing methodologies for assessing human exposure to RF energy, cooperates with many participating standards organizations (PSOs);
- d) that the ITU EMF Guide, in its digital version, also available in a mobile-phone application, is updated as ITU and/or WHO receive information and/or results of research,

*recognizing further*

- a) that some publications about EMF effects on health create doubt among the population, increasing the perception of the risk they involve;
- b) that, in the absence of regulation and accurate, complete information, people become concerned about long-term exposure to EMF, due to their perception of risk, and are likely to oppose the deployment of radio installations in their neighbourhoods, demanding the enactment of restrictive municipal rules that affect the deployment of wireless networks;
- c) that Study Group 5, in particular, has elaborated Recommendations on the technical measurement and environment management of EMF that help to diminish risk perception within the population;
- d) that the development of these Recommendations has made it possible to significantly decrease the cost of measurement equipment and to leverage the results through social communication;
- e) that the cost of the advanced equipment used for measuring human exposure to RF energy is high;
- f) that implementing such measurement and assessment is essential for many regulatory authorities, in particular in developing countries, in order to monitor the limits for human exposure

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<sup>2</sup> ICNIRP Guidelines for limiting exposure to EMF (100 kHz to 300 GHz), 2020.

<sup>3</sup> IEEE Std C95.1™-2019, IEEE Standard for safety levels with respect to human exposure to electric, magnetic and electromagnetic Fields, 0 Hz to 300 GHz.

to RF energy, and that they are called upon to ensure those limits are met in order to license different services;

g) the importance of EMF emission assessment when implementing policies in some countries,

*noting*

a) that other national, regional and international standards development organizations (SDOs) are carrying out activities related to human exposure to EMF;

b) the urgent need for regulatory bodies in many developing countries to obtain information on EMF measurement and assessment methodologies in regard to human exposure to RF energy, in order to establish or reinforce national regulations to protect their citizens;

c) that collaborative efforts between stakeholders are key in fostering adequate public awareness on EMF and health,

*resolves*

to invite ITU-T, in particular Study Group 5, to expand and continue its work and support in this domain, including, but not limited to:

- i) developing new and/or updating existing reports and Recommendations, taking into account the advancements in wireless technologies, advances in measurement/assessment methodologies and best practices, in close coordination with other ITU Sectors and relevant specialized organizations in this field;
- ii) publishing and disseminating its technical reports, as well as developing ITU-T Recommendations to address these issues;
- iii) developing, promoting and disseminating information and training resources related to this topic through the organization of training programmes, workshops, forums and seminars for regulators, operators and any interested stakeholders from developing countries;
- iv) studying EMF exposure assessment from both intentional and unintentional or ambient (such as wireless power transfer) sources associated with new and emerging technologies, including Internet of Things (IoT) and International Mobile Telecommunications (IMT) systems, as well as the results of measurement, evaluation, monitoring, calculations and overview of the impact on EMF levels;
- v) continuing to cooperate and collaborate with other organizations working on this topic and to leverage their work (ICNIRP 2020, IEEE C95.1, 2019), in particular with a view to assisting the developing countries in the establishment of standards and in monitoring compliance with these standards, especially on telecommunication installations and terminals;
- vi) collaborating with ICT experts, the research community and other relevant stakeholders to study the EMF aspects of telecommunications/ICTs, including emerging ones, potentially also using emerging ICT technologies to study these EMF aspects;
- vii) cooperating on these issues with ITU-R study groups, and with ITU-D Study Group 2 in the framework of EMF measurements to assess human exposure and other relevant issues;
- viii) coordinating and cooperating with various international organizations specialized in health matters, SDOs and organizations recognized by United Nations agencies dealing with the harmonization of exposure guidelines in order to generate consistent protocols for assessing exposure to RF-EMF;
- ix) strengthening coordination and cooperation with WHO, ICNIRP, IEEE, ISO/IEC and other relevant organizations on guidelines and limits of human exposure to EMF so that any

publications relating to human exposure to EMF are circulated to Member States as soon as they are issued,

*instructs the Director of the Telecommunication Standardization Bureau, in close collaboration with the Directors of the other two Bureaux*

within the available financial resources,

- 1 to support the development of reports identifying the needs of developing countries on the issue of assessing human exposure to EMF, and to submit the reports as soon as possible to ITU-T Study Group 5 for its consideration and action in accordance with its mandate;
- 2 to regularly update the ITU-T portal on EMF activities including, but not limited to, the ITU EMF Guide, its mobile application, links to websites, the global portal on ICTs and the environment and flyers;
- 3 to hold workshops in developing countries with presentations and training on the use of equipment employed in assessing human exposure to RF energy;
- 4 to appoint experts in the field of assessment and measurement of exposure to EMF to assist developing countries in the formulation of their strategies in this area;
- 5 to extend support for developing countries while they establish their national and/or regional centres equipped with test benches for continuous monitoring of EMF levels, especially in selected areas where the public has concerns, and transparently provide the data to the general public by using, among other things, the modalities listed in Resolutions 44 (Rev. Geneva, 2022) and 76 (Rev. Geneva, 2022) of this assembly, and of Resolution 177 (Rev. Dubai, 2018) of the Plenipotentiary Conference in the context of the development of regional test centres;
- 6 to invite Study Group 5 to coordinate and cooperate with various international organizations such as WHO, ICNIRP, IEC, IEEE and other relevant international and regional organizations in the harmonization of exposure thresholds globally and to generate consistent measurement protocols;
- 7 to report to the next world telecommunication standardization assembly on measures taken to implement this resolution,

*invites Member States and Sector Members*

- 1 to contribute actively to the work of Study Group 5 by providing relevant and timely information, in order to assist developing countries in providing information and addressing measurement and assessment concerns related to human exposure to EMF radiated by intentional and unintentional sources;
- 2 to conduct periodic reviews to ensure that ITU-T Recommendations related to exposure to EMF are followed;
- 3 to cooperate and share expertise and resources between developed and developing countries in order to help government administrations, especially in developing countries, to reinforce or establish an appropriate regulatory framework for protecting people and the environment from non-ionizing radiation;
- 4 to encourage the use of ITU-T Recommendations, in particular the K-series and its supplements, to build national standards for measuring and assessing EMF levels and inform the public of compliance with those standards,

*further invites Member States*

- 1 to adopt suitable measures included in the relevant ITU Recommendations and international standards in order to ensure compliance with exposure limits to protect health against the adverse effect of EMF;

- 2 to encourage administrations to follow the ICNIRP 2020 Guidelines or the IEEE 95.1 2019 Standard;
- 3 to assess the impact and potential changes in accordance with the relevant ITU Recommendations and international standards on EMF.



**MOD****RESOLUTION 73 (Rev. Geneva, 2022)****Information and communication technologies, environment,  
climate change and circular economy***(Johannesburg, 2008; Dubai, 2012; Hammamet, 2016; Geneva, 2022)*

The World Telecommunication Standardization Assembly (Geneva, 2022),

*recalling*

- a)* Resolution 66 (Rev. Buenos Aires, 2017) of the World Telecommunication Development Conference, on information and communication technologies (ICT) and climate change;
- b)* Resolution 70/1 of the United Nations General Assembly, on transforming our world: the 2030 Agenda for Sustainable Development;
- c)* Resolution 75/231 of the United Nations General Assembly, which recognizes the potential benefits for countries to transform their economies to promote sustainable consumption and production patterns, by engaging with partners to integrate or implement concepts such as circular economy and Industry 4.0 for more sustainable industrial activity and manufacturing systems, according to national plans and priorities;
- d)* Resolution 182 (Rev. Busan, 2014) of the Plenipotentiary Conference, on the role of telecommunications/ICTs in regard to climate change and the protection of the environment;
- e)* Resolution 1353 (Geneva, 2012) of the ITU Council, which recognizes that telecommunications and ICTs are essential components for developed and developing countries<sup>1</sup> in achieving sustainable development, and instructs the Secretary-General, in collaboration with the Directors of the Bureaux, to identify new activities to be undertaken by ITU to support developing countries in achieving sustainable development through telecommunications and ICTs,

*recognizing*

- a)* that ICTs are essential for monitoring of climate and natural ecosystems for their protection, data gathering and rapid information transfer relating to risks of climate change, and that adequate telecommunication networks are essential in ensuring that communications reach people and the appropriate relief organizations;
- b)* that low-cost sustainable ICT solutions with reduced carbon footprint are an urgent requirement;
- c)* that climate change largely affects:
  - i)* countries located along coastal areas and those surrounded by oceans and seas as well as inland areas that are susceptible to wild-fire and drought;
  - ii)* countries whose economies rely on agricultural investments;
  - iii)* countries with weak capacity or lack of infrastructure and technical systems of meteorological support for the mitigation of climate-change effects,

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<sup>1</sup> These include the least developed countries, small island developing states, landlocked developing countries and countries with economies in transition.

*resolves*

- 1 to continue and further develop the ITU-T work programme initially launched in December 2007 on ICTs, climate change and circular economy, as a high priority, in order to contribute to the wider global efforts to moderate climate change, as part of the United Nations processes;
- 2 to take into account the progress already made in the international symposia on ICTs, environment, climate change and circular economy, held in various parts of the world<sup>2</sup>, by distributing their outcomes as widely as possible;
- 3 to continue to maintain and update the ITU-T Global Portal on ICTs, environment, climate change and circular economy, extending its features by developing an electronic and interactive forum to share information and to disseminate ideas, standards and best practices on the relationships between ICTs and environmental sustainability, experiences and practices for disclosure, labelling schemes and recycling facilities;
- 4 to promote the development and adoption of Recommendations for enhancing the use of ICTs to serve as a potent and cross-cutting tool to assess and reduce greenhouse gas (GHG) emissions, optimize energy and water consumption, minimize e-waste and improve its management across economic and social activities;
- 5 to increase awareness and promote information sharing on the role of ICTs in enhancing environmental sustainability, in particular by promoting the use of more energy-efficient<sup>3</sup> devices and networks and more efficient working methods, as well as ICTs that can be used to replace or displace higher energy consuming technologies/uses;
- 6 to work towards the reductions in emissions of GHGs arising from the use of ICTs that are necessary to meet the goals of the United Nations Framework Convention on Climate Change (UNFCCC);
- 7 to work towards a reduction of the adverse environmental impact of environmentally unfriendly materials used in ICT products;
- 8 to bridge the standardization gap by providing technical assistance to countries to develop their national green ICT action plans, and develop a reporting mechanism in order to support countries in implementing their plan;
- 9 to set up e-learning programmes on Recommendations related to ICTs, the environment, climate change and circular economy;
- 10 to work towards supporting cities and the ICT sector in harnessing ICTs to combat climate change and reach net zero;
- 11 to work towards identifying the environmental protection requirements of ICTs and developing strategic frameworks for assessing their environmental impacts;
- 12 to support using ICTs to facilitate climate-change mitigation and adaptation efforts as well as building climate resilient infrastructures;

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<sup>2</sup> Kyoto, Japan, 15-16 April 2008; London, United Kingdom, 17-18 June 2008; Quito, Ecuador, 8-10 July 2009; Seoul Virtual Symposium, 23 September 2009; Cairo, Egypt, 2-3 November 2010; Accra, Ghana, 7-8 July 2011; Seoul, Republic of Korea, 19 September 2011; Montreal, Canada, on 29-31 May 2012, Turin, Italy, 6-7 May 2013; Kochi, India, 15 December 2014; Nassau, Bahamas, 14 December 2015; and Kuala Lumpur, Malaysia, 21 April 2016.

<sup>3</sup> With respect to efficiency, promotion of efficient use of materials used in ICT devices and network elements should also be a consideration.

13 to work towards the implementation of circular economy in cities and human settlements to enhance their sustainability,

*instructs the Telecommunication Standardization Advisory Group*

1 to coordinate the activities of ITU-T study groups in relation to their review of relevant standardization activities of other standards development organizations (SDOs) and facilitate collaboration between ITU and those SDOs in order to avoid duplication of, or overlap in, international standards;

2 to ensure that study groups carry out a review of all future Recommendations in order to assess their implications and the application of best practices in the light of protection of the environment, climate change and circular economy;

3 to consider further possible changes to working procedures in order to meet the objective of this resolution, including extending the use of electronic working methods to reduce the climate-change impact, such as paperless meetings, virtual conferencing, teleworking, etc.,

*instructs all study groups of the ITU Telecommunication Standardization Sector*

1 to cooperate with Study Group 5 to develop appropriate Recommendations on ICTs, the environment and climate-change issues within the mandate and competency of ITU-T, including telecommunication networks used for monitoring and adapting to climate change, for example, disaster preparedness, signalling and quality of service issues, taking into account any economic impact on all countries and in particular on developing countries;

2 to identify best practices and opportunities for new applications using ICTs to foster environmental sustainability, and to identify appropriate actions;

3 to identify and promote best practices towards implementing environmentally-friendly policies and practices, and to share use cases and key success factors;

4 to identify initiatives which support consistently successful and sustainable approaches that will result in cost-effective application;

5 to identify and promote successful new energy-efficient technologies using renewable energy or alternative energy sources that are proven to work for both urban and rural telecommunication sites;

6 to liaise with the relevant ITU-R and ITU-D study groups and promote liaison with other SDOs and forums in order to avoid duplication of work, optimize the use of resources and accelerate the availability of global standards,

*instructs the Director of the Telecommunication Standardization Bureau, in collaboration with the Directors of the other Bureaux*

1 to report on progress on the application of this resolution annually to the Council and to the next world telecommunication standardization assembly;

2 to keep up to date the calendar of events relevant to ICTs, the environment, climate change and circular economy, based on proposals by the Telecommunication Standardization Advisory Group and in close collaboration with the other two Sectors;

3 to launch pilot projects, aimed at bridging the standardization gap, on environmental sustainability issues, in particular in developing countries;

4 to support the development of reports on ICTs, the environment, climate change and circular economy, taking into consideration relevant studies, in particular the ongoing work of Study Group 5, including issues related to, *inter alia*, circular economy, green data centres, smart buildings, green ICT procurement, cloud computing, energy efficiency, smart transportation, smart logistics, smart grids, water management, adaptation to climate change and disaster preparedness,

and how the ICT sector contributes to annual reductions in GHG emissions, and submit the reports as soon as possible to Study Group 5 for its consideration;

5 to organize forums, workshops and seminars for developing countries in order to raise awareness and identify their particular needs and challenges in regard to environment, climate-change and circular economy issues;

6 to develop, promote and disseminate information and training programmes on ICTs, climate change, environment and circular economy;

7 to report on progress of the ITU/WMO/UNESCO IOC Joint Task Force to investigate the potential of using submarine telecommunication cables for ocean and climate monitoring and disaster warning;

8 to promote the ITU-T Global Portal on ICTs, environment, climate change and circular economy and its use as an electronic forum for the exchange and dissemination of ideas, experience and best practices on ICTs, the environment, climate change and circular economy;

9 to assist countries that are vulnerable to climate-change impact, with specific emphasis on developing countries:

- i) located along coastal areas and those surrounded by oceans and seas, as well as inland areas that are susceptible to wildfire and drought;
- ii) whose economies rely on agricultural investments;
- iii) with weak capacity or lack of infrastructure and technical systems of meteorological support for the mitigation of climate-change effects,

*invites the Secretary-General*

to continue to cooperate and collaborate with other entities within the United Nations in formulating future international efforts to address protection of the environment and climate change and support vulnerable countries in projects towards mitigation, adaptation and resilience efforts as well as climate-change preparedness plans, contributing to the achievement of the goals of the 2030 Agenda for Sustainable Development,

*invites Member States, Sector Members and Associates*

1 to continue to contribute actively to Study Group 5 and other ITU-T study groups on ICTs, the environment, climate change and circular economy;

2 to continue or initiate public and private programmes that include ICTs, the environment, climate change and circular economy, giving due consideration to relevant ITU-T Recommendations and relevant work;

3 to share best practices and raise awareness of the benefits associated with the use of green ICTs in accordance with relevant ITU Recommendations;

4 to promote the integration of ICT, climate, environmental and energy policies in order to improve environmental performance and enhance energy efficiency and resource management;

5 to integrate the use of ICTs into national adaptation plans so as to make use of ICTs as an enabling tool to address the effects of climate change;

6 to liaise with their national counterparts responsible for environmental issues in order to support and contribute to the wider United Nations process on climate change, by providing information and developing common proposals related to the role of telecommunications/ICTs in mitigating and adapting to the effects of climate change, so that they can be taken into consideration within UNFCCC.

**MOD****RESOLUTION 74 (Rev. Geneva, 2022)****Enhancing participation of Sector Members<sup>1</sup> from developing countries<sup>2</sup> in the work of the ITU Telecommunication Standardization Sector***(Johannesburg, 2008; Dubai, 2012; Geneva, 2022)*

The World Telecommunication Standardization Assembly (Geneva, 2022),

*recalling*

- a) Resolution 71 (Rev. Dubai, 2018) of the Plenipotentiary Conference, on the strategic plan for the Union for 2020-2023;
- b) the spirit of Resolution 123 (Rev. Dubai, 2018) of the Plenipotentiary Conference, on bridging the standardization gap between developing and developed countries;
- c) the objectives of Resolutions 44 and 54 (Rev. [Geneva, 2022]) of this assembly,

*taking into account*

that Resolution 170 (Rev. Busan, 2014) of the Plenipotentiary Conference, on admission of Sector Members from developing countries to participate in the work of the ITU Radiocommunication Sector (ITU-R) and the ITU Telecommunication Standardization Sector (ITU-T), which sets the level of financial contribution for Sector Members from developing countries at one sixteenth of the value of a contributory unit for Sector Members for defraying Union expenses,

*recognizing*

- a) that the participation by operators from developing countries in standardization activities is low;
- b) that the majority of these operators are subsidiaries of developed countries' telecommunication companies which are already Sector Members;
- c) that the strategic objectives of Sector Members from developed countries participating in ITU-T activities do not necessarily include the participation of their subsidiary entities;
- d) that those developing country telecommunication operators are placing particular emphasis on information and communication technology (ICT) operation and infrastructure deployment, instead of active participation in standardization activities;
- e) that Article 1 of the ITU Constitution establishes that the Union will facilitate the worldwide telecommunication standardization process with a satisfactory quality of service, and will promote and enhance participation of entities and organizations in the activities of the Union

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<sup>1</sup> Such Sector Members from developing countries shall not be affiliated in any way to any Sector Member of a developed country, and shall be limited to those Sector Members of developing countries (including the least developed countries, small island developing states, landlocked developing countries and countries with economies in transition) having an income per capita according to the United Nations Development Programme not exceeding a threshold to be determined.

<sup>2</sup> These include the least developed countries, small island developing states, landlocked developing countries and countries with economies in transition.

and foster a fruitful cooperation and partnership between them and Member States for the fulfilment of the overall objectives as embodied in the purposes of the Union,

*considering*

- a) that relevant entities or organizations from developing countries are interested in ITU-T standardization work of the ITU Telecommunication Standardization Sector (ITU-T), and would be willing to join if more favourable financial conditions existed for their participation in the work of ITU-T;
- b) that the aforementioned entities or organizations could have a relevant role in research and development of new technologies, and that the participation of entities from developing countries in the work of ITU-T helps to bridge the standardization gap;
- c) that this participation by Sector Members would contribute to enhancing capacity building in the developing countries, increase their competitiveness, and support innovation in the markets of developing countries,

*resolves*

- 1 to encourage the adoption of the necessary measures and mechanisms to enable new Sector Members from developing countries to join ITU-T and to be entitled to take part in the work of the ITU-T study groups and other groups within ITU-T;
- 2 to encourage Sector Members from the developed countries to promote the participation in ITU-T activities of their subsidiaries established in developing countries,

*invites Member States*

to encourage their Sector Members to participate in ITU-T activities.

**MOD****RESOLUTION 75 (Rev. Geneva, 2022)****The ITU Telecommunication Standardization Sector's contribution in implementing the outcomes of the World Summit on the Information Society, taking into account the 2030 Agenda for Sustainable Development***(Johannesburg, 2008; Dubai, 2012; Hammamet, 2016; Geneva, 2022)*

The World Telecommunication Standardization Assembly (Geneva, 2022),

*considering*

- a)* the relevant outcomes of both phases of the World Summit on the Information Society (WSIS);
- b)* United Nations General Assembly (UNGA) Resolution 70/1, on transforming our world: the 2030 Agenda for Sustainable Development;
- c)* UNGA Resolution 70/125, on the outcome document of the high-level meeting of the General Assembly on the overall review of the implementation of WSIS outcomes;
- d)* the WSIS+10 Statement on the implementation of WSIS outcomes and WSIS+10 vision for WSIS beyond 2015, adopted at the ITU-coordinated WSIS+10 High-Level Event (Geneva, 2014) and endorsed by the Plenipotentiary Conference (Busan, 2014), which was submitted as an input into the overall review of WSIS by UNGA;
- e)* the relevant resolutions and decisions related to the implementation of relevant outcomes of both phases of WSIS and to international Internet-related public policy issues adopted at the Plenipotentiary Conference (Busan, 2014) and the 2016 session of the ITU Council:
  - i)* Resolution 71 (Rev. Busan, 2014) of the Plenipotentiary Conference, on the strategic plan for the Union for 2016-2019;
  - ii)* Resolution 101 (Rev. Busan, 2014) of the Plenipotentiary Conference, on Internet protocol (IP)-based networks;
  - iii)* Resolution 102 (Rev. Busan, 2014) of the Plenipotentiary Conference, on ITU's role with regard to international public policy issues pertaining to the Internet and the management of Internet resources, including domain names and addresses;
  - iv)* Resolution 130 (Rev. Busan, 2014) of the Plenipotentiary Conference, on strengthening the role of ITU in building confidence and security in the use of information and communication technologies (ICT);
  - v)* Resolution 131 (Rev. Busan, 2014) of the Plenipotentiary Conference, on measuring ICTs to build an integrating and inclusive information society;
  - vi)* Resolution 133 (Rev. Busan, 2014) of the Plenipotentiary Conference, on the role of administrations of Member States in the management of internationalized (multilingual) domain names;
  - vii)* Resolution 139 (Rev. Busan, 2014) of the Plenipotentiary Conference, on the use of telecommunications/ICT to bridge the digital divide and build an inclusive information society;
  - viii)* Resolution 140 (Rev. Busan, 2014) of the Plenipotentiary Conference, on ITU's role in implementing the outcomes of WSIS and in the overall review by UNGA of their implementation;

- ix) Resolution 178 (Guadalajara, 2010) of the Plenipotentiary Conference, on ITU's role in organizing the work on technical aspects of telecommunication networks to support the Internet;
- x) Resolution 200 (Busan, 2014) of the Plenipotentiary Conference, on the Connect 2020 Agenda for global telecommunication/ICT development;
- xi) the opinions of the World Telecommunication/ICT Policy Forum (Geneva, 2013);
- f) the role of the ITU Telecommunication Standardization Sector (ITU-T) in ITU implementation of relevant WSIS outcomes, adaptation of ITU's role and development of telecommunication standards in building the information society, including ITU's lead facilitation role in the WSIS implementation process, as a moderator/facilitator for implementing Action Lines C2, C5 and C6 and participating with other stakeholders, as appropriate, in the implementation of Action Lines C1, C3, C4, C7, C8, C9 and C11 and all other relevant action lines and other WSIS outcomes, within the financial limits set by the Plenipotentiary Conference;
- g) that, despite the previous decade's achievements in ICT connectivity, many forms of digital divide remain, both between and within countries, and between women and men, that need to be addressed through, among other actions, strengthened enabling policy environments and international cooperation to improve affordability, access, education, capacity building, multilingualism, cultural preservation, investment and appropriate financing, as well as measures to improve digital literacy and skills and to promote cultural diversity;
- h) that the management of the Internet encompasses both technical and public policy issues and should involve all stakeholders and relevant intergovernmental and international organizations in accordance with §§ 35 a)-e) of the Tunis Agenda for the Information Society, as well as § 57 of the outcome document of the 2015 high-level meeting of the General Assembly on the overall review of the implementation of the WSIS outcomes,

*considering further*

- a) that ITU has a pivotal role in providing a global perspective in regard to the information society;
- b) that the Council Working Group on WSIS&SDG (CWG-WSIS&SDG), in accordance with Resolution 140 (Rev. Busan, 2014) and Resolution 1332 adopted by the Council at its 2016 session, open to all the ITU membership, constitutes an effective mechanism for facilitating Member State inputs on ITU implementation of relevant WSIS outcomes and the 2030 Agenda for Sustainable Development;
- c) that the Council Working Group on international Internet-related public policy issues (CWG-Internet), in accordance with Council Resolution 1336, open to Member States only, with open consultation of all stakeholders, was created in order to promote enhanced cooperation and to foster the participation of governments in addressing international Internet public policy issues;
- d) that there is a perceived need to improve coordination, dissemination and interaction: (i) by avoiding duplication of efforts through focused coordination between ITU's relevant study groups that deal with international Internet public policy issues and technical aspects of telecommunication networks to support the Internet; (ii) by disseminating relevant international Internet public policy information to the ITU membership, the General Secretariat and the Bureaux; (iii) by promoting enhanced cooperation and technical-oriented interaction between ITU and other relevant international organizations and entities,

*recognizing*

- a) the commitment of ITU to implementing relevant WSIS outcomes and the WSIS vision beyond 2015, as one of the most important goals for the Union;



b) that the 2030 Agenda for Sustainable Development has substantial implications for the activities of ITU,

*recognizing further*

- a) that all governments should have an equal role and responsibility for international Internet governance and for ensuring the stability, security and continuity of the Internet, while also recognizing the need for development of public policy by governments in consultation with all stakeholders, as expressed in § 68 of the Tunis Agenda;
- b) the potential of ICTs to achieve the 2030 Agenda for Sustainable Development and other internationally agreed development goals;
- c) that increased connectivity, innovation and access played a critical role in enabling progress on the Sustainable Development Goals;
- d) the need to promote greater participation and engagement in Internet governance discussions of governments, the private sector, civil society, international organizations, the technical and academic communities and all other relevant stakeholders from developing countries;
- e) the need for enhanced cooperation in the future, to enable governments, on an equal footing, to carry out their roles and responsibilities in international public policy issues pertaining to the Internet, but not in the day-to-day technical and operational matters that do not impact on international public policy issues, as expressed in § 69 of the Tunis Agenda;
- f) that, using relevant international organizations, such cooperation should include the development of globally applicable principles on public policy issues associated with the coordination and management of critical Internet resources, in which regard the organizations responsible for essential tasks associated with the Internet are called upon to contribute to creating an environment that facilitates this development of public policy principles, as expressed in § 70 of the Tunis Agenda;
- g) that the process towards enhanced cooperation, to be started by the United Nations Secretary-General, involving all relevant organizations by the end of the first quarter of 2006, will involve all stakeholders in their respective roles, will proceed as quickly as possible consistent with legal process and will be responsive to innovation; that relevant organizations should commence a process towards enhanced cooperation involving all stakeholders, proceeding as quickly as possible and responsive to innovation; and that the same relevant organizations shall be requested to provide annual performance reports, as expressed in §§ 69-71 of the Tunis Agenda;
- h) that various initiatives have been implemented and some progress has been made in relation to the process towards enhanced cooperation detailed in §§ 69 to 71 of the Tunis Agenda and that UNGA, in Resolution 70/125, called for continued dialogue and work on the implementation of enhanced cooperation, which is already under way in accordance with § 65 of that resolution,

*taking into account*

- a) Resolution 30 (Rev. Dubai, 2014) of the World Telecommunication Development Conference (WTDC), on the role of the ITU Telecommunication Development Sector in implementing the WSIS outcomes;
- b) Resolution ITU-R 61 (Rev. Geneva, 2015) of the Radiocommunication Assembly, on ITU-R's contribution in implementing the WSIS outcomes;
- c) the programmes, activities and regional initiatives being carried out in accordance with the decisions of WTDC-14 for bridging the digital divide;
- d) the relevant work already accomplished and/or to be carried out by ITU under the guidance of CWG-WSIS&SDG and CWG-Internet,

*noting*

- a) Council Resolution 1332 (Modified 2019), on ITU's role in the implementation of the WSIS outcomes and the 2030 Agenda for Sustainable Development;
- b) Council 2016 Resolution 1332, on ITU's role in the implementation of the WSIS outcomes, taking into account the 2030 Agenda for Sustainable Development;
- c) Council 2015 Resolution 1334, on ITU's role in the overall review of the implementation of the WSIS outcomes;
- d) Council 2015 Resolution 1344, on the modality of open consultation for CWG-Internet;
- e) Council 2016 Resolution 1336, on CWG-Internet,

*noting further*

that the ITU Secretary-General created the ITU WSIS&SDG Task Force, whose role is to formulate strategies and coordinate ITU's policies and activities in relation to the WSIS process and the 2030 Agenda for Sustainable Development, and that this Task Force is chaired by the Deputy Secretary-General, as noted by Council 2016 Resolution 1332,

*resolves*

- 1 to continue ITU-T's work on the implementation of WSIS outcomes and the WSIS vision beyond 2015 and follow-up activities within its mandate;
- 2 that ITU-T should contribute to achievement of the objectives of the 2030 Agenda for Sustainable Development, through and in harmony with the WSIS framework;
- 3 that ITU-T should carry out the activities under *resolves* 1 and 2 above in cooperation with other relevant stakeholders, as appropriate;
- 4 that the relevant ITU-T study groups should consider in their studies the output of CWG-WSIS&SDG and CWG-Internet,

*instructs the Director of the Telecommunication Standardization Bureau*

- 1 to provide CWG-WSIS&SDG with a comprehensive summary of ITU-T activities on implementation of the WSIS outcomes, taking into account the 2030 Agenda for Sustainable Development;
- 2 to ensure that concrete objectives and deadlines for activities in connection with WSIS outcomes, taking into account the 2030 Agenda for Sustainable Development, are developed and reflected in the operational plans of ITU-T in accordance with Resolution 140 (Rev. Dubai, 2018) and Council 2019 Resolution 1332;
- 3 in implementing the WSIS outcomes, taking into account the 2030 Agenda for Sustainable Development, within the mandate of ITU-T, to pay special attention to the needs of the developing countries;
- 4 to provide information on emerging trends based on ITU-T activities;
- 5 to take appropriate action to facilitate the activities for implementation of this resolution;
- 6 to submit contributions to the relevant annual reports of the ITU Secretary-General on these activities,

*invites Member States, Sector Members, Associates and academia*

- 1 to submit contributions to relevant ITU-T study groups and to the Telecommunication Standardization Advisory Group, where appropriate, and contribute to CWG-WSIS&SDG on implementing WSIS outcomes, taking into account the 2030 Agenda for Sustainable Development within the ITU mandate;

2 to support and collaborate with the Director of TSB in implementing relevant WSIS outcomes, taking into account the 2030 Agenda for Sustainable Development, in ITU-T;

3 to submit contributions to CWG-WSIS&SDG,

*invites Member States*

to submit contributions to CWG-Internet,

*invites all stakeholders*

1 to participate actively in ITU WSIS implementation activities, including in ITU-T, to support achieving the 2030 Agenda for Sustainable Development, as appropriate;

2 to participate actively in the online and physical open consultations of CWG-Internet.

**MOD****RESOLUTION 76 (Rev. Geneva, 2022)****Studies related to conformance and interoperability testing, assistance to developing countries<sup>1</sup>, and a possible future ITU Mark programme***(Johannesburg, 2008; Dubai, 2012; Hammamet, 2016; Geneva 2022)*

The World Telecommunication Standardization Assembly (Geneva, 2022),

*recalling*

- a)* that Resolution 123 (Rev. Dubai, 2018) of the Plenipotentiary Conference instructs the Secretary-General and the Directors of the three Bureaux to work closely with each other in order to step up actions intended to reduce the standardization gap between developing and developed countries;
- b)* that Resolution 200 (Rev. Dubai, 2018) of the Plenipotentiary Conference resolves to reaffirm a shared global vision for the development of the telecommunication/information and communication technology (ICT) sector, including broadband, for sustainable development under the Connect 2030 Agenda, envisaging "an information society, empowered by the interconnected world, where telecommunications/ICTs enable and accelerate social, economic and environmentally sustainable growth and development for everyone";
- c)* that Article 17 of the ITU Constitution, while providing that the functions of the ITU Telecommunication Standardization Sector (ITU-T) shall fulfil the purposes of the Union relating to telecommunication standardization, stipulates that ITU-T perform such functions "bearing in mind the particular concerns of the developing countries";
- d)* the efforts and outputs of the ITU-T Conformity Assessment Steering Committee (CASC) under the leadership of ITU-T Study Group 11;
- e)* Resolution 177 (Rev. Dubai, 2018) of the Plenipotentiary Conference, on conformance and interoperability (C&I),

*recognizing*

- a)* that interoperability of international telecommunication networks was the main reason for creating the International Telegraph Union in 1865, and that this remains one of the main goals in the ITU strategic plan;
- b)* that emerging technologies such as Internet of Things (IoT), International Mobile Telecommunications-2020 (IMT-2020), etc. have increasing requirements for C&I testing;
- c)* that conformity assessment is the accepted way of demonstrating that a product adheres to an international standard, and conformity assessment continues to be important in the context of World Trade Organization members' international standardization commitments under the Agreement on Technical Barriers to Trade;
- d)* that conformance testing does not guarantee interoperability but could increase the chance of interoperability of equipment conforming to ITU-T Recommendations, particularly during the development phase;

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<sup>1</sup> These include the least developed countries, small island developing states, landlocked developing countries and countries with economies in transition.

- e) that technical training and institutional capacity development for testing and certification are essential issues for countries to improve their conformity assessment processes, to promote the deployment of advanced telecommunication networks and to increase global connectivity;
- f) that it is not appropriate for ITU itself to enter into certification and testing of equipment and services that many regional and national standards bodies also provide for conformance testing;
- g) that CASC has been set up for the purpose of developing a procedure for the recognition of ITU experts and elaborating detailed procedures for the implementation of a test laboratory recognition procedure in ITU-T;
- h) that ITU-T has a Product Conformity Database and is progressively populating it with details of ICT equipment having undergone testing for conformity with ITU-T Recommendations;
- i) that the ITU C&I programme contains four pillars namely: 1) conformity assessment, 2) interoperability events, 3) human resource capacity building, and 4) assistance in the establishment of test centres and C&I programmes in developing countries;
- j) that providing for interoperability should be an important consideration when developing future ITU-T Recommendations;
- k) that testing for conformity with ITU-T Recommendations should help in efforts to address combating counterfeit ICT products;
- l) that enhancing Member States' capabilities for conformance assessment and testing and the availability of national and regional conformance assessment testing facilities may help combat counterfeit telecommunication/ICT devices and equipment;
- m) that C&I testing can facilitate the interoperability of certain emerging technologies such as IoT and IMT-2020,

*considering*

- a) that Resolution 177 (Rev. Dubai, 2018) of the Plenipotentiary Conference recognized further that a decision concerning the implementation of the ITU Mark would be postponed until Pillar 1 (conformity assessment) has reached a more mature stage of development;
- b) that there are numerous complaints that equipment is often not fully interoperable with other equipment;
- c) that interoperability testing could increase the chances of end-to-end interoperability of equipment from different manufacturers, and would assist developing countries in the choice of solutions;
- d) the importance, especially to developing countries, that ITU takes up a leading role in the implementation of the ITU C&I programme, with ITU-T taking lead responsibility for Pillars 1 and 2, and the ITU Telecommunication Development Sector (ITU-D) for Pillars 3 and 4;
- e) that the remote testing of equipment and services using virtual laboratories may enable countries, especially those with economies in transition and developing countries, to conduct C&I testing, while at the same time facilitating the exchange of experience among technical experts taking into account the positive results achieved in implementing the ITU pilot project for the creation of such laboratories;
- f) priorities of members, especially developing countries, to combat and deter counterfeit devices,

*noting*

- a) that C&I requirements to support testing are essential components for developing interoperable equipment that is based on ITU-T Recommendations;

- b) that considerable practical experience exists within the ITU-T membership regarding the production of relevant testing requirements and the testing procedures on which the actions proposed in this resolution are based;
- c) the need to assist developing countries in facilitating interoperability which can help in reducing the cost of systems and equipment procurement by operators, particularly in the developing countries, to enhance product quality and safety;
- d) that when interoperability experiments or testing are not performed, users may suffer from the lack of interconnection performance between equipment from different manufacturers;
- e) that availability of equipment tested as per ITU-T Recommendations for C&I may provide the basis for achieving a greater choice of solutions, greater competitiveness and more economies of scale,

*taking into account*

- a) that some ITU-T members carry out testing activities, including ITU-T study group pilot projects, to assess C&I;
- b) that ITU standardization resources are limited, and C&I testing requires specific technical infrastructure;
- c) that a diverse set of expertise is required for developing C&I test suites, C&I testing standardization, product development and product testing;
- d) that it is of advantage if regional and national accreditation and certification bodies conduct the C&I testing;
- e) that collaboration with a range of external conformity assessment bodies (including accreditation and certification) is necessary;
- f) that some forums, consortia and other organizations have already established certification programmes,

*resolves*

- 1 to continue working on the pilot projects that encourage conformity to ITU-T Recommendations to gain experience and identify requirements and methodology in the development of test suites;
- 2 that Study Group 11 continues to coordinate the Sector's activities related to the ITU C&I programme across all study groups;
- 3 that Study Group 11 continues to undertake activities within the C&I programme, including pilot projects on conformance/interoperability testing;
- 4 to continue working with accreditation bodies to recognize testing laboratories with competence to test in accordance with ITU-T Recommendations;
- 5 to encourage collaboration between ITU-T and ITU-D on the four pillars of the ITU C&I programme, each according to its responsibilities;
- 6 that conformance testing requirements shall provide for verification of the parameters defined in the current and future ITU-T Recommendations as determined by the study groups developing the Recommendations, and for interoperability testing to take into account user needs and consider market demand, as appropriate;
- 7 to continue to develop a set of methodologies and procedures for remote testing using virtual laboratories;
- 8 that ITU-T could hold interoperability testing events as needed to promote the interoperability of equipment conforming to ITU-T Recommendations;

9 that ITU, being a world standardization body, can address the impediments to harmonization and growth of worldwide telecommunications and promote the visibility of ITU standards (ensure interoperability), by means of having an ITU testing mark regime, taking into account the technical and legal implications, if any, and/or any revenue-generating possibilities, taking into consideration *recognizing f*),

*invites Member States and Sector Members of the ITU Telecommunication Development Sector*

1 to evaluate and assess the risks and various costs resulting from the lack of C&I tests, particularly in developing countries, and share necessary information and recommendations to avoid losses, based on best practices;

2 to collaborate at regional level (especially developing countries) on the establishment of C&I test facilities through having different testing facilities located in different countries and making use of mutual recognition agreements and arrangements,

*instructs the Director of the Telecommunication Standardization Bureau*

1 to continue consultations and assessment studies in all regions, taking into consideration the needs of each region, on implementation of the action plan endorsed by the ITU Council, including, in collaboration with the Director of the Telecommunication Development Bureau (BDT), the recommendations on human capacity building and assistance in the establishment of test facilities in developing countries;

2 to implement the action plan agreed by the Council at its 2012 session and revised by the Council at its 2014 session, in cooperation with the Director of BDT;

3 considering *resolves 9*, to accelerate the implementation of Pillar 1, so as to ensure gradual and smooth accomplishment of the other three pillars and the possible implementation of the ITU Mark;

4 to continue implementing the ITU C&I programme, including the testing laboratory database and informative pilot conformity product database, identifying product conformance and origin, in cooperation with the Director of BDT, and in consultation with each region;

5 to publish an annual plan of C&I activities which could attract more members' participation;

6 to facilitate the development and implementation of an ITU-T C&I test laboratory recognition procedure;

7 to involve experts and external entities as appropriate;

8 to provide progress reports on the activities carried out under the action plan to the Council for its consideration and required actions;

9 to facilitate the interoperability testing events in order to achieve the interoperability of equipment conforming to ITU-T Recommendations,

*instructs the study groups*

1 to accelerate accomplishing the pilot projects started by ITU-T study groups and continue to identify existing ITU-T Recommendations that are candidates for C&I testing, taking into account the needs of the membership, and that are capable of providing end-to-end interoperable services on a global scale, adding to their content, if necessary, specific requirements within their scope;

2 to prepare the ITU-T Recommendations identified in *instructs the study groups 1* above, with a view to conducting C&I tests as appropriate;

3 to continue and enhance cooperation, as appropriate, with interested stakeholders, including other standards development organizations (SDOs), forums and consortia, in order to optimize studies to prepare test specifications, taking into account user needs and in consideration of the market demand for a conformity assessment programme;

4 to submit to CASC a list of ITU-T Recommendations which could be candidates for the certification scheme, taking into account market needs,

*instructs the ITU Telecommunication Standardization Sector Conformity Assessment Steering Committee*

to study and define an ITU procedure to recognize testing laboratories that are competent to test according to ITU-T Recommendations, in collaboration with existing accreditation bodies,

*invites the ITU Council*

to consider the Director's report referred to in instructs the Director of the Telecommunication Standardization Bureau 8 above,

*invites Member States and Sector Members*

1 to contribute to the implementation of this resolution by, including, but not limited to:

- i) actively providing requirements for testing activities on C&I through contributions to related study groups;
- ii) considering potential collaboration on future C&I activities;
- iii) contributing to the Product Conformity Database;

2 to encourage national and regional testing entities to assist ITU-T in implementing this resolution.



**MOD****RESOLUTION 78 (Rev. Geneva, 2022)****Information and communication technology applications and standards for improved access to e-health services***(Dubai, 2012; Hammamet, 2016; Geneva, 2022)*

The World Telecommunication Standardization Assembly (Geneva, 2022),

*recalling*

- a)* Resolution 183 (Rev. Busan, 2014) of the Plenipotentiary Conference, on telecommunication/information and communication technology (ICT) applications for e-health;
- b)* Resolution 65 (Rev. Dubai, 2014) of the World Telecommunication Development Conference, on improving access to healthcare services by using ICTs;
- c)* United Nations General Assembly Resolution 70/1, on transforming our world: the 2030 Agenda for Sustainable Development,

*recognizing*

- a)* Goal 3 of the Sustainable Development Goals (SDG 3): To ensure healthy lives and promote well-being for all, at all ages;
- b)* that in many countries the population is ageing rapidly;
- c)* that innovative approaches, using advances in ICTs, can also greatly facilitate the implementation of SDG 3, particularly for rural, remote and underserved areas, and in developing countries<sup>1</sup>;
- d)* that ICTs are transforming the delivery of healthcare through low-cost e-health applications that provide healthcare access for the poor;
- e)* the importance of safeguarding patients' rights and privacy;
- f)* that there are national legislative and regulatory discussions relating to e-health and e-health applications and that this is an area of rapid evolution,

*considering*

- a)* that the World Summit on the Information Society, which was held in two phases (Geneva, 2003 and Tunis, 2005), included e-health in the Geneva Plan of Action as one of the important ICT applications, and stated the following: "Promote collaborative efforts of governments, planners, health professionals, and other agencies along with the participation of international organizations for creating a reliable, timely, high-quality and affordable healthcare and health information systems and for promoting continuous medical training, education, and research through the use of ICTs, while respecting and protecting citizens' right to privacy. ... Encourage the adoption of ICTs to improve and extend healthcare and health information systems to remote and underserved areas and vulnerable populations, recognizing women's roles as health providers in their families and communities";

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<sup>1</sup> These include the least developed countries, small island developing states, landlocked developing countries and countries with economies in transition.

- b) that the World Health Organization (WHO) approved in May 2005 Resolution WHA58.28 on e-health, stressing: "... that e-health is the cost-effective and secure use of information and communication technologies in support of health and health-related fields, including healthcare services, health surveillance, health literature, and health education, knowledge and research";
- c) that WHO and ITU have a key role in strengthening coordination between interested parties in all technical areas for the standardization of e-health applications and uses of e-health protocols;
- d) the pressing need for the provision of safe, prompt, efficient and effective healthcare through the use of ICT in e-health;
- e) that e-health applications and the ICT applications supporting them are already extensive, but far from fully optimized and integrated, especially for rural, remote and underserved areas;
- f) the importance of maintaining momentum so that the potential advantages of telecommunication/ICT technologies in the healthcare sector are supported by appropriate and secure regulatory, legal and policy frameworks in both the telecommunication and the health sectors,

*noting*

- a) ongoing work and studies in Study Group 2 of the ITU Telecommunication Development Sector (ITU-D) under Question 2/2, on information and telecommunications/ICT for e-health;
- b) ongoing work and studies in Study Group 16 of the ITU Telecommunication Standardization Sector (ITU-T) under Question 28/16, on multimedia framework for e-health applications;
- c) that ICT standards for healthcare were deemed to be an issue of major importance at the 13th session of the Global Standards Collaboration (GSC-13);
- d) that ICT standards relating to healthcare have to be adapted as needed to suit the conditions in each Member State, and this will require strengthening of capacity building and increased support;
- e) ongoing work in ITU-D to reduce the digital divide in the area of e-health;
- f) ongoing work and studies in ITU-T Study Group 20, related to e-health;
- g) ongoing work in relevant standards development organizations, including ISO TC 215, in the area of e-health,

*recognizing further*

- a) the importance of telecommunication/ICT standardization in e-health services to promote interoperability to make healthcare more inclusive and to realize the full potential of ICTs in strengthening healthcare systems;
- b) that, for healthcare providers, system interoperability between information systems is critical and fundamental, in particular in developing countries, for delivering quality healthcare and reducing its costs;
- c) that telecommunications/ICTs play significant roles in providing quality e-health services to rural, remote and underserved areas, and in addressing challenges in public health emergencies,

*resolves to instruct the Director of the Telecommunication Standardization Bureau, in collaboration with the Director of the Telecommunication Development Bureau and the Director of the Radiocommunication Bureau*

- 1 to consider with priority the enhancement of telecommunication/ICT initiatives in e-health and to coordinate their related standardization activities;

- 2 to continue and further develop ITU activities on telecommunication/ICT applications for e-health in order to contribute to the wider global efforts concerning e-health;
- 3 to work collaboratively with WHO, academia and other relevant organizations on activities related to e-health in general and to this resolution in particular;
- 4 to organize seminars and workshops on e-health for developing countries and gauge the needs of the developing countries, which are the countries with the greatest need for e-health applications,

*instructs Study Groups 16 and 20 of the ITU Telecommunication Standardization Sector, each according to its mandate, in collaboration with the relevant study groups, particularly Study Groups 11 and 17 of the ITU Telecommunication Standardization Sector*

- 1 to identify and document examples of best practice for e-health in the field of telecommunications/ICT, for dissemination among ITU Member States and Sector Members;
- 2 to coordinate activities and studies relating to e-health among the relevant study groups, focus groups and other relevant groups in ITU-T, the ITU Radiocommunication Sector (ITU-R) and ITU-D, in order in particular to foster awareness of telecommunication/ICT standards pertaining to e-health;
- 3 for ensuring the broad deployment of e-health services in diverse operating conditions, to study communication protocols relating to e-health, especially among heterogeneous networks;
- 4 within the current mandate of the ITU-T study groups, to give priority to the study of security standards (e.g. for communications, services, network aspects and service scenarios for databases and record handling, identification, integrity and authentication) relating to e-health, taking into account *recognizing e*),

*invites Member States*

to consider, as appropriate, the development and/or enhancement of frameworks, which may include legislation, regulations, standards, codes of practice and guidelines, to enhance the development of telecommunication/ICT services, products and terminals for e-health and e-health applications, particularly to address public health emergencies, within the scope of Resolution 130 (Rev. Dubai, 2018) of the Plenipotentiary Conference,

*encourages Member States, Sector Members, Associates and Academia*

to participate actively in ITU-T studies on e-health, including effective solutions for addressing public health emergencies, and to support e-health services for ageing populations, persons with disabilities and persons with specific needs, through the submission of contributions and by other appropriate means.

**MOD****RESOLUTION 79 (Rev. Geneva 2022)****The role of telecommunications/information and communication technologies in handling and controlling e-waste from telecommunication and information technology equipment and methods of treating it***(Dubai, 2012, Geneva, 2022)*

The World Telecommunication Standardization Assembly (Geneva, 2022),

*recalling*

- a)* Resolution 182 (Busan, 2014) of the Plenipotentiary Conference, on the role of telecommunications/information and communication technologies (ICT) in regard to climate change and the protection of the environment;
- b)* Resolution 66 (Buenos Aires, 2017) of the World Telecommunication Development Conference, on information and communication technology and climate change;
- c)* § 19 of the Hyderabad Declaration (2010), stating that the formulation and implementation of policies for proper disposal of e-waste are of great importance;
- d)* the Basel Convention (March, 1989) on the Control of Transboundary Movements of Hazardous Wastes and their Disposal, which characterizes certain wastes resulting from electrical and electronic assemblies as hazardous;
- e)* § 20 of Action Line C7 (E-environment) of the Geneva Plan of Action of the World Summit on the Information Society (Geneva, 2003), calling for governments, civil society and the private sector to be encouraged to initiate actions and implement projects and programmes for sustainable production and consumption and the environmentally safe disposal and recycling of discarded hardware and components used in ICT;
- f)* the Nairobi Declaration on the Environmentally Sound Management of Electrical and Electronic Waste, and the adoption by the ninth Conference of the Parties to the Basel Convention of the Work Plan for the Environmentally Sound Management of E-waste, focusing on the needs of developing countries<sup>1</sup>,

*considering*

- a)* that, owing to the progress in telecommunications and information technology, consumption of and demand for electrical and electronic equipment (EEE) has been continuously increasing and this in turn has led to a marked increase in the amount of e-waste, which has had a negative impact on the environment and health, particularly in the developing countries;
- b)* that ITU and relevant stakeholders (such as the United Nations Environment Programme (UNEP) and the United Nations Development Programme (UNDP) for the Basel Convention) have a key role in strengthening coordination between interested parties to study the effects of e-waste;
- c)* Recommendation ITU-T L.1000 of the ITU Telecommunication Standardization Sector (ITU-T), on the universal power adapter and charger solution for mobile terminals and other handheld ICT devices, and Recommendation ITU-T L.1100, on the procedure for recycling rare metals in ICT goods,

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<sup>1</sup> These include the least developed countries, small island developing states, landlocked developing countries and countries with economies in transition.

*recognizing*

- a) that governments have an important role to play in limiting e-waste by formulating appropriate strategies, policies and legislation;
- b) that most of the e-waste from the telecommunication/ICT sector, particularly obsolete user devices like mobile phones, end up in the informal sector without formal disposal procedures;
- c) that telecommunications/ICT can make a major contribution to alleviating the impact of e-waste;
- d) ongoing work and studies in ITU-T Study Group 5 under Question 7/5, on e-waste, circular economy and sustainable supply chain management may include aspects of environmental protection and sustainable design/manufacture and recycling of ICT equipment/facilities;
- e) the various and current efforts in developing countries and regions related to e-waste management recognizing the challenges still therein;
- f) inadequate awareness of how to effectively manage e-waste in developing countries;
- g) the impact of counterfeit ICT devices on e-waste generation;
- h) the role of the circular economy in reducing the global volume of e-waste and alter the traditional linear production/consumption pattern to the one that is sustainable;
- i) that there is a lack of tools to measure the environmental impacts of e-waste and to assess the environmental impact of telecommunications/ICTs;
- j) that the informal sector remains to be the predominant sector for handling e-waste in developing countries;
- k) that sustainable management of e-waste is essential to achieve the Sustainable Development Goals;
- l) ongoing work of Study Group 2 of the Telecommunication Development Sector (ITU-D) under Question 6/2 on information and communication technologies and the environment which study the strategies to develop a responsible approach to, and comprehensive treatment of, telecommunication/ICT waste,

*recognizing further*

- a) that large quantities of used, old, obsolete and unserviceable telecommunication/ICT hardware and equipment are exported to developing countries for supposed reuse;
- b) that many developing countries are suffering from severe environmental hazards, such as water pollution and health risks, due to e-waste, including from the influx of new telecommunication/ICTs;
- c) that the availability of counterfeit telecommunication/ICT hardware and equipment in developing countries exacerbate challenge of handling and controlling e-waste,

*resolves to instruct the Director of the Telecommunication Standardization Bureau, in collaboration with the Director of the Telecommunication Development Bureau*

- 1 to pursue and strengthen the development of ITU activities in regard to handling and controlling e-waste from telecommunication and information technology equipment and methods of treating it;
- 2 to assist developing countries to undertake proper assessment of the size/quantity of e-waste generated in a harmonized manner;
- 3 to address the handling and controlling of e-waste and to contribute to global efforts designed to deal with the increasing hazards which arise therefrom;

4 to work in collaboration with the relevant stakeholders, including academia and relevant organizations, and to coordinate activities relating to e-waste among the ITU study groups, focus groups and other relevant groups;

5 to organize seminars and workshops to enhance awareness of the hazards and sustainable management of e-waste, particularly in developing countries, and gauge the needs of the developing countries, which are the countries that suffer most from the hazards of e-waste;

6 to assist and facilitate developing countries in the implementation of circular economy principles,

*instructs ITU-T Study Group 5, in collaboration with the relevant ITU study groups*

1 to develop and document examples of best practice for handling and controlling e-waste resulting from telecommunications/ICT and methods of treating and recycling it, for dissemination among ITU Member States and Sector Members;

2 to develop Recommendations, methodologies and other publications relating to sustainable management of e-waste resulting from telecommunications/ICT equipment and products, and appropriate guidelines on implementation of these Recommendations;

3 to study the impact of used telecommunication/ICT equipment and products brought into developing countries and give appropriate guidance, taking into account *recognizing further* above, to assist developing countries,

*invites Member States*

1 to take all necessary measures to handle and control e-waste in order to mitigate the hazards which can arise from used telecommunication/ICT equipment;

2 to cooperate with each other in this area;

3 to include e-waste management policies/processes including their tracking, collection and disposal in their national ICT strategies and take adequate measures in this regard;

4 to raise public awareness on the environmental hazards of e-waste,

*encourages Member States, Sector Members and academia*

to participate actively in ITU-T studies on e-waste, through the submission of contributions and by other appropriate means.

**MOD****RESOLUTION 84 (Rev. Geneva, 2022)****Studies concerning the protection of users of telecommunication/information and communication technology services***(Hammamet, 2016; Geneva, 2022)*

The World Telecommunication Standardization Assembly (Geneva, 2022),

*recalling*

- a) Resolution 196 (Rev. Dubai, 2018) of the Plenipotentiary Conference, on protecting telecommunication service users/consumers;
- b) Resolution 188 (Rev. Dubai, 2018) of the Plenipotentiary Conference, on combating counterfeit telecommunication/information and communication technology (ICT) devices;
- c) Resolution 189 (Rev. Dubai, 2018) of the Plenipotentiary Conference, on assisting Member States to combat and deter mobile device theft;
- d) Resolution 64 (Rev. Buenos Aires, 2017) of the World Telecommunication Development Conference, on protecting and supporting users/consumers of telecommunication/ICT services;
- e) the International Telecommunication Regulations,

*recognizing*

- a) the United Nations Guidelines for Consumer Protection;
- b) that, in order to achieve its own objectives, the Union must, among other things, promote standardization of telecommunications worldwide, ensuring a satisfactory quality of service;
- c) § 13 e) of the Geneva Plan of Action of the World Summit on the Information Society, which states that governments should continue to update their domestic consumer protection laws to respond to the new requirements of the information society,

*considering*

- a) that counterfeit telecommunication/ICT devices may negatively impact on security and quality of service for users;
- b) that consumer-related laws, policies and practices limit fraudulent, deceitful and unfair business conducts, and such protections are indispensable for building consumer trust and establishing a more equitable relationship between telecommunication/ICT entrepreneurs and consumers;
- c) that the Internet permits the introduction of new applications in telecommunication/ICT services based on its highly advanced technology, such as cloud computing, e-mail and text messaging, voice over IP, video and real-time TV (IPTV) over the Internet, which continue to record high levels of use, even though there are challenges regarding quality of service (QoS) and uncertainty of origin;
- d) that the QoS of networks should be consistent with ITU Telecommunication Standardization Sector (ITU-T) Recommendations and other recognized international standards;
- e) that telecommunications/ICTs can offer new and substantial benefits to consumers, including convenience and access to a broad range of goods and/or services, and the ability to collect and compare information about these goods and/or services;

- f) that consumer trust in telecommunications/ICTs is bolstered by the continuous development of transparent, effective consumer-protection mechanisms that limit the presence of fraudulent, deceitful or unfair business practices;
- g) that education and dissemination of information on the consumption and use of telecommunication/ICT products and services must be encouraged;
- h) that access to telecommunications/ICT must be open and affordable;
- i) that a number of countries are introducing conformity-assessment regimes and procedures based on applicable ITU-T Recommendations, leading to better QoS/quality of experience, and to higher probability of interoperability of equipment, services and systems;
- j) that the migration of legacy networks to next-generation networks will affect point of interconnection, QoS and other operational aspects, which will also have an effect on costs to the end user,

*noting*

- a) the importance of keeping users and consumers informed about the basic characteristics, quality, security and rates of the different services offered by operators, and of other protection mechanisms promoting consumer and user rights;
- b) that landlocked countries pay higher overall costs for access than neighbouring countries on coastal areas;
- c) that the issue of accessibility of telecommunication/ICT services and the establishment of fair costs depend on different factors,

*resolves*

- 1 to continue developing relevant ITU-T Recommendations in order to provide solutions ensuring and protecting the rights of users/consumers of telecommunication/ICT services, notably in the areas of quality, security and tariff mechanisms;
- 2 that ITU-T, through its study groups, continue close collaboration with the ITU Telecommunication Development Sector (ITU-D) and its study groups on issues of protection of telecommunication/ICT service users/consumers, as appropriate;
- 3 that the study groups concerned should expedite work on Recommendations that would provide additional detail and guidance for the implementation of this resolution;
- 4 that ITU-T Study Group 3, where appropriate with ITU-T Study Groups 2, 11, 12, 17 and 20, within their mandates, should carry out studies, including on standards for the protection and user-centric considerations regarding users/consumers of telecommunication/ICT services;
- 5 that Study Group 3 should liaise with ITU-D Study Group 1 on the issues of best practices in the field of protection of users/consumers of telecommunication/ICT services,

*invites the Director of the Telecommunication Standardization Bureau, in collaboration with the Director of the Telecommunication Development Bureau*

- 1 to make efforts to implement Resolution 196 (Rev. Dubai, 2018);
- 2 to encourage active participation of developing countries<sup>1</sup> in the relevant ITU-T study groups and strengthen relations with other standards development organizations involved in resolving issues of protection of telecommunication/ICT service users/consumers;

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<sup>1</sup> These include the least developed countries, small island developing states, landlocked developing countries and countries with economic in transition.



3 to contribute to the relevant initiatives on the protection of users/consumers, provided that this does not overlap with or duplicate activities of the other Sectors,

*invites Member States*

to consider the creation of an enabling environment in which telecommunication operators can provide telecommunication/ICT services for their users, with the appropriate quality, level of confidence and security, and stimulating competitive, fair and affordable prices, and in order in general to protect users/consumers of telecommunication/ICT services,

*invites Member States, Sector Members, Associates and academia*

1 to contribute to this work by submitting contributions to the relevant ITU-T study groups on Questions related to the protection of users of telecommunication/ICT services, and to collaborate on implementing this resolution;

2 to collaborate and promote cooperation with relevant stakeholders, at regional and international levels, while promoting user-centric considerations on matters of protecting users/consumers of telecommunication/ICT services.

**MOD****RESOLUTION 89 (Rev. Geneva, 2022)****Promoting the use of information and communication technologies  
to bridge the financial inclusion gap***(Hammamet, 2016; Geneva, 2022)*

The World Telecommunication Standardization Assembly (Geneva, 2022),

*recalling*

- a)* that financial inclusion is a key enabler for reducing poverty and boosting prosperity: around 1.7 billion people globally do not have access to formal financial services and women account for 56 per cent of the unbanked;
- b)* that, according to the Global Findex Report of the World Bank, more than half of adults in the poorest 40 per cent of households in developing countries<sup>1</sup> were still without accounts in 2017 and, moreover, the gender gap in bank-account ownership is not significantly narrowing: in 2011, 47 per cent of women and 54 per cent of men had an account; in 2014, 58 per cent of women had an account, compared to 65 per cent of men; and in 2017, 65 per cent of women had an account, compared with 72 per cent of men;
- c)* that one way to bridge this financial inclusion gap is through information communication technology (ICT), particularly mobile technologies;
- d)* that digital financial services have resulted in a dramatic increase in financial inclusion;
- e)* that digital financial services increase income and social participation in developing countries for women, girls and vulnerable groups, thereby reducing inequalities;
- f)* Resolution 55 (Rev. Geneva, 2022) of this assembly, on promoting gender equality in ITU Telecommunication Standardization Sector (ITU-T) activities;
- g)* that the purposes of the Union include to foster collaboration among the membership for the harmonious development of telecommunications, sharing of best practices and enabling services to be offered at lowest possible cost;
- h)* the persistence of the digital divide and the financial inclusion gap;
- i)* Resolution 1353 (Geneva, 2012) of the ITU Council, which recognizes that telecommunications and ICTs are essential components for developed and developing countries in achieving sustainable development, and instructs the Secretary-General, in collaboration with the Directors of the Bureaux, to identify new activities to be undertaken by ITU to support developing countries in achieving sustainable development through telecommunications and ICTs;
- j)* Resolution 70 (Rev. Dubai, 2018) of the Plenipotentiary Conference, on mainstreaming a gender perspective in ITU and promotion of gender equality and the empowerment of women through telecommunications/ICTs;
- k)* Resolution 175 (Rev. Dubai, 2018) of the Plenipotentiary Conference, on telecommunication/ICT accessibility for persons with disabilities and persons with specific needs;

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<sup>1</sup> These include the least developed countries, small island developing states, landlocked developing countries and countries with economies in transition.

l) Resolution 184 (Guadalajara, 2010) of the Plenipotentiary Conference, on facilitating digital inclusion initiatives for indigenous peoples;

m) Resolution 204 (Dubai, 2018) of the Plenipotentiary Conference, on use of ICTs to bridge the financial inclusion gap,

*recognizing*

a) that ITU-T Study Group 3 has been involved in the study of mobile financial services through its Rapporteur Group on mobile financial services in collaboration with relevant standards development organizations (SDOs);

b) the work undertaken by the ITU-T Focus Group on Digital Financial Services and the ITU-T Focus Group on Digital Currency including Digital Fiat Currency;

c) the work done by relevant ITU-T study groups on digital financial services during the last study period,

*considering*

a) that the issue of access to financial services is one of global concern and requires global collaboration;

b) United Nations General Assembly Resolution 70/1 of 25 September 2015, on transforming our world: the 2030 Agenda for Sustainable Development, recognizing that it builds on the Millennium Development Goals and seeks to complete their unfinished business, and stressing the importance of the implementation of this new ambitious agenda, which has poverty eradication at its core and aims at promoting the economic, social and environmental dimensions of sustainable development;

c) that this Agenda, *inter alia*, undertakes the adoption and implementation of policies to increase financial inclusion and therefore integrates financial inclusion into several targets associated with the Sustainable Development Goals and their means of implementation;

d) that stable digital financial services are important for expanding financial inclusion, and this requires cooperation, as relevant, from consumers, businesses, policy-makers and regulators;

e) the need for regulators from the telecommunication and financial services sectors to collaborate with one another and with, *inter alia*, their finance ministries and other stakeholders, and to share best practices, since digital financial services encompass areas which fall under the purview of all parties,

*noting*

a) the target of universal financial access set by the World Bank, and that this goal has not been achieved globally in 2020; however, providing access to a transaction account or electronic instrument to store money and send and receive payments is a basic building block for people to manage their financial lives;

b) that interoperability is, *inter alia*, an important element to enable electronic payments in a convenient, affordable, fast, seamless and secure way through a transaction account; indeed the need for interoperability was also one of the findings of the Committee on Payments and Market Infrastructures (CPMI) - World Bank group Task Force on payment aspects of financial inclusion (PAFI), which identified required improvements to existing payment systems and services in order to increase further financial inclusion, recognizing that implementation of existing standards and best practices should be a priority;

c) that, despite the increase in financial inclusion and scaling up of mobile-money services in emerging economies over the past five years, digital financial inclusion still remains a challenge

and efforts to roll out standards and systems to support digital financial services will thus need to be continued and accelerated;

- d) the importance of affordability of digital financial services, especially for developing countries and people in low-income households, for achieving financial inclusion;
- e) the increased interest in using mobile financial services and digitizing government-to-person payments and applications of emerging technologies to advance financial inclusion to better target those in need,

*resolves*

1 to continue and further develop the ITU-T work programme, including the ongoing work in relevant ITU-T study groups, in order to contribute to the wider global efforts to enhance financial inclusion, as part of the United Nations processes;

2 to conduct studies and develop standards and guidelines in the areas of interoperability, digitization of payments, consumer protection, quality of service, big data, security of digital financial service transactions, and telecommunications/ICTs related to digital financial services where such studies, standards and guidelines do not duplicate efforts taking place in other institutions and relate to the mandate of the Union;

3 to encourage collaboration between telecommunication regulators and financial services authorities to develop and implement standards and guidelines, including consumer protection guidance;

4 to encourage the use of innovative digital tools and technologies, as appropriate, to advance financial inclusion,

*instructs the Director of the Telecommunication Standardization Bureau, in collaboration with the Directors of the other Bureaux*

1 to report on progress on the implementation of this resolution annually to the Council, and to the World Telecommunication Standardization Assembly;

2 to support the development of reports and best practices on digital financial inclusion, taking into consideration relevant studies, where clearly within the mandate of the Union and not duplicative of work for which other SDOs and institutions are responsible;

3 to establish a platform or, where possible, connect to those already existing, for peer learning, dialogue and experience-sharing in digital financial services among countries and regions, regulators from telecommunication and financial services sectors, industry experts and international and regional organizations;

4 to organize workshops and seminars for the ITU membership in collaboration with other relevant SDOs, academia and institutions with primary responsibility for financial services standards development, implementation and capacity building, in order to raise awareness and identify regulators' particular needs and challenges in enhancing financial inclusion and in respect of applications of emerging technologies in digital finance, and to share lessons learned from different regions,

*instructs the relevant study groups of the ITU Telecommunication Standardization Sector*

1 to organize the necessary work and studies in order to expand and accelerate the work on digital financial services, starting with their first meeting in the next study period;

2 to coordinate and collaborate with other relevant SDOs and institutions with primary responsibility for financial services standards development, implementation and capacity-building, and with other groups within ITU;

3 to develop technical standards and guidelines that will help developing countries take advantage of emerging technologies related to digital financial services;

4 to develop technical standards and guidance for developing countries to assess the security of their digital financial service infrastructure related to telecommunications,

*invites the Secretary-General*

to continue to cooperate and collaborate with other entities within the United Nations and other relevant entities in formulating future international efforts for effectively addressing financial inclusion,

*invites Member States, Sector Members and Associates*

1 to continue to contribute actively to ITU-T study groups on issues related to use of ICTs to enhance financial inclusion, within the mandate of the Union;

2 to promote the integration of ICT, financial services and consumer-protection policies in order to enhance usage of digital financial services with the objective of increasing financial inclusion,

*invites Member States*

1 to develop and implement national strategies to address financial inclusion as a matter of priority and to leverage ICTs to bring financial services to the unbanked;

2 to include policies for women and girls and vulnerable groups on financial inclusion and security for digital financial services in their national telecommunication/ICT and financial inclusion strategies;

3 to undertake reforms that will leverage ICTs to achieve gender equality within the objectives of this resolution and enhance financial inclusion for women and girls and vulnerable groups;

4 to increase coordination, as appropriate, among national regulatory authorities, in order to remove obstacles preventing non-bank service providers from accessing payment system infrastructures and financial service providers from accessing communications channels, and to foster conditions for affordable and more secure transfer of remittances in both source and recipient countries, including by promoting competitive and transparent market conditions;

5 to contribute to global efforts designed to deal with enhancing the cybersecurity and resiliency of the digital finance ecosystem through adoption of international standards and industry best practices;

6 to share international experiences in the use of the telecommunication/ICT-related unique identifiers and improve national identification systems, noting that such systems can allow people who lack formal education and/or are undocumented to establish a unique digital identity that a financial institution can use;

7 to consider eliminating or reducing regulatory fees and levies relating to the cost of ownership of a mobile connection for the poorest households, thereby ensuring that hard-to-reach populations, such as women and girls and vulnerable groups, have affordable access to mobile connections for the use of financial services;

8 to encourage telecommunication/ICT-related measures to facilitate interoperability of digital financial services.

**MOD****RESOLUTION 91 (Rev. Geneva, 2022)****Enhancing access to an electronic repository of information on numbering plans published by the ITU Telecommunication Standardization Sector***(Hammamet, 2016; Geneva, 2022)*

The World Telecommunication Standardization Assembly (Geneva, 2022),

*considering*

- a) that electronic access to information on certain numbering plans has been implemented by the Telecommunication Standardization Bureau (TSB);
- b) that enhancing electronic access would be advantageous for Member States and international telecommunication operators or operating agencies, to help improve the reliability of telecommunication networks and services they carry and help improve revenue assurance for operators, and may assist in countering misuse of international telecommunication numbering resources,

*noting*

- a) that the ITU Telecommunication Standardization Sector (ITU-T) must play a lead role in the development and maintenance of the electronic repository referred to in this resolution;
- b) that requirements have to be studied and established for populating such an electronic repository;
- c) that Recommendation ITU-T E.129 invites all national regulatory bodies to inform ITU of their national numbering plans (that is, allotted and allocated resources);
- d) the high demand for numbering, naming, addressing and identification (NNAI) resources due to the advent of new and emerging technologies and applications (e.g. Internet of things (IoT), machine-to-machine (M2M) communication and innovative global networks and services);
- e) that reliable information about reserved, assigned and allocated NNAI resources for each country is an important issue for ensuring global telecommunication interconnectivity,

*resolves to instruct Study Group 2 of the ITU Telecommunication Standardization Sector*

to study this matter on the basis of contributions received and information from TSB and to organize the necessary work in order to determine the requirements for electronic access to a repository of numbering resources reserved, assigned or allocated to each operator/service provider (to the extent available) within every country, including presentation of E.164 national numbering plans on the basis of Recommendation ITU-T E.129, and international numbering resources assigned by the Director of TSB,

*instructs the Director of the Telecommunication Standardization Bureau*

1 to provide the necessary assistance for the ITU members by providing details of existing information resources relating to the presentation of national numbering plans and international numbering resources;

2 based on the results of the above-mentioned Study Group 2 studies, to organize and maintain such an electronic repository as described above, within the allocated budget,

*invites Member States, Sector Members, Associates and academia*

to submit, to meetings of Study Group 2 and the Telecommunication Standardization Advisory Group, contributions with a view to the organization of such an electronic repository,

*encourages Member States*

pursuant to the relevant ITU-T Recommendations, to present information on their national numbering plans and amendments thereto in a timely manner, so as to ensure that the electronic repository remains up to date.

**MOD****RESOLUTION 92 (Rev. Geneva, 2022)****Enhancing the standardization activities in the ITU Telecommunication Standardization Sector related to non-radio aspects of international mobile telecommunications***(Hammamet, 2016; Geneva, 2022)*

The World Telecommunication Standardization Assembly (Geneva, 2022),

*considering*

- a)* that International Mobile Telecommunications (IMT) is the root name that encompasses all IMT systems and their further development, including IMT-2000, IMT-Advanced and IMT-2020 and beyond, collectively (see Resolution ITU-R 56 (Rev. Geneva, 2015) of the Radiocommunication Assembly);
- b)* that IMT systems (including IMT-2020 and beyond) have contributed to global economic and social development, and are intended to provide telecommunication services on a worldwide scale, regardless of location, network or terminal used;
- c)* that Recommendation 207 (Rev. Sharm el-Sheikh, 2019) of the World Radiocommunication Conference, on the future development of IMT for 2020 and beyond, is foreseen to enhance, *inter alia*, data rates in comparison with currently deployed IMT systems;
- d)* that there is growing interest in adopting emerging technologies and solutions based on the standards of IMT-based open radio access networks;
- e)* that IMT systems (including IMT-2020 and beyond) are being utilized and will be utilized widely in the near future to build a user-centred information ecosystem, and it will make a positive and important contribution to the United Nations Sustainable Development Goals;
- f)* that the ITU Telecommunication Standardization Sector (ITU-T) is actively continuing its studies on non-radio aspects of standardization for IMT systems (including IMT-2020 and beyond);
- g)* that the development of a roadmap for all standards activities relating to IMT in the ITU Radiocommunication Sector (ITU-R) and ITU-T, in order to independently manage and advance their work on IMT and to coordinate it so as to ensure full alignment and harmonization of the work programmes within a complementary framework, is an efficient means of achieving progress in both Sectors, and that such a roadmap concept facilitates the communication of issues relating to IMT with organizations external to ITU;
- h)* that the ITU-T study groups and ITU-R have had, and continue to have, effective informal coordination via liaison activity with respect to the development of Recommendations relating to IMT for both Sectors;
- i)* that Resolution 43 (Rev. Buenos Aires, 2017) of the World Telecommunication Development Conference (WTDC) acknowledged the continuous need to promote IMT systems (including IMT-2020 and beyond) throughout the world, and in particular in developing countries<sup>1</sup>;
- j)* that the ITU-R Handbook on Global Trends in International Mobile Telecommunications defines IMT and provides general guidance to relevant parties on issues related to the deployment

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<sup>1</sup> These include the least developed countries, small island developing states, landlocked developing countries and countries with economies in transition.



of IMT systems and for the introduction of their IMT-2000 and IMT-Advanced networks, as well as IMT-2020;

*k)* that Study Group 1 of the ITU Telecommunication Development Sector (ITU-D) is involved in activities closely coordinated with ITU-T Study Group 13 and ITU-R Study Group 5 in order to identify the factors influencing the effective development of broadband, including IMT systems (including IMT-2020 and beyond), for developing countries<sup>1</sup>;

*l)* that IMT systems (including IMT-2020 and beyond) are now being evolved to provide diverse usage scenarios and applications such as enhanced mobile broadband, massive machine-type communications and ultra-reliable and low-latency communications, and a substantial number of countries have started implementing these;

*m)* that some ITU-T study groups are conducting work and developing Recommendations related to non-radio aspects of IMT-2020 under the lead of Study Group 13;

*n)* that Study Group 13 has taken a lead role on non-radio aspects of IMT-2020 project management coordination across all ITU-T study groups and progressed the study of network aspects of IMT-2020, which includes studies on network requirements and functional architecture; network softwarization including software-defined networking, network slicing and orchestration; fixed-mobile convergence; and emerging network technologies for IMT-2020;

*o)* that Study Group 13 established the Joint Coordination Activity for IMT-2020 and beyond (JCA IMT-2020) to coordinate ITU-T's IMT-2020 standardization work with focus on non-radio aspects within ITU-T and to coordinate communication with standards development organizations (SDOs), consortia and forums also working on IMT-2020-related standards;

*p)* that JCA IMT-2020 is maintaining a roadmap for IMT-2020 standardization which addresses ongoing and published specifications from ITU, other relevant standards development organizations (SDOs), consortia and forums;

*q)* that the Focus Group on IMT-2020 (FG IMT-2020) concluded its activities and reported to its parent study group, Study Group 13, on high level network architecture, network softwarization, end-to-end QoS, mobile fronthaul/backhaul and emerging new technologies;

*r)* that Study Group 13 established the Focus Group on Machine Learning for Future Networks including 5G (FG-ML5G) to conduct an analysis of machine learning for future networks in order to identify relevant gaps and issues in standardization activities related to this topic;

*s)* that ITU-T Study Group 11 progressed the study of signalling and control protocol aspects of IMT-2020, which includes studies on protocols supporting control and management technologies, signalling requirements and protocols for network attachment including mobility and resource management, protocols supporting distributed content networking and information-centric networking (ICN), and protocol testing;

*t)* that ITU-T Study Group 17 has continued addressing threats and vulnerabilities, which affect efforts to build confidence and security in the use of IMT-2020 systems; this includes studies on security and trust frameworks, guidelines and capabilities for IMT-2020 networks and edge computing,

*noting*

*a)* Resolution 18 (Rev. Geneva, 2022) of this assembly, on principles and procedures for the allocation of work to, and coordination between, ITU-R and ITU-T;

*b)* Resolution 59 (Rev. Buenos Aires, 2017) of WTDC, on strengthening coordination and cooperation among the three ITU Sectors on matters of mutual interest,

*resolves to invite the Telecommunication Standardization Advisory Group*

- 1 to facilitate coordination of the standardization activities related to the non-radio side of IMT systems (including IMT-2020 and beyond) among all relevant study groups, focus groups, joint coordination activities, etc.;
- 2 to strengthen and accelerate activities related to the development and deployment of IMT systems based on standards for open and interoperable network technologies and solutions, such as non-radio aspects of IMT systems for access networks, particularly recognizing challenges in developing countries;
- 3 to ensure collaboration among relevant ITU-T study groups and with relevant SDOs and forums and consortia for open and interoperable network technologies and solutions, including non-radio aspects of IMT systems for access networks;
- 4 to encourage, in cooperation with Study Group 13 and other relevant study groups, collaboration with other standards development organizations (SDOs) on a wide range of issues associated with the non-radio aspects of IMT systems,

*instructs study groups of the ITU Telecommunication Standardization Sector*

- 1 to strengthen the collaboration and coordination on IMT systems (including IMT-2020 and beyond) standardization activities with other relevant standards organizations, in order to ensure a productive and practical standard solution for the global ICT industry;
- 2 to promote efficient and effective standardization work on the non-radio aspects of IMT systems, including IMT-2020 and beyond, as well as applications of relevant network technologies;
- 3 to promote ITU-T standardization work on the requirements of developing countries related to IMT in general and IMT-2020 in particular;
- 4 to be responsible for the development and annual reporting of ITU-T's standards strategy on IMT,

*instructs ITU-T Study Group 3*

to consider the ITU-T studies related to, *inter alia*, regulatory and economic questions relevant to IMT systems including IMT-2020 and beyond within their mandate,

*instructs Study Group 5*

to pursue promoting the studies on standardization activities related to IMT environmental requirements, including energy efficiency,

*instructs Study Group 11*

to continue promoting the studies on standardization activities related to the non-radio aspects of IMT signalling requirements, protocols and testing frameworks, specifications, methodologies, capabilities, and interoperability for IMT systems (including IMT-2020 and beyond),

*instructs ITU-T Study Group 12*

to continue promoting the studies on standardization activities of service, QoS and quality of experience (QoE) related to the non-radio aspects of IMT systems (including IMT-2020 and beyond),

*instructs Study Group 13*

- 1 to maintain the roadmap of, and continue promoting, IMT standardization activities in ITU-T, which should include work items to progress standardization work related to the non-radio aspects of IMT systems (including IMT-2020 and beyond), and share this with relevant groups of

ITU-R and ITU-D and external organizations, such as through coordination work ensured by JCA IMT-2020;

2 to maintain and update on an annual basis the supplement to the ITU-T Recommendation containing the current version of the IMT-2020 standardization roadmap;

3 to continue promoting the studies on non-radio aspects of IMT system (including IMT-2020 and beyond) network requirements and architecture, including network softwarization (e.g. non-radio aspects of Cloud RAN, multi-access edge computing, etc.), network slicing, network capability openness including open network interconnection and exposure, network management and orchestration, terrestrial (e.g. fixed-mobile) and non-terrestrial (e.g. satellite) convergence, emerging network technology, and the use of machine learning;

4 to promote JCA IMT-2020 and beyond and to continue coordinating the standardization activities of IMT systems (including IMT-2020 and beyond) among all relevant study groups, focus groups and other SDOs,

*instructs Study Group 15*

to continue promoting the studies on non-radio aspects of IMT's transport network (e.g. fronthaul and backhaul) standardization activities, including network requirements, architecture, function and performance, characteristics, enabling technologies, management and control, synchronization, etc., for IMT systems (including IMT-2020 and beyond),

*instructs Study Group 17*

1 to continue promoting the studies on standardization activities related to network and applications security for IMT-2020 and beyond;

2 to promote coordination and collaboration with ITU-R and other SDOs, such as 3GPP SA3, on security aspects of IMT-2020 and beyond in the course of development of the relevant specifications or ITU-T Recommendations,

*instructs the Director of the Telecommunication Standardization Bureau*

1 to bring this resolution to the attention of the Directors of the Radiocommunication Bureau and the Telecommunication Development Bureau;

2 to continue conducting seminars and workshops on non-radio aspects of IMT the standard strategic, technical solutions and network applications, taking into account specific national and regional requirements,

*encourages the Directors of the three Bureaux*

1 to investigate new ways to improve the efficiency of ITU work on IMT, and to examine the possibility to establish an observatory for IMT-2020 and beyond, including appropriate guidelines if needed, taking into account budgetary considerations;

2 to promote the studies on standardization activities related to regulatory and economic questions relevant to accommodating non-radio aspects of IMT-2020 systems and beyond use cases, and to encouraging and supporting market growth, innovation, collaboration and ICT infrastructure investment;

3 to develop guidance on the economic drivers for IMT-2020 deployment,

*invites Member States, Sector Members, Associates and Academia*

1 to participate actively in the standardization activities of ITU-T on developing Recommendations on non-radio aspects of IMT systems (including IMT-2020 and beyond);

2 to share non-radio standards strategy, network evolution experience and application cases of IMT systems (including IMT-2020 and beyond) in relevant seminars and workshop events.

**MOD****RESOLUTION 95 (Rev. Geneva, 2022)****ITU Telecommunication Standardization Sector initiatives to raise awareness on best practices and policies related to service quality***(Hammamet, 2016; Geneva, 2022)*

The World Telecommunication Standardization Assembly (Geneva, 2022),

*considering*

- a) that, in accordance with No. 13 in Article 1 of the ITU Constitution, the Union shall in particular "facilitate the worldwide standardization of telecommunications, with a satisfactory quality of service";
- b) the provisions of the Constitution and the ITU Convention relating to strategic policies and plans;
- c) the strategic plan for the Union for 2020-2023, approved in Resolution 71 (Rev. Dubai, 2018) of the Plenipotentiary Conference;
- d) that one of the strategic goals under the strategic plan is to bridge the standardization gap for an inclusive information society and enable the provision of broadband access for all, leaving no one offline,

*recalling*

- a) that Resolution 200 (Rev. Dubai, 2018) of the Plenipotentiary Conference defines, among the Connect 2020 global telecommunication/information and communication technology (ICT) goals and targets, Goal 2: Inclusiveness – Bridge the digital divide and provide broadband for all;
- b) that Resolution 196 (Rev. Dubai, 2018) of the Plenipotentiary Conference instructs the Director of the Telecommunication Development Bureau to bring to the attention of decision-makers and national regulatory authorities the importance of keeping users/consumers informed about the quality of the different services offered by operators, and of other protection mechanisms promoting user/consumer rights;
- c) that Resolution 196 (Rev. Dubai, 2018) invites Member States, Sector Members and Associates to make contributions that allow the dissemination of best practices and policies related to service quality;
- d) that Resolution 196 (Rev. Dubai, 2018) invites the Member States to promote policies that foster the provision of telecommunication/ICT services in a manner that delivers suitable quality to the users/consumers of telecommunication/ICT services, based, *inter alia*, on Recommendations of the ITU Telecommunication Standardization Sector (ITU-T);
- e) that Resolution 131 (Rev. Dubai, 2018) of the Plenipotentiary Conference resolves that ITU should strengthen its coordination with other relevant international organizations involved in the collection of telecommunication/ICT-related statistical data, and establish a standardized set of indicators through the Partnership on Measuring ICT for Development, improving the quality, comparability, availability and reliability of telecommunication/ICT data and indicators and fostering the development of strategies and national, regional and international public policy in the area of telecommunications/ICTs,

*recognizing*

- a) that the transparent and collaborative collection and dissemination of quality indicators and statistics that measure and provide comparative analyses of advancements in the use and adoption of ICTs continue to be a major factor for supporting socio-economic growth;
- b) that quality indicators and their analysis provide governments and stakeholders with a mechanism to better understand key drivers of telecommunication/ICT adoption and assist in ongoing national policy formulation;
- c) that broadband plays a fundamental role in fulfilling the United Nations Sustainable Development Goals and so information gathering and mapping is critical for developing and making informed decisions, and empowering users,

*taking into account*

- a) Resolution 101 (Rev. Dubai, 2018) of the Plenipotentiary Conference, on Internet protocol (IP)-based networks;
- b) the Dubai Declaration under the theme "Broadband for sustainable development", adopted by the World Telecommunication Development Conference in 2014;
- c) Resolution 140 (Rev. Dubai, 2018) of the Plenipotentiary Conference, on ITU's role in implementing the outcomes of the World Summit on the Information Society and the 2030 Agenda for Sustainable Development,

*noting*

- a) that ITU-T Study Group 12 is the lead study group on quality of service (QoS) and quality of experience (QoE), assigned with the task of coordinating QoS and QoE activities within ITU-T and with other standards development organizations (SDOs) and forums, and developing frameworks to improve collaboration;
- b) that Study Group 12 is the parent group for the QoS Development Group (QSDG),

*acknowledging*

- a) the relevant work being conducted by QSDG on operational and regulatory discussions on QoS and QoE, and its important role in fostering collaboration between operators, technical solutions suppliers and regulators in an open debate on new strategies to deliver better quality of services to users;
- b) the continuing work on the impact of counterfeit and substandard telecommunication/ICT devices on QoS and QoE, and the ongoing cooperation between study groups on the subject,

*resolves that the ITU Telecommunication Standardization Sector*

- 1 continue to develop the necessary Recommendations on performance, QoS and QoE, in particular for broadband networks and services;
- 2 in close collaboration with the ITU Telecommunication Development Sector (ITU-D), develop initiatives to raise awareness of the importance of keeping users informed about the quality of the services offered by operators;
- 3 in close collaboration with ITU-D and the ITU regional offices, provide references that assist developing<sup>1</sup> and least developed countries in establishing a national quality measurement framework suitable to perform QoS and QoE measurement;

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<sup>1</sup> These include the least developed countries, small island developing states, landlocked developing countries and countries with economies in transition.

4 organize workshops, training programmes and further initiatives to promote wider participation of regulators, operators and suppliers in the international debate on service quality and raise awareness of the importance of QoS and QoE measurement,

*instructs the Director of the Telecommunication Standardization Bureau*

in order to implement *resolves* 2 and 4 above, to continue to support the activities of QSDG for open operational and regulatory discussions among regulators, operators and suppliers about new strategies to deliver better QoS and QoE to users,

*instructs the Director of the Telecommunication Standardization Bureau, in close collaboration with the Director of the Telecommunication Development Bureau*

1 to assist developing and least developed countries in identifying human and institutional capacity-building opportunities for establishing national quality measurement frameworks;

2 to conduct activities in each region in order to identify and prioritize the problems faced by developing and least developed countries related to the provision of acceptable service quality to users;

3 based on results of *instructs* 2 above, to assist developing and least developed countries in elaborating and implementing actions to improve service quality and keep users informed,

*instructs study groups of the ITU Telecommunication Standardization Sector, according to their mandate*

1 to elaborate Recommendations providing guidance to regulators in regard to defining strategies and testing methodologies to monitor and measure QoS and QoE, in particular for broadband networks and services;

2 to study QoS and QoE evaluation scenarios, measurement strategies, mapping, visualization and testing tools, and publication mechanisms, to be adopted by regulators and operators;

3 to study and provide guidance to regulators in regard to sampling methodologies for QoS measurements at a local, national and global level;

4 to provide references relating to minimal satisfactory key performance and key quality indicators for evaluating the quality of services;

5 to implement strategies to raise participation of developing and developed countries from all regions in all their activities,

*invites the membership*

1 to collaborate with ITU-T in implementing this resolution;

2 to participate in ITU-T Study Group 12 and QSDG initiatives by providing contributions, expertise, knowledge and practical experiences relating to the work of Study Group 12.

**MOD****RESOLUTION 97 (Rev. Geneva, 2022)****Combating mobile telecommunication device theft***(Hammamet, 2016; Geneva, 2022)*

The World Telecommunication Standardization Assembly (Geneva, 2022),

*recalling*

- a)* Resolution 196 (Rev. Dubai, 2018) of the Plenipotentiary Conference, on protecting telecommunication service users/consumers;
- b)* Resolution 189 (Rev. Dubai, 2018) of the Plenipotentiary Conference, on assisting Member States to combat and deter mobile device theft;
- c)* Resolution 188 (Rev. Dubai, 2018) of the Plenipotentiary Conference, on combating counterfeit telecommunication/information and communication technology (ICT) devices;
- d)* Resolution 174 (Rev. Busan, 2014) of the Plenipotentiary Conference, on ITU's role with regard to international public policy issues relating to the risk of illicit use of ICTs;
- e)* Resolution 79 (Rev. Buenos Aires, 2017) of the World Telecommunication Development Conference (WTDC), on the role of telecommunications/ICTs in combating and dealing with counterfeit telecommunication/ICT devices;
- f)* Resolution 64 (Rev. Buenos Aires, 2017) of WTDC, on protecting and supporting users/consumers of telecommunication/ICT services,

*recognizing*

- a)* that governments and industry have implemented actions to deter and combat mobile device theft;
- b)* that the theft of user-owned mobile devices may lead to the criminal use of telecommunication/ICT services and applications, resulting in economic losses for the lawful owner and user;
- c)* that measures to combat mobile device theft adopted by some countries rely on unique device identifiers, such as International Mobile Equipment Identity, and therefore tampering with (changing without authorization) unique identifiers can diminish the effectiveness of these solutions;
- d)* that some solutions to combat counterfeit telecommunication/ICT devices can also be used to combat the use of stolen telecommunication/ICT devices, in particular those devices whose unique identifiers have been tampered with for the purpose of re-introducing them to the market;
- e)* that studies on combating counterfeiting, including of telecommunication/ICT devices, and the systems adopted on the basis on those studies, can facilitate the detection and blocking of devices and prevention of their further use,

*considering*

that technological innovation driven by ICTs has significantly modified the ways in which people access telecommunications,

*aware*

- a) of the related ongoing work in ITU Telecommunication Standardization Sector (ITU-T) Study Group 11 on combating counterfeit and mobile device theft;
- b) of the related work ongoing in ITU-T Study Group 17 on security;
- c) of the related work ongoing in ITU-T study groups on applying emerging technologies for distributed information sharing solutions,

*resolves*

- 1 that ITU-T should explore all applicable solutions and develop ITU-T Recommendations to combat and deter mobile device theft and its negative effects, offering all interested parties a forum for encouraging discussion, member cooperation, the exchange of best practices and guidelines and the dissemination of information on combating mobile device theft;
- 2 that ITU-T should, in collaboration with the relevant standards organizations, develop solutions to address the problem of replication of unique identifiers;
- 3 that ITU-T Study Group 11 should be the lead study group at ITU-T on activities relating to combating mobile telecommunication device theft,

*instructs the Director of the Telecommunication Standardization Bureau, in collaboration with the Directors of the Radiocommunication Bureau and Telecommunication Development Bureau*

- 1 to compile and share information on best practices developed by industry or governments and promising trends in combating mobile device theft especially from regions where the rate of mobile phone theft has fallen, including statistics on their effectiveness;
- 2 to facilitate, in collaboration with industry organizations and standards development organizations (SDOs), the standardization and dissemination of Recommendations, technical reports and guidelines to combat mobile device theft and its negative effects, specifically regarding the exchange of identifiers of mobile devices reported stolen or lost, and to prevent lost or stolen mobile devices from accessing mobile networks;
- 3 to consult with the Sector's relevant study groups, manufacturers of mobile devices, manufacturers of telecommunication network components, operators, telecommunication SDOs as well as developers of promising technologies related to these matters, in order to identify existing and future technological measures, both software and hardware, to mitigate the consequences of the use of stolen mobile devices;
- 4 to provide assistance, within ITU-T's expertise and within available resources, as appropriate, in cooperation with relevant organizations, to Member States, if so requested, in order to reduce mobile device theft and the use of stolen mobile devices in their countries;
- 5 to share information and experiences on how to control tampering (unauthorized changing) of unique mobile telecommunication/ICT device identifiers and prevent tampered devices from accessing mobile networks,

*instructs Study Groups 11 and 17 of the ITU Telecommunication Standardization Sector, within their mandates and in collaboration with other interested study groups*

- 1 to develop Recommendations, technical reports and guidelines to address the problem of mobile telecommunication device theft and its negative effects;
- 2 to study any possible solutions to combat the use of stolen mobile telecommunication devices with tampered (changed without authorization) identities and to prevent them from accessing the mobile network;



- 3 to study any technologies that can be used as a tool for combating mobile telecommunication device theft;
- 4 to draw up a list of identifiers used in mobile telecommunication/ICT devices,  
*invites Member States and Sector Members*
- 1 to take all necessary measures, including raising awareness, in order to combat mobile telecommunication device theft and its negative effects;
- 2 to cooperate and share expertise in this area;
- 3 to participate actively in ITU studies relating to the implementation of this resolution by submitting contributions;
- 4 to take the necessary actions to prevent or discover and control tampering (unauthorized changing) of unique mobile telecommunication/ICT device identifiers and prevent tampered devices from accessing mobile networks.

**MOD****RESOLUTION 98 (Rev. Geneva, 2022)****Enhancing the standardization of Internet of things and smart cities and communities for global development***(Hammamet, 2016; Geneva, 2022)*

The World Telecommunication Standardization Assembly (Geneva, 2022),

*recalling*

- a)* Resolution 197 (Rev. Dubai, 2018) of the Plenipotentiary Conference, on promoting the development of the Internet of things (IoT) and smart sustainable cities and communities (SC&C);
- b)* Resolution 66 (Rev. Sharm el-Sheikh, 2019) of the Radiocommunication Assembly, on studies related to wireless systems and applications for the development of IoT;
- c)* Resolution 85 (Rev. Buenos Aires, 2017) of the World Telecommunication Development Conference, on facilitating IoT and SC&C for global development;
- d)* the Global Pulse initiative launched by the United Nations Secretary-General to promote opportunities to use big data for sustainable development and humanitarian action;
- e)* the objectives of the ITU Telecommunication Standardization Sector (ITU-T) in Resolution 71 (Rev. Dubai, 2018) of the Plenipotentiary Conference, and in particular Objective T.5, which mandates ITU-T to extend and facilitate cooperation with international, regional and national standardization bodies;
- f)* Recommendation ITU-T Y.4000/Y.2060, on overview of IoT, which defines IoT as "a global infrastructure for the information society, enabling advanced services by interconnecting (physical and virtual) things based on existing and evolving interoperable information and communication technologies";
- g)* Recommendation ITU-T Y.4702, on common requirements and capabilities of device management in IoT, which establishes common requirements and capabilities of device management in IoT for different application scenarios,

*considering*

- a)* that it is expected that the development of IoT technologies will make it possible to connect billions of devices to the network, impacting almost all aspects of daily life;
- b)* the importance of IoT in contributing to achievement of the 2030 Agenda for Sustainable Development, in particular recalling Sustainable Development Goal 11 (SDG 11) (Make cities and human settlements inclusive, safe, resilient and sustainable);
- c)* that various industrial sectors, such as energy, transportation, health and agriculture, are collaborating for the development of IoT and SC&C applications and services across verticals;
- d)* that IoT and SC&C can be key enablers for the information society and offer the opportunity to transform the urban infrastructure, taking advantage, among other things, of the efficiencies of smart buildings and transport systems, and smart water management, working together with services for the benefit of users;
- e)* that SC&C can use IoT to discover and respond to regional and/or global crises such as natural disasters and epidemics/pandemics;

- f) that research and development in IoT can help to improve global development, delivery of basic services and monitoring and evaluation programmes in different sectors;
- g) that IoT involves various stakeholders and areas, which may require coordination and cooperation;
- h) that IoT has evolved into a wide variety of applications with different aims and requirements, as a result of which it is necessary to work in coordination with other international standardization bodies and other related organizations in order to integrate better standardization frameworks;
- i) that technical standards as well as public-private partnerships should reduce the time and cost for implementing IoT with benefits in terms of economies of scale;
- j) that ITU-T should play a leading role in the development of IoT-related and SC&C-related standards;
- k) the importance of collaboratively assessing and standardizing IoT and SC&C data interoperability;
- l) that IoT and SC&C may have an impact in many areas, which may require further cooperation between national, regional and international entities concerned on relevant aspects in order to maximize the benefits of IoT;
- m) that in IoT and SC&C environments, connected devices and applications represent a diverse range of ecosystems;
- n) that security aspects are a key component in the development of a reliable and secure IoT ecosystem,

*recognizing*

- a) that industry forums, standards development organizations (SDOs) and partnership projects are developing technical specifications for IoT;
- b) the role of the ITU Radiocommunication Sector (ITU-R) in conducting studies on the technical and operational aspects of radio networks and systems for IoT;
- c) the role of the ITU Telecommunication Development Sector (ITU-D) in encouraging telecommunication/information and communication technology (ICT) development at the global level, and in particular the relevant work carried out by ITU-D study groups;
- d) that the purpose of the Joint Coordination Activity on Internet of things and smart cities and communities (JCA-IoT and SC&C), under the leadership of ITU-T Study Group 20, is to coordinate the work on IoT and SC&C within ITU, and to seek cooperation from external bodies working in the field of IoT and SC&C;
- e) that much progress has been made in efforts to develop collaboration between ITU-T and other organizations, such as, but not limited to, active participation in different committees and working groups of Joint Technical Committee 1 of the International Organization for Standardization and the International Electrotechnical Commission (ISO/IEC JTC 1) and of the European Telecommunications Standards Institute (ETSI), and there has also been collaboration with forums such as oneM2M, Alliance for Internet of Things Innovation and LoRa Alliance, and collaboration on intelligent transport system (ITS) communication standards;
- f) that Study Group 20 is responsible for studies and standardization work relating to IoT and its applications, including SC&C;
- g) that Study Group 20 is also a platform where the ITU-T membership, including Member States, Sector Members, Associates and Academia, can come together to exert an impact on the drafting of international standards for IoT and their implementation;

*h)* that the United for Smart Sustainable Cities (U4SSC) is a United Nations initiative coordinated by ITU, the United Nations Economic Commission for Europe (UNECE) and the United Nations Human Settlements Programme (UN-Habitat) to achieve SDG 11;

*i)* that U4SSC is supporting cities to leverage the full potential of ICT in sustainable development,

*resolves to instruct Study Group 20 of the ITU Telecommunication Standardization Sector*

1 to develop ITU-T Recommendations aimed at implementing IoT and SC&C, including, but not limited to, on issues related to emerging technologies and vertical industries;

2 to continue, within its mandate, to work with a special focus on the design of a roadmap and harmonized and coordinated international telecommunication standards for the development of IoT, taking into account the needs of each region and Member States, as well as the wide variety of use cases and applications, and the need for IoT to be open and adaptable, and fostering a competitive environment;

3 to collaborate with IoT-related standards organizations and other stakeholders such as industry forums and associations, consortia and SDOs, as well as other relevant ITU-T study groups, taking into account relevant work;

4 to collate, evaluate, assess and share IoT use cases from the interoperability and standardization standpoints for data and information exchange,

*instructs the Director of the Telecommunication Standardization Bureau*

1 to provide necessary assistance in order to take advantage of every opportunity, within the assigned budget, to promote quality standardization work in a timely manner, and to communicate with telecommunication and ICT industries in order to promote their participation in ITU-T's standardization activities on IoT and SC&C;

2 to carry out, in collaboration with Member States and cities, pilot projects in cities related to SC&C key performance indicator (KPI) assessment activities, aimed at facilitating the deployment and implementation of IoT and SC&C standards worldwide;

3 to continue to support U4SSC, and share its deliverables with Study Group 20 and other study groups concerned;

4 to promote and encourage the implementation of U4SSC KPIs as a standard for smart sustainable cities' self-assessment in collaboration with Member States;

5 to continue encouraging cooperation with other international SDOs, industry forums, other related organizations, and global projects and initiatives, in order to increase the development of international telecommunication standards and reports that facilitate the interoperability of IoT services,

*instructs the Director of the Telecommunication Standardization Bureau, in collaboration with the Directors of the Telecommunication Development Bureau and the Radiocommunication Bureau*

1 to prepare reports considering, in particular, the needs of developing countries<sup>1</sup> in terms of the study of IoT and its applications, sensor networks, services and infrastructure, taking into account the results of work being done in ITU-R and ITU-D to ensure coordination of efforts;

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<sup>1</sup> These include the least developed countries, small island developing states, landlocked developing countries and countries with economies in transition.

- 2 to provide support to Member States to implement U4SSC KPIs for smart sustainable cities;
- 3 to foster joint work among ITU Sectors to discuss the various aspects related to the development of the IoT ecosystem and solutions for SC&C, in the context of the achievement of the SDGs and within the framework of the World Summit on the Information Society;
- 4 to continue disseminating ITU publications on IoT and SC&C, as well as organizing forums, seminars and workshops on the subject, taking into account the needs of developing countries, in particular;
- 5 to support Member States, especially developing countries, in the organization of forums, seminars and workshops on IoT and SC&C to promote innovation, development and growth in IoT technologies and solutions;
- 6 to report to the next world telecommunication standardization assembly on progress made in the organization of forums, seminars and workshops dedicated to developing the capacity of developing countries;
- 7 to assist developing countries in the implementation of recommendations, technical reports and guidelines related to IoT and SC&C,

*invites the ITU Telecommunication Standardization Sector membership*

- 1 to submit contributions and continue participating actively in the work of Study Group 20 and in the studies on IoT and SC&C being conducted by ITU-T;
- 2 to develop master plans and exchange use cases and best practices in order to promote the IoT ecosystem, as well as SC&Cs, and to promote social development and economic growth in order to achieve the SDGs;
- 3 to cooperate and exchange experiences and knowledge related to this topic;
- 4 to support and organize forums, seminars and workshops on IoT in order to promote innovation, development and growth in IoT technologies and solutions;
- 5 to take necessary measures to facilitate the growth of IoT in relation to areas such as the establishment of standards.

**ADD**

**DRAFT NEW RESOLUTION [COM4/1]**

**Consideration of organizational reform of the ITU  
Telecommunication Standardization Sector study groups**

*(Geneva, 2022)*

The World Telecommunication Standardization Assembly (Geneva, 2022),

*recalling*

- a) No. 105 of the ITU Constitution and No. 197 of the ITU Convention;
- b) Resolution 151 (Rev. Dubai, 2018) of the Plenipotentiary Conference, on improvement of results-based management in ITU,

*considering*

- a) the provisions of the Constitution and Convention related to strategic goals and objectives of the Union;
- b) the strategic objectives and goals of the ITU Telecommunication Standardization Sector (ITU-T) and their implementation criteria, set out in Annex 1 to Resolution 71 (Rev. Dubai, 2018) of the Plenipotentiary Conference;
- c) Resolution 122 (Rev. Guadalajara, 2010) of the Plenipotentiary Conference, on the evolving role of the World Telecommunication Standardization Assembly (WTSA);
- d) Resolution 2 (Rev. Geneva, 2022) of this assembly, on ITU-T study group responsibilities and mandates;
- e) § 44 of the Declaration of Principles of the World Summit on the Information Society (WSIS), emphasizing that standardization is one of the essential building blocks of the information society,

*recognizing*

- a) that, since the standardization landscape has changed significantly, ITU-T should consider if and how to adapt to the rapidly changing circumstances in line with the expectations of public and private-sector participants through, among other aspects, a review of the study group structure and a thorough analysis of the organizational reform of ITU-T study groups;
- b) that reaching a re-engineered ITU-T study group structure requires that it be a consequence and the result of a clear and a thorough analysis that will allow mandates to address the evolution of telecommunications/information and communication technologies (ICTs);
- c) that a re-engineered ITU-T study group structure needs to increase the efficiency of collaboration within ITU and with other organizations,

*noting*

the discussions in the Telecommunication Standardization Advisory Group (TSAG) meetings that have resulted in the action plan proposed to this assembly by TSAG entitled “Draft action plan for the analysis of ITU-T study group restructuring”,

*resolves*

- 1 to implement the action plan for the analysis of ITU-T study group restructuring that was produced by TSAG;

2 that TSAG has the responsibility to manage the analysis of ITU-T study group restructuring based upon contributions to TSAG from Member States and ITU-T Sector Members;

3 that the output of the possible reform and review is guidance for the next WTSA and its implementation is not mandatory,

*instructs the Telecommunication Standardization Advisory Group*

1 to undertake, monitor and guide the work through a rapporteur group or other appropriate group, and make a progress report on the analysis at each TSAG meeting;

2 to provide a progress report on the analysis to the study groups after each TSAG meeting;

3 to submit a report with recommendations for consideration by the next WTSA,

*instructs study groups*

1 to consider the progress reports from TSAG;

2 to review and share feedback, as appropriate, on the progress reports to TSAG,

*instructs the Director of the Telecommunication Standardization Bureau*

to provide the necessary assistance to TSAG in the implementation of this resolution,

*invites ITU Member States and Sector Members*

to participate in and contribute to the implementation of this resolution.

**ADD**

**DRAFT NEW RESOLUTION [COM4/2]**

**A common emergency number for Africa**

*(Geneva, 2022)*

The World Telecommunication Standardization Assembly (Geneva, 2022),

*recalling*

- a) that Resolution 136 (Rev. Dubai, 2018) of the Plenipotentiary Conference states under *encourages Member States 7*: “to explore the possibility of introducing a globally harmonized emergency number to supplement existing domestic emergency numbers, taking into account the relevant ITU-T recommendations”;
- b) that Recommendation ITU-T E.161.1 provides that a Member State that is planning to introduce an emergency number could use either 112 or 911; and that a Member State that is planning to introduce a second alternative emergency number could use either 112 or 911, or both, which should be routed to the existing emergency number;
- c) Resolution 34 (Rev. Buenos Aires, 2017) of the World Telecommunication Development Conference states, under *invites 10*, Member States to consider introducing, in addition to their existing emergency numbers, a harmonized national/regional number for access to emergency services taking into account the relevant ITU-T Recommendations,

*considering*

- a) that not all Member States in Africa are using 112 as the single emergency number selected for the first time;
- b) that not all Member States in Africa are using 911 as a secondary alternative emergency number;
- c) that there appears to be a trend to use numbers other than 112 and/or 911 for emergency communication by Member States in Africa;
- d) that such practices have an unfavourable effect on ease of access to emergency services for the citizens of the African continent who move from one country to another;
- e) that such practices have an unfavourable effect on ease of access to emergency services for the citizens from other parts of the world, since the numbers being used to access emergency services are not similar to what they are used to, i.e. 112 or 911;
- f) that some Member States in Africa have not implemented Recommendation ITU-T E.161.1,

*noting*

- a) relevant ITU-T Recommendations, in particular:
  - i) Recommendation ITU-T E.161.1: Guidelines to select Emergency Number for public telecommunications networks;
  - ii) Recommendation ITU-T E.161.1 Amendment 1: Guidelines to select Emergency Number for public telecommunications networks;
  - iii) Recommendation ITU-T E.101: Definitions of terms used for identifiers (names, numbers, addresses and other identifiers) for public telecommunication services and networks in the ITU-T E-series Recommendations;



- iv) ITU-T Q-series Recommendations – Supplement 47: Emergency services for IMT-2000 networks – Requirements for harmonization and convergence;
  - v) Recommendation ITU-T E.164 – Supplement 6: Guidelines for identifying and selecting globally harmonized numbers;
  - b) relevant resolutions:
    - i) Resolution 136 (Rev. Dubai, 2018) of the Plenipotentiary Conference, on the use of telecommunications/information and communication technologies for humanitarian assistance and for monitoring and management in emergency and disaster situations, including health-related emergencies, for early warning, prevention, mitigation and relief, in particular encourages Member States 7;
    - ii) Resolution 2 (Dubai, 2012) of the World Conference on International Telecommunications, on globally harmonized national number for access to emergency services,
- noting further*
- a) that some countries and regions have adopted national laws, directives and recommendations regarding the use of emergency numbers;
  - b) that some mobile devices have been hard coded with either 112 and/or 911;
  - c) that there is no provision for the Telecommunication Standardization Bureau (TSB) to provide assistance to countries trying to implement Recommendation ITU-T E.161.1;
  - d) that there is no provision for TSB to provide technical assistance to countries trying to set up emergency numbers,

*reaffirming*

that it is the sovereign right of each country to regulate its telecommunications and, as such, regulate the provision of emergency services,

*resolves to instruct the Director of Telecommunication Standardization Bureau in cooperation with the Director of the Telecommunications Development Bureau*

- 1 to provide technical assistance to Member States in Africa in the implementation of a common emergency number in line with Recommendation ITU-T E.161.1;
- 2 to report to the World Telecommunication Standardization Assembly on the progress achieved in implementing this resolution, which is intended to improve access to emergency services,

*invites Member States particularly in the Africa region*

to implement the provisions of Recommendation ITU-T E.161.1; in particular, to consider whether 112 or 911 should be used as a single primary emergency number, or 112 and 911 should be used as secondary alternative emergency numbers.

**MOD****Recommendation ITU-T A.5****Generic procedures for including references to documents of other organizations in ITU-T Recommendations****Summary**

Recommendation ITU-T A.5 provides generic procedures for normatively referencing documents of other organizations in ITU-T Recommendations.

**1 Scope**

This Recommendation provides generic procedures for normatively referencing the documents of other organizations in ITU-T Recommendations. Annex B provides the criteria to qualify a referenced organization. Clauses 6 and 7 describe the procedures in detail. Annex A provides the format for documenting a study group or working party decision with respect to making the reference. Specific information regarding qualified organizations can be found on the ITU-T website.

NOTE – These generic procedures do not apply to references to standards produced by ISO and IEC. The long-standing ability to make such references continues unchanged.

The case of ITU-T accepting texts, in part or in whole, from another organization is addressed in [ITU-T A.25].

**2 References**

The following ITU-T Recommendations and other references contain provisions which, through reference in this text, constitute provisions of this Recommendation. At the time of publication, the editions indicated were valid. All Recommendations and other references are subject to revision; users of this Recommendation are therefore encouraged to investigate the possibility of applying the most recent edition of the Recommendations and other references listed below. A list of the currently valid ITU-T Recommendations is regularly published. The reference to a document within this Recommendation does not give it, as a stand-alone document, the status of a Recommendation.

[ITU-T A.1] Recommendation ITU-T A.1 (2019), *Working methods for study groups of the ITU Telecommunication Standardization Sector (ITU-T)*.

[ITU-T A.25] Recommendation ITU-T A.25 (2019), *Generic procedures for incorporating text between ITU-T and other organizations*.

**3 Definitions****3.1 Terms defined elsewhere**

This Recommendation uses the following terms defined elsewhere:

**3.1.1 normative reference** [ITU-T A.1]: The whole or parts of another document where the referenced document contains provisions which, through reference to it, constitute provisions to the referring document.

**3.2 Terms defined in this Recommendation**

This Recommendation defines the following terms:

**3.2.1 approved document:** An official output (such as a standard, a specification, an implementation agreement, etc.) which has been formally approved by an organization.

**3.2.2 non-normative reference:** The whole or parts of a document where the referenced document has been used as supplementary information in the preparation of the Recommendation or to assist the understanding or use of the Recommendation, and to which conformance is not necessary.

**3.2.3 referenced organization:** An organization for which an ITU-T study group identifies the need to make a specific reference (either normative or non-normative) to one of its documents.

## 4 Abbreviations and acronyms

This Recommendation uses the following abbreviations and acronyms:

AAP Alternative Approval Process

TAP Traditional Approval Process

## 5 Conventions

None.

## 6 Generic procedures for including references to documents of other organizations in ITU-T Recommendations

**6.1** An ITU-T study group or a member of a study group may identify the need to make a specific reference (either normative or non-normative) to a document from another organization within a specific draft Recommendation. It is preferred that, rather than making reference to an entire document from an outside organization, reference be made to only the specific section(s) concerned.

The requirements of clauses 6.2 to 6.5 do not apply for non-normative references, since such referenced documents are not considered to be an integral part of an ITU-T Recommendation. They are documents that add to the reader's understanding but are not essential to the implementation of, or compliance with, the Recommendation.

**6.2** For normative references, a member submits a contribution, or the rapporteur or editor submits a TD, to the study group or working party providing information, as outlined in clauses 6.2.1 to 6.2.10.

The study group or working party evaluates this information and decides whether to make the reference. The format for documenting the study group or working party decision is given in Annex A.

Specific criteria for the qualification of the considered organization are provided in Annex B. The list of those qualified organizations is on the Databases page of the ITU-T website<sup>1</sup>.

**6.2.1** A clear description of the document considered for reference (type of document, title, number, version, date, etc.).

**6.2.2** Status of approval. Referencing a document that has not yet been approved by the referenced organization can lead to confusion; thus, normative referencing is usually limited to approved documents. If absolutely necessary, such a reference can be made where cooperative work requiring cross-references is being approved by ITU-T and another organization in approximately the same time-frame.

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<sup>1</sup> The current website is: <https://www.itu.int/en/ITU-T/extcoop/Pages/sdo.aspx>

- 6.2.3** Justification for the specific reference.
- 6.2.4** Current information about intellectual property rights<sup>2</sup> (patents, copyrights for software, marks) issues, if any, related and specific to the proposed normative reference. Relevant documents should be attached.
- 6.2.5** Other information that might be useful in describing the "quality" of the document (e.g. whether products have been implemented using it, whether conformance requirements are clear, whether the specification is readily and widely available).
- 6.2.6** The degree of stability or maturity of the document (e.g. length of time it has existed).
- 6.2.7** Relationship, if relevant, with other existing or emerging documents in ITU-T or in other standards development organizations.
- 6.2.8** When a document is to be referenced in an ITU-T Recommendation, all explicit references within the referenced document should also be listed.
- 6.2.9** Qualification of referenced organization (per clause 7). This need only be done the first time a document from the referenced organization is being considered for referencing and only if such qualification information has not been documented already.
- 6.2.10** A full copy of the existing document. No reformatting is necessary. The objective is to have referenced documents available via the web at no cost, so that the study group or working party may proceed with its evaluation. Accordingly, if a document to be referenced is available in this manner, it is sufficient for the contributing member to provide its exact location on the web. On the other hand, if the document is not available in this manner, a full copy must be provided (in electronic format if permissible by the referenced organization, otherwise in paper format).
- 6.3** For normative references only, the study group or working party evaluates the above information and comes to its conclusions based on the usual consensus process. The decision of the study group or working party shall be documented using the format in Annex A. This requirement must be completed, at the latest, one day before the time the Recommendation is proposed for determination under the traditional approval process (TAP) or consent under the alternative approval process (AAP).
- If there is consensus, the study group or working party report may simply note that the procedures of Recommendation ITU-T A.5 have been satisfied and provide a pointer to the document where the full details reside.
- 6.4** If a new normative reference is added as the result of the resolution of comments submitted during an AAP last call, the information outlined in clauses 6.2.1 to 6.2.10 shall be provided by the rapporteur or editor and published as a TD before the draft Recommendation goes for additional review. The TD shall be mentioned in the information provided for the additional review.
- NOTE – If the referenced organization is not already qualified according to the criteria in Annex B, an additional review is not initiated, and the draft Recommendation is submitted for approval to a study group meeting, where clause 7 is applied.
- 6.5** If a new normative reference is added as the result of the resolution of comments submitted during an AAP additional review or during a TAP consultation, or if concerns are expressed during an AAP additional review about a new normative reference added as the result of the resolution of comments submitted during an AAP last call, clause 6.3 applies when the draft Recommendation is submitted for approval to a study group meeting.

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<sup>2</sup> See: <https://www.itu.int/ipr>

**6.6** If the study group or working party decides to make the normative reference, it should be introduced with the standard text provided in clause 2 of the "Author's guide for drafting ITU-T Recommendations"<sup>3</sup>.

NOTE – In the case of texts produced jointly by ITU-T and ISO/IEC JTC 1, it is recognized that clause 6.6 of the "Rules for presentation of ITU-T | ISO/IEC common texts"<sup>4</sup> applies.

## **7 Qualification of referenced organizations**

**7.1** To ensure the continued quality of the ITU-T Recommendations, it is necessary to evaluate the document being proposed for normative reference, and it is also necessary for the study group or working party to consider the referenced organization according to the criteria set out in clauses 7.1.1, 7.1.2 and 7.1.3.

**7.1.1** Qualification of the referenced organization by a study group or working party according to Annex B, based on an explicit assessment of the intellectual property rights (IPR) policies by the ITU secretariat, shall be conducted before considering a normative reference from that organization. If the referenced organization has already been qualified according to the criteria in Annex B (or previously to Recommendation ITU-T A.4 or Recommendation ITU-T A.6), the evaluation may not need to be repeated, and only a note of the result is required.

**7.1.2** In addition, the referenced organization should have a process by which its output documents are published and regularly maintained (i.e., reaffirmed, revised, withdrawn, etc.).

**7.1.3** The referenced organization should also have a document change control process, including a clear, unambiguous document numbering scheme. In particular, a feature to look for is that updated versions of a given document be distinguishable from the earlier versions.

**7.2** Qualification of an organization according to the criteria in Annex B is reviewed on a regular basis by study groups that need to make normative references to documents of that organization. In particular, if the patent policy of that organization has changed, it is important to check that the new patent policy is consistent with the Common Patent Policy for ITU-T/ITU-R/ISO/IEC and the Guidelines for the Implementation of the Common Patent Policy for ITU-T/ITU-R/ISO/IEC<sup>5</sup>.

**7.3** For the case of a proposed referenced document jointly owned by multiple organizations in a partnership project that is not a legal entity, the partnership project is considered to be qualified according to the criteria in Annex B if each organization is itself qualified according to the criteria in Annex B. A reference to the ITU-T A.5 justification shall be included in any Circular announcing a TAP consultation or any announcement for an AAP Last Call.

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<sup>3</sup> The Author's guide can be downloaded from: <http://handle.itu.int/11.1002/plink/8306947125>

<sup>4</sup> The document can be found at: <https://www.itu.int/en/ITU-T/about/groups/Documents/Rules-for-presentation-ITU-T-ISO-IEC.pdf>

<sup>5</sup> See <https://www.itu.int/ipr>

## ANNEX A TO RECOMMENDATION ITU-T A.5

### **Format for documenting a study group or working party decision**

(This annex forms an integral part of this Recommendation.)

The decision of the study group or working party with respect to making the normative reference must be documented in the meeting report using the following format (called A.5 justification for a normative reference):

1) Clear description of the document:  
(type of document, title, number, version, date, etc.).

2) Status of approval.

NOTE – Only approved documents should be considered.

3) Justification for the specific reference.

4) Current information about intellectual property rights (including patents, copyrights for software, marks) issues, if any, related to the proposed normative reference.

5) Other useful information describing the "quality" of the document:  
(e.g. length of time it has existed, whether products have been implemented using it, whether conformance requirements are clear, whether the specification is readily and widely available).

6) The degree of stability or maturity of the document.

7) Relationship, if relevant, with other existing or emerging documents in ITU-T or in other standards development organizations.

8) When a document is referenced in an ITU-T Recommendation, all normative references within that referenced document should also be listed.

NOTE – A separate review is not required for all of these normative references. However, the referenced organization, if different from ISO or IEC, needs to be qualified under Annex B (and previously under Recommendation ITU-T A.4 or Recommendation ITU-T A.6). If the referenced organization for a normative reference is not qualified, a qualification under Annex B should be performed first. In addition, if the draft ITU-T Recommendation is planned for approval under the traditional approval process (TAP) found in [b-WTSA Res. 1], all normative references in the referenced document should be reviewed.

9) Qualification of referenced organization.

NOTE – This needs to be done only the first time that a document from the referenced organization is being considered for referencing, and only if such qualification information has not already been documented or if it has changed.

9.1) Qualification under Annex B.

9.2) Document publication and maintenance process.

9.3) Document change control process.

10) Location of a full copy of the document.

11) Other (for any supplementary information).

## ANNEX B TO RECOMMENDATION ITU-T A.5

**Criteria for qualifying organizations**

(This annex forms an integral part of this Recommendation.)

The decision of the study group or working party with respect to qualifying an organization must be documented in the meeting report using the following format (called A.5 qualification of an organization):

Organization attributes	Desired characteristics
1) Objectives/relationship of work to ITU-T work	Should refer to development, adoption, implementation and use of national, regional or international standards, or to the provision of input into international standards organizations, especially ITU-T.
2) Organization: <ul style="list-style-type: none"> <li>– legal status;</li> <li>– geographic scope;</li> <li>– accreditation;</li> <li>– secretariat;</li> <li>– nominated representative.</li> </ul>	<ul style="list-style-type: none"> <li>– should indicate in which country/countries it has legal status;</li> <li>– should indicate the scope of the standards of the organization;</li> <li>– should indicate the accrediting entity;</li> <li>– should identify the permanent secretariat;</li> <li>– should nominate a representative.</li> </ul>
3) Membership/participation (openness)	<ul style="list-style-type: none"> <li>– should describe the membership/participation model;</li> <li>– membership/participation criteria should not preclude any party with material interest, especially ITU Member States and Sector Members. If it has been identified that the criteria preclude or restrict any party with material interest to be a member of the other organization, this will be indicated;</li> <li>– membership/participation should comprise a significant representation of telecommunication interests; otherwise, an explanation will be provided.</li> </ul>
4) Technical subject areas	Should be relevant to a particular study group(s) or ITU-T as a whole.
5) Intellectual Property Rights Policy and Guidelines on: <ul style="list-style-type: none"> <li>a) patents;</li> <li>b) software copyright (if applicable);</li> <li>c) marks (if applicable); and</li> <li>d) copyright</li> </ul>	<ul style="list-style-type: none"> <li>a) should be consistent with the "Common Patent Policy for ITU-T/ITU-R/ISO/IEC" and the "Guidelines for Implementation of the Common Patent Policy for ITU-T/ITU-R/ISO/IEC"*;</li> <li>b) should be consistent with the "ITU-T Software Copyright Guidelines"*;</li> <li>c) should be consistent with the "ITU-T Guidelines related to the inclusion of Marks in ITU-T Recommendations";</li> <li>d) ITU and ITU Member States and Sector Members should have the right to copy for standardization-related purposes (see also [ITU-T A.1] with regard to copying and distribution, or [ITU-T A.25] with regard to incorporation, with or without modification).</li> </ul> <p>Relevant IPR policy documents of the referenced organization shall be attached to this table for the record.</p>
6) Working methods/processes	<ul style="list-style-type: none"> <li>– should be documented;</li> <li>– should be open, fair and transparent;</li> <li>– should document anti-trust policy.</li> </ul>

<b>Organization attributes</b>	<b>Desired characteristics</b>
7) Outputs	<ul style="list-style-type: none"><li>– should identify outputs available to ITU-T;</li><li>– should identify the process for ITU-T to obtain outputs.</li></ul>
* Particularly, licences must be offered on a non-discriminatory basis and on reasonable terms and conditions (whether free of charge or with monetary compensation) to both members and non-members.	

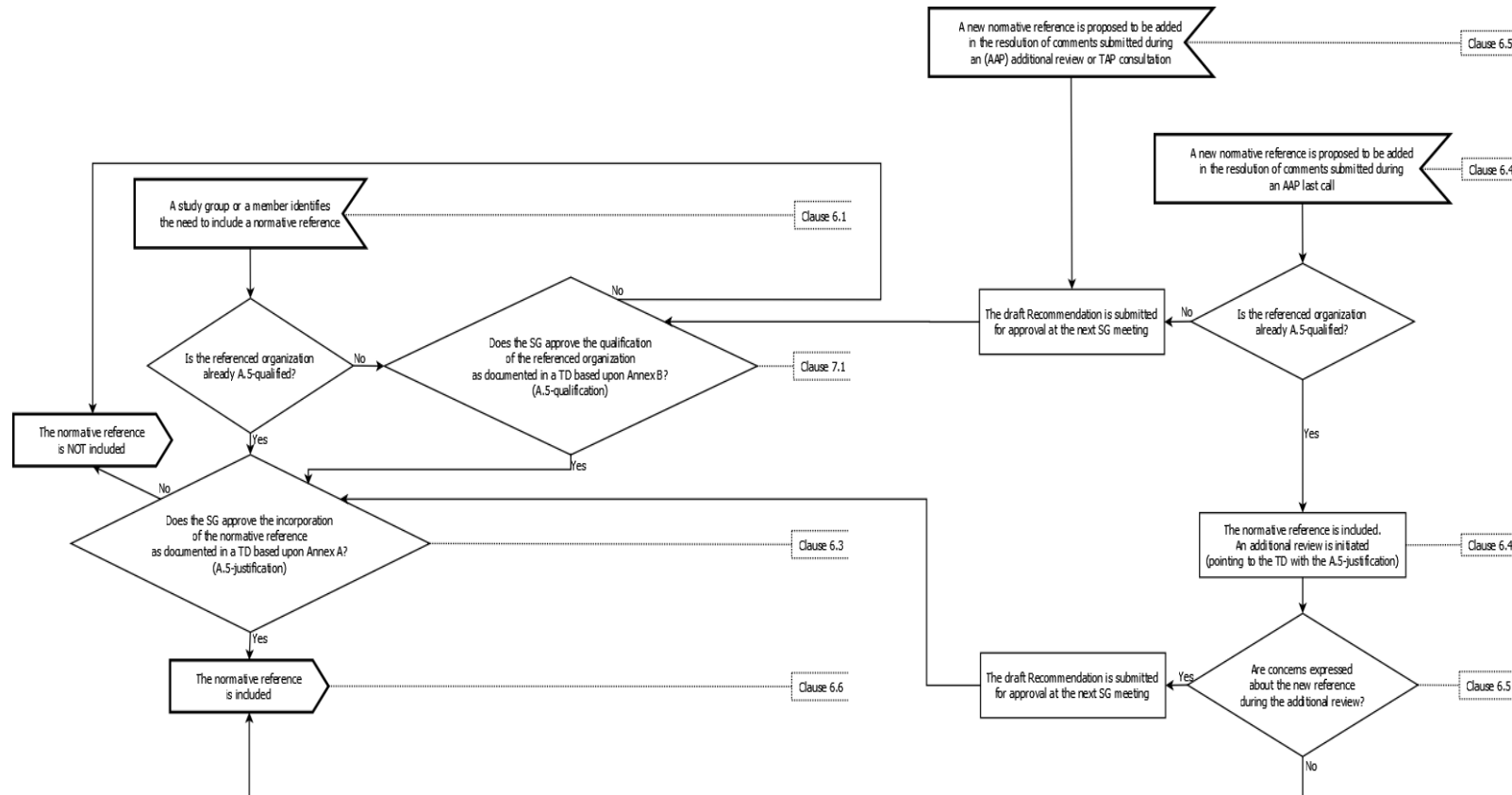


## APPENDIX I TO RECOMMENDATION ITU-T A.5

**Workflow for including a normative reference to a document from another organization**

(This appendix does not form an integral part of this Recommendation.)

This (informative) workflow helps visualizing the different cases where a normative reference can be included. In any case, clauses 6 and 7 prevail.



**Bibliography**

- [b-WTSA Res. 1] WTSA Resolution 1 (Rev. Hammamet, 2016), *Rules of procedure of the ITU Telecommunication Standardization Sector*.

**MOD****Recommendation ITU-T A.8****Alternative approval process for new and revised  
ITU-T Recommendations***(2000; 2004; 2006; 2008; 2022)***Summary**

This Recommendation provides working methods and procedures for approving draft new and revised ITU-T Recommendations using the alternative approval process.

**1 General**

**1.1** Recommendations of the ITU Telecommunication Standardization Sector (ITU-T) will be approved using this alternative approval process (AAP), except Recommendations that have policy or regulatory implications, which will be approved using the traditional approval process (TAP) found in Resolution 1 of the World Telecommunication Standardization Assembly (WTSA).

The competent study group may also seek approval at a WTSA.

**1.2** In accordance with the ITU Convention, the status of Recommendations approved is the same for both AAP and TAP methods of approval.

**2 Process**

**2.1** Study groups should apply the AAP described below for seeking the approval of draft new and revised Recommendations as soon as they have been developed to a sufficiently mature state. See Figure 1 for the sequence of events.

**3 Prerequisites**

**3.1** Upon request of the study group chairman, the Director of the Telecommunication Standardization Bureau (TSB) shall announce the intention to apply AAP and to initiate the last call set out in this Recommendation (see clause 4 below). Such action shall be based upon consent at a study group or working party meeting or, exceptionally, at a WTSA, that a draft Recommendation is sufficiently mature for such action. At this stage, the draft Recommendation is considered to have "CONSENT". The Director shall include a summary of the draft Recommendation in the announcement. Reference shall be provided to the documentation where the text of the draft new or revised Recommendation to be considered may be found. This information shall be made available to all Member States and Sector Members.

**3.2** The text of the draft new or revised Recommendation must be available to TSB in a final edited form at the time that the Director makes the announcement of the intended application of the AAP set out in this Recommendation. Any associated electronic material included in the Recommendation (e.g., software, test vectors, etc.) must also be made available to TSB at the same time. A summary that reflects the final edited text of the draft Recommendation must also be provided to TSB, in accordance with clause 3.3 below.

**3.3** Such a summary should be prepared in accordance with the Author's Guide for drafting ITU-T Recommendations. This summary is a brief outline of the purpose and content of the new or revised draft Recommendation and, where appropriate, the intent of the revisions. No Recommendation shall be considered as complete and ready for approval without this summary statement.

**3.4** Approval may only be sought for a draft new or revised Recommendation within the study group's mandate as defined by the Questions allocated to it, in accordance with No. 192 of the Convention. Alternatively, or additionally, approval may be sought for amendment of an existing Recommendation within the study group's responsibility and mandate.

**3.5** Where a draft new or revised Recommendation falls within the mandate of more than one study group, the chairman of the study group proposing the approval should consult and take into account the views of any other study group chairmen concerned before proceeding with the application of this approval procedure.

**3.6** Recommendations are to be elaborated in accordance with the Common Patent Policy for ITU-T/ITU-R/ISO/IEC available at <http://www.itu.int/ITU-T/ipr/>. For example:

**3.6.1** Any party participating in the work of ITU-T should, from the outset, draw the attention of the Director of TSB to any known patent or to any known pending patent application, either of their own or of other organizations. The "Patent Statement and Licensing Declaration" form from the ITU-T website is to be used.

**3.6.2** ITU-T non-member organizations that hold patent(s) or pending patent application(s), the use of which may be required in order to implement an ITU-T Recommendation, can submit a "Patent Statement and Licensing Declaration" to TSB using the form available at the ITU-T website.

**3.7** In the interests of stability, once a new or revised Recommendation has been approved, approval should not normally be sought within a reasonable period of time for any further amendment of that new text or that revised portion, respectively, unless the proposed amendment complements rather than changes the agreement reached in the previous approval process, or a significant error or omission is discovered. As a guideline, in this context "a reasonable period of time" would be at least two years, in most cases.

Amendments that correct defects may be approved, in accordance with clause 7.1.

## **4 Last call and additional review**

**4.1** The last call encompasses the four-week time period and procedures beginning with the Director's announcement of the intention to apply the alternative approval process (clause 3.1).

**4.2** If TSB has received a statement(s) indicating that the use of intellectual property, protected by one or more copyright(s) or patent(s), issued or pending, may be required in order to implement a draft Recommendation, the Director shall post this information on the ITU-T website.

**4.3** The Director of TSB shall advise the Directors of the other two Bureaux that Member States and Sector Members are being asked to comment on the approval of a proposed new or revised Recommendation.

**4.4** During the last call, should any Member State or Sector Member be of the opinion that the draft new or revised Recommendation should not be approved, they should advise their reasons for disapproving and indicate the possible changes that would facilitate further consideration and approval of the draft new or revised Recommendation. TSB will make the comments available to the membership of ITU-T.

**4.4.1** If no comments, other than comments indicating typographical error(s) (misspelling, syntactical and punctuation mistakes, etc.), are received by the end of the last call, the draft new or revised Recommendation is considered as approved, and the typographical errors are corrected.

**4.4.2** If comments, other than those indicating typographical errors, are received by the end of the last call, the study group chairman, in consultation with TSB, makes the judgement whether:

- 1) a planned study group meeting is sufficiently close to consider the draft Recommendation for approval, in which case the procedures in clause 4.6 regarding approval at a study group meeting are applied; or
- 2) to save time and/or because of the nature and maturity of the work, comment resolution should be initiated under the direction of the study group chairman. This will be accomplished by appropriate study group experts, via electronic correspondence or at meetings. Revised, edited draft text is prepared, as appropriate, and the procedures beginning in clause 4.4.3 are applied.

**4.4.3** If comments other than typographical amendments are received at the end of the last call process, the rapporteur, with the assistance of the editor, shall, normally within two weeks of the end of the last call, compile all such comments in a single document, for example in the form of a table (see Annex A to this Recommendation), to be used as the basis for completion of the comment resolution process.

**4.4.4** After comment resolution is completed, and the revised and edited draft text is made available, the study group chairman, in consultation with TSB, makes the judgement whether:

- a) a planned study group meeting is sufficiently close to consider the draft Recommendation for approval, in which case the procedures in clause 4.6 are applied; or
- b) to save time and/or because of the nature and maturity of the work, an additional review should be initiated, in which case the procedures in clause 4.5 are applied.

**4.5** The additional review encompasses a three-week time period and will be announced by the Director. The text (including any revisions as a result of comment resolution) of the draft Recommendation in a final edited form and comments from the last call must be made available to TSB at the time that the Director makes the announcement of the additional review. Reference shall be provided to the documentation where the text of the draft Recommendation and last call comments to be considered may be found.

**4.5.1** If no comments, other than comments indicating typographical error(s) (misspelling, syntactical and punctuation mistakes, etc.), are received by the end of the additional review, the Recommendation is considered as approved, and the typographical errors are corrected by TSB.

**4.5.2** If comments, other than comments indicating typographical errors(s), are received by the end of the additional review, then the procedures in clause 4.6 regarding approval at a study group meeting are applied.

**4.6** The Director shall explicitly announce the intention to approve the draft Recommendation at least three weeks prior to the study group meeting. The Director shall include the specific intent of the proposal in summarized form. Reference shall be provided to the documentation where the draft text and comments from the last call (and additional review, if relevant) may be found. The documentation should be published 12 days prior to the Director's call, with a table (see Annex A to this Recommendation) indicating all comments not agreed in the consultation with those entities that made those comments. The edited text of the draft Recommendation from the additional review (or last call if there is no additional review) is submitted for approval by the study group meeting in accordance with clause 5 below.

## **5 Procedure at study group meetings**

**5.1** The study group should review the text of the draft new or revised Recommendation and the associated comments in the documentation referred to in clause 4.6 above. The meeting may then accept any corrections or amendments to the draft new or revised Recommendation. The study group should reassess the summary statement in terms of its completeness.

**5.2** Changes may only be made during the meeting as a consequence of written comments as a result of the last call, additional review, contributions, or temporary documents including liaison

statements. Where proposals for such revisions are found to be justified but to have a major impact on the intent of the Recommendation or to depart from points of principle agreed at the previous study group or working party meeting, consideration of this approval procedure should not be applied at this meeting. However, in justified circumstances, the approval procedure may still be applied if the chairman of the study group, in consultation with TSB, considers:

- that the proposed changes are reasonable (in the context of the documentation described in this clause) for those Member States and Sector Members not represented at the meeting, or not represented adequately under the changed circumstances; and
- that the proposed text is stable.

However, if a Member State present declares that this text has policy or regulatory implications or there is a doubt, the approval procedure shall proceed according to Resolution 1, clause 9.3 or clause 5.8 below.

**5.3** After debate at the study group meeting, the decision of the meeting to approve the Recommendation under this approval procedure must be unopposed (but see clauses 5.5, 5.7 and 5.8). Every effort should be made to reach unopposed agreement.

**5.4** If, despite these attempts, unopposed agreement has not been reached, the Recommendation is considered as approved if, following consultation with their Sector Members present, no more than one Member State present in the meeting opposes the decision to approve the Recommendation (but see clauses 5.5, 5.6 and 5.8). Otherwise, the study group may authorize additional work to address the remaining issues.

**5.5** In cases where a Member State or Sector Member does not elect to oppose approval of a text, but would like to register a degree of concern on one or more aspects, this shall be noted in the report of the meeting. Such concerns shall be mentioned in a concise note appended to the text of the Recommendation concerned.

**5.6** A decision must be reached during the meeting on the basis of a text available in its final form to all participants at the meeting. Exceptionally, but only during the meeting, a Member State may request more time to consider its position for clause 5.4 above. Unless the Director of TSB is advised of their opposition within a period of four weeks from the end of the meeting, the Recommendation is approved and the Director shall proceed in accordance with clause 6.1.

**5.6.1** A Member State that requested more time to consider its position and that then indicates disapproval within the four-week interval specified in clause 5.6 above is requested to include its reasons and to indicate the possible changes that would facilitate further consideration, if required, for future approval of the draft new or revised Recommendation.

**5.7** A Member State or Sector Member may advise at the meeting that it is abstaining from the application of the procedure. Their presence shall then be ignored for the purposes of clause 5.3 above. Such an abstention may subsequently be revoked, but only during the course of the meeting.

**5.8** If the draft new or revised Recommendation is not approved, the study group chairman, after consultation with the parties concerned, may proceed according to clause 3.1 above, without further CONSENT at a subsequent working party or study group meeting.

## **6 Notification**

**6.1** The Director of TSB shall promptly notify the membership of the results (indicating approval or non-approval) of the last call and additional review.

**6.2** Within two weeks of the closing date of the study group meeting described in clauses 5.3 to 5.5 above or, exceptionally, two weeks after the period described in clause 5.6, the Director shall notify whether the text is approved or not by a circular. The Director shall arrange for this information to also be included in the next available ITU Operational Bulletin. Within this same

time period, the Director shall also ensure that any Recommendation approved is available online, with an indication that the Recommendation may not be in its final publication form.

**6.3** Should minor, purely editorial amendments or correction of evident oversights or inconsistencies in the text as presented for approval be necessary, TSB may correct these with the approval of the chairman of the study group.

**6.4** The Secretary-General shall publish the approved new or revised Recommendations as soon as practicable, indicating, as necessary, a date of entry into effect. However, in accordance with Recommendation ITU-T A.11, minor amendments may be covered by corrigenda rather than a complete reissue. Also, where appropriate, texts may be grouped to suit market needs.

**6.5** Text shall be added to the cover sheets of all new and revised Recommendations urging users to consult the ITU-T patent database and the ITU-T software copyright database. Suggested wording is:

"ITU draws attention to the possibility that the practice or implementation of this Recommendation may involve the use of a claimed intellectual property right. ITU takes no position concerning the evidence, validity or applicability of claimed intellectual property rights, whether asserted by ITU Member States and Sector Members or by others outside of the Recommendation development process."

"As of the date of approval of this Recommendation, ITU had/had not received notice of intellectual property, protected by patents/software copyrights, which may be required to implement this Recommendation. However, implementers are cautioned that this may not represent the latest information and are therefore strongly urged to consult the appropriate ITU-T databases available at the ITU-T website."

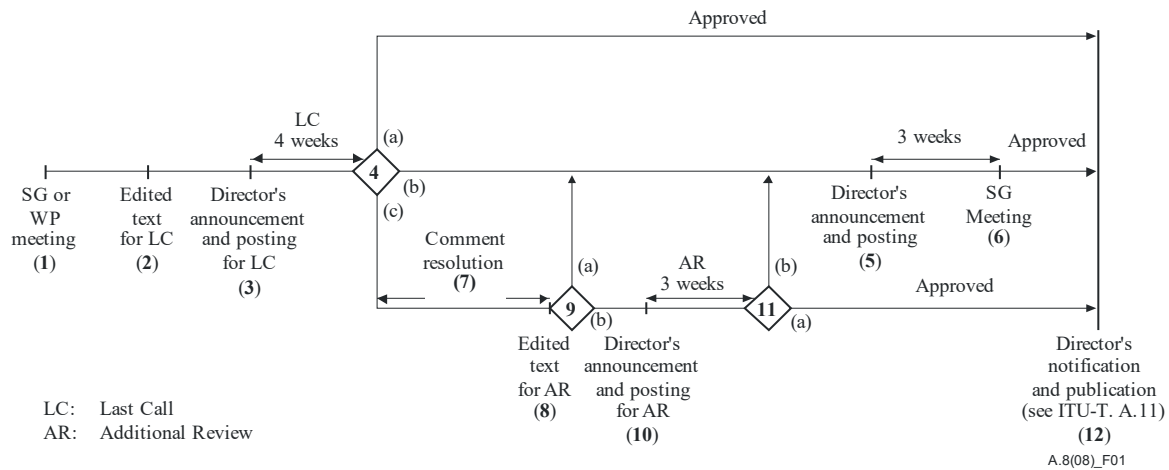
**6.6** See Recommendation ITU-T A.11 concerning the publication of new and revised Recommendations.

## **7 Correction of defects**

**7.1** When a study group identifies the need for implementers to be made aware of defects (e.g., typographical errors, editorial errors, ambiguities, omissions or inconsistencies and technical errors) in a Recommendation, one mechanism that may be employed is an implementers' guide. This guide is a historical document recording all identified defects and their status of correction, from their identification to final resolution. Implementers' guides shall be agreed by the study group, or agreed by one of its working parties with the concurrence of the study group chairman. Implementers' guides shall be made available by posting on the ITU-T website with open access.

## **8 Deletion of Recommendations**

Deletion of Recommendations is specified in clause 9.8 in Resolution 1 (Rev. Geneva, 2022) of WTSA.



**Figure 1 – Sequence of events**

**Notes to Figure 1 – AAP sequence of events**

- 1) *SG or WP consent* – The study group or working party concludes that the work on a draft Recommendation is sufficiently mature to begin the alternative approval process and to initiate the last call (clause 3.1).
- 2) *Edited text available* – The final, edited, draft text, including summary, is provided to TSB, and the study group chairman requests the Director to initiate the last call (clause 3.2). Any associated electronic material included in the Recommendation must also be made available to TSB at the same time.
- 3) *Director's last call announcement and posting* – The Director announces the beginning of the last call to all Member States, Sector Members and Associates, with reference to the summary and complete text. If the draft Recommendation has not already been electronically posted, it is done at this time (clause 3.1).
- 4) *Last call judgement* – The study group chairman, in consultation with TSB, makes the judgement whether:
  - a) no comments other than those indicating typographical errors have been received. In this case, the Recommendation is considered as approved (clause 4.4.1);
  - b) a planned study group meeting is sufficiently close to consider the comments received (clause 4.4.2); or
  - c) to save time and/or because of the nature and maturity of the work, comment resolution should be initiated leading to the preparation of edited texts (clause 4.4.2).
- 5) *Director's study group announcement and posting* – The Director announces that the next study group meeting will consider the draft Recommendation for approval and will include reference to either:
  - a) the draft Recommendation (the edited text (LC) version) plus the comments received from the last call (clause 4.6); or
  - b) if comment resolution has been carried out, the revised draft Recommendation text. If the revised draft Recommendation has not already been electronically posted, it is done at this time (clause 4.6).
- 6) *Study group decision meeting* – The study group meeting reviews and addresses all written comments and either:
  - a) proceeds under WTSA Resolution 1 or clause 5.8, as appropriate, if there might be policy or regulatory implications (clause 5.2); or
  - b) approves the draft Recommendation (clause 5.3 or 5.4); or



- c) does not approve the draft Recommendation. If it is concluded that a further attempt at addressing comments received is appropriate, then additional work should be done and the process returns to step 2 (without further CONSENT at a working party or study group meeting) (clause 5.8).
- 7) *Comment resolution* – The study group chairman, with assistance from TSB and experts, via electronic correspondence and rapporteur and working party meetings, where appropriate, addresses the comments and prepares a new edited draft Recommendation text (clause 4.4.2).
  - 8) *Edited text available* – The revised edited text, including summary, is provided to TSB (clause 4.4.2).
  - 9) *Next step judgement* – The study group chairman, in consultation with TSB, makes the judgement whether:
    - a) a planned study group meeting is sufficiently close to consider the draft Recommendation for approval (clause 4.4.3 a); or
    - b) to save time and/or because of the nature and maturity of the work, an additional review should be initiated (clause 4.4.3 b).
  - 10) *Director's additional review announcement and posting* – The Director announces the beginning of the additional review to all Member States and Sector Members, with reference to the summary and complete text of the revised draft Recommendation. If the revised draft Recommendation has not already been electronically posted, it is done at this time (clause 4.5).
  - 11) *Additional review judgement* – The study group chairman, in consultation with TSB, makes the judgement whether:
    - a) no comments other than those indicating typographical errors have been received. In this case, the Recommendation is considered approved (clause 4.5.1); or
    - b) comments other than those indicating typographical errors have been received. In this case, the process proceeds to the study group meeting (clause 4.5.2).
  - 12) *Director's notification* – The Director notifies the members that the draft Recommendation has been approved (clause 6.1 or 6.2).



## MOD

### Recommendation ITU-T A.25

#### Generic procedures for incorporating text between ITU-T and other organizations

##### Summary

Recommendation ITU-T A.25 addresses the process of incorporating text (in whole or in part, with or without modification) of documents from another organization into an ITU-T Recommendation (or another ITU-T document). Similarly, guidance is provided for other organizations incorporating text (in whole or in part, with or without modification) from ITU-T Recommendations (or other ITU-T documents) in their documents.

## 1 Scope

This Recommendation provides generic procedures for incorporating (in whole or in part, with or without modification) the documents of other organizations (including consortia, forums, and national and regional standards development organizations) in ITU-T Recommendations (or other ITU-T documents), and provides guidance for other organizations on how to incorporate ITU-T Recommendations (or other ITU-T documents), in whole or in part, in their documents. These procedures are applied each time a proposal for incorporation is made.

The case of normatively referencing the documents of other organizations in ITU-T Recommendations is addressed in [ITU-T A.5].

## 2 References

The following ITU-T Recommendations and other references contain provisions which, through reference in this text, constitute provisions of this Recommendation. At the time of publication, the editions indicated were valid. All Recommendations and other references are subject to revision; users of this Recommendation are therefore encouraged to investigate the possibility of applying the most recent edition of the Recommendations and other references listed below. A list of the currently valid ITU-T Recommendations is regularly published. The reference to a document within this Recommendation does not give it, as a stand-alone document, the status of a Recommendation.

[ITU-T A.5] Recommendation ITU-T A.5 (2019), *Generic procedures for including references to documents of other organizations in ITU-T Recommendations*.

[PP Res. 66] Plenipotentiary Conference Resolution 66 (Rev. Dubai, 2018), *Documents and publication of the Union*.

## 3 Definitions

### 3.1 Terms defined elsewhere

This Recommendation uses the following terms defined elsewhere:

**3.1.1 approved document** [ITU-T A.5]: An official output (such as a standard, a specification, an implementation agreement, etc.) which has been formally approved by an organization.

**3.1.2 non-normative reference** [ITU-T A.5]: The whole or parts of a document where the referenced document has been used as supplementary information in the preparation of the Recommendation or to assist the understanding or use of the Recommendation, and to which conformance is not necessary.

**3.1.3 normative reference** [b-ITU-T A.1]: The whole or parts of another document where the referenced document contains provisions which, through reference to it, constitute provisions to the referring document.

## **3.2 Terms defined in this Recommendation**

This Recommendation defines the following term:

**3.2.1 draft document:** An output from an organization, which is still in draft form.

## **4 Abbreviations and acronyms**

This Recommendation uses the following abbreviations and acronyms:

TSB Telecommunication Standardization Bureau

## **5 Conventions**

None.

## **6 Generic procedures for incorporating text of other organizations in ITU-T documents**

This clause addresses the process of incorporating text (in whole or in part) from another organization into an ITU-T document (see the diagram in Appendix I). This process is expected to be rarely used because ITU-T study groups are encouraged to rather use the normative reference process explained in [ITU-T A.5].

### **6.1 Process for incorporation**

**6.1.1** An ITU-T study group or ITU-T members may identify the need to specifically incorporate text (in whole or in part, with or without modification) from a draft or approved document from another organization within a draft ITU-T Recommendation (or another draft ITU-T document). The need to incorporate text may also be identified by the organization itself. ITU-T study groups are strongly encouraged to incorporate approved text rather than draft text from other organizations and, whenever possible, to incorporate text without modification.

**6.1.2** Information to explain why incorporation was chosen over a normative reference should be provided in a TD (or a contribution), as outlined in clauses 6.1.2.1 to 6.1.2.10 (see also Appendix II).

**6.1.2.1** Description of the referenced document (incl. full copy): A clear description of the document considered for incorporation (type of document, title, number, version, date, etc.). (See also clause 6.2.2.)

**6.1.2.2** Status of approval: Incorporating text that has not yet been approved by the organization can lead to confusion; thus, incorporating is usually limited to approved documents. If absolutely necessary, incorporation of text from a draft document can be made where cooperative work requiring cross-incorporation is being approved by ITU-T and another organization in approximately the same time-frame.

**6.1.2.3** Justification for the specific incorporation, including why it is inappropriate to reference the text in the draft ITU-T Recommendation (or other draft ITU-T document).

**6.1.2.4** Intellectual property rights<sup>1</sup> (patents, copyrights for software or texts, marks) issues, if any, related and specific to the proposed text for incorporation: see clauses 6.2 and 6.3. Relevant documents should be attached.

**6.1.2.5** Other information that might be useful in describing the "quality" of the document (e.g. whether products have been implemented using it, whether conformance requirements are clear, whether the specification is readily and widely available).

**6.1.2.6** Degree of stability or maturity of the document (e.g. length of time it has existed).

**6.1.2.7** Relationship with other existing or emerging documents.

**6.1.2.8** List of normative references within the incorporated document: All normative references within the incorporated document should be listed (see also clause 6.2.2 c).

**6.1.2.9** Qualification of the organization (per Annex B of [ITU-T A.5]): This needs to be done only the first time a document from the organization is being considered for incorporation, and only if such qualification information has not been already documented. Qualification of an organization is reviewed on a regular basis (any study group willing to incorporate a document from the organization may perform the review). In particular, if the patent policy of that organization has changed, it is important to check that the new patent policy is consistent with the Common Patent Policy for ITU-T/ITU-R/ISO/IEC and the Guidelines for the Implementation of the Common Patent Policy for ITU-T/ITU-R/ISO/IEC.

NOTE – In case of a partnership project that is not a legal entity, qualification (per Annex B of [ITU T A.5]) is required for each organization in the partnership project.

**6.1.2.10** Document maintenance process: Approved Recommendations need to be reviewed and maintained over time. This may require collaborative effort with the other organization. Depending on new agreements reached between the ITU-T study group and the other organization, new versions of the incorporated text can be produced by the ITU-T study group or by the other organization. Therefore, it shall be clarified if maintenance of the text is a shared responsibility between the ITU-T study group and the organization (see [b-ITU-T A.Supp5], in particular clause 10), or if the organization is responsible of producing new versions of the incorporated text.

**6.1.3** As soon as the documents to be incorporated are received (see clause 6.2.2), they are made available, with the agreement of the study group chairman, and subject to the permission arrangements set out in clause 6.2 and to the copyright arrangements set out in clause 6.3, for advance consideration by the relevant group. They are issued, together with information about them (see clause 6.1.2), as a TD at a study group or working party meeting, normally at least one month before the start of the meeting at which the ITU-T Recommendation (or other ITU-T document) is planned for determination for TAP consultation, or consent for AAP last call (or agreement). When the other organization is responsible of producing new versions of the text (see clause 6.1.2.10), the draft resulting ITU-T Recommendation is notified by a circular at least three months before the start of the meeting at which the Recommendation is planned for determination for TAP consultation or consent for AAP last call.

**6.1.4** The study group (or working party) evaluates this information (see clause 6.1.2) and decides whether to make the incorporation. The format for documenting the study group or working party decision is given in Appendix II.

**6.1.5** When an ITU-T study group decides to incorporate text (in whole or in part, with or without modification) from another organization in its own document, it notifies the organization about the actions taken concerning this text. The use, acceptance or reproduction of such text by the

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<sup>1</sup> See: <https://www.itu.int/ipr>

ITU-T study group is subject to the permission arrangements set out in clause 6.2 and to the copyright arrangements set out in clause 6.3.

**6.1.6** The resulting ITU-T Recommendation (or ITU-T document) shall identify the incorporated text, and shall provide a bibliographic reference to the document of the organization and to its particular version. In case the text of another organization is incorporated in whole and without modification, the bibliographic reference in the ITU-T Recommendation is followed by a note indicating that the referenced text is technically equivalent to the ITU-T Recommendation.

**6.1.7** The cover sheet of the resulting ITU-T Recommendation will draw the attention of implementers to potential notices of intellectual property received by the other organization as they may also apply to the ITU-T Recommendation.

## **6.2 Permission arrangements**

**6.2.1** At the earliest possible moment (see clause 6.1.3), upon the request of the study group or working party, the Telecommunication Standardization Bureau (TSB) will ensure that the organization (or designated contact point for a joint collaboration arrangement – see clause 7.3 of [ITU-T A.5]) has provided a written statement in which it agrees to:

- the distribution of the material for discussions within the appropriate groups, and
- its possible use (in whole or in part, with or without modification) in any resulting ITU-T Recommendations (or other ITU-T documents) that are published (see [PP Res. 66]).

**6.2.2** TSB will also get from the organization a full copy of the existing document, preferably in electronic format (see clause 6.1.3). No reformatting is necessary. The objective is to have referenced documents available via the web at no cost, so that the study group (or working party) may proceed with its evaluation. Accordingly, if a document to be incorporated in whole or in part is available in this manner, it is sufficient to provide its exact location on the web. The document should conform to the following criteria:

- a) should contain no confidential information;
- b) should indicate the source within the organization (e.g. committee, subcommittee, etc.);
- c) should differentiate between normative references and non-normative references.

**6.2.3** Should the organization decline to provide such statement or fail to do so, the incorporation shall not be made. In this case, the decision to incorporate the reference (according to [ITU-T A.5]) instead of the text shall be made by consensus.

## **6.3 Copyright arrangements**

The subject of modifications to texts and arrangements for royalty-free copyright licences, including the right to sub-license, for texts accepted by ITU-T, is a matter to be agreed upon between TSB and the particular organization. However, the originating organization retains the copyright and change control for its texts, unless explicitly relinquished. (See also clauses 6.1.2.10, 6.1.6 and 6.2.1.)

# **7 Generic procedures for incorporating text of ITU-T documents in the documents of other organizations**

Organizations are strongly encouraged to reference approved ITU-T documents as appropriate to progress their work. This clause addresses the process of incorporating text (in whole or in part, with or without modification) from an ITU-T document in a document of another organization. This process is expected to be rarely used.

## **7.1 Documents sent to other organizations**

**7.1.1** An organization may incorporate text (in whole or in part, with or without modification) from a draft or approved ITU-T Recommendation (or of other documents produced by ITU-T), as all or part of the text of its draft document. Organizations are strongly encouraged to incorporate approved text rather than draft text from ITU-T and, whenever possible, to incorporate text without modification.

**7.1.2** When an organization decides to accept ITU-T text, it notifies TSB about the actions taken concerning this text. The use, acceptance or reproduction of such text by the qualified organization is subject to the permission arrangements set out in clause 7.2 and to the copyright arrangements set out in clause 7.3.

## **7.2 Permission arrangements**

**7.2.1** At the earliest possible moment, the organization will ensure that the TSB has provided a written statement that it agrees to the distribution of the material for discussions within the appropriate groups and possible use (in whole or in part, with or without modification) in any documents of the organization.

**7.2.2** Should the ITU decline to provide such statement, or fails to do so, the incorporation shall not be made.

## **7.3 Copyright arrangements**

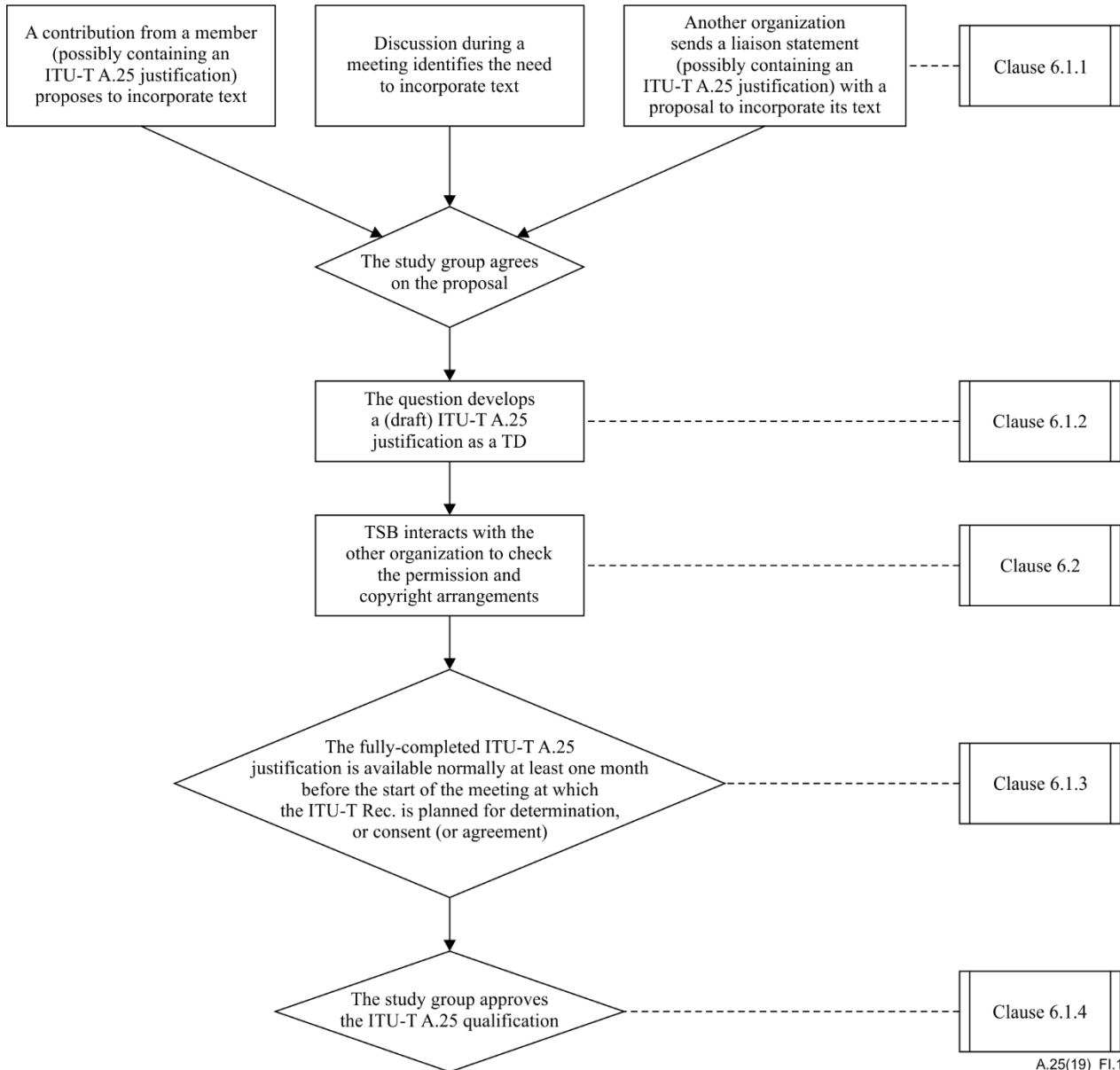
The subject of modifications to texts and arrangements for royalty-free copyright licences, including the right to sub-license, for texts accepted by qualified organizations and their publishers and others, is a matter to be agreed upon between TSB and the particular organization. However, the ITU retains the copyright and change control for its texts, unless explicitly relinquished.

## APPENDIX I TO RECOMMENDATION ITU-T A.25

**Workflow for incorporating text of another organization**

(This appendix does not form an integral part of this Recommendation.)

Figure I.1 describes the workflow for incorporating text of another organization.



A.25(19)\_FI.1

**Figure I.1 – Workflow for incorporating text of another organization**



## APPENDIX II TO RECOMMENDATION ITU-T A.25

### **Format for documenting a study group or working party decision**

(This appendix does not form an integral part of this Recommendation.)

#### **II.1 Description of the referenced document (incl. full copy)**

*[Insert clear description of the document considered for incorporation, e.g., type of document, title, number, version, date, etc.]*

*[Insert number of the TD containing the document or URL to the document on the website of the other organization]*

NOTE – No reformatting is necessary. The objective is to have referenced documents available via the web at no cost, so that the study group (or working party) may proceed with its evaluation. Accordingly, if a document to be incorporated in whole or in part is available in this manner, it is sufficient to provide its exact location on the web. On the other hand, if the document is not available in this manner, a full copy must be provided (preferably in electronic format).

#### **II.2 Status of approval**

NOTE – Incorporating text that has not yet been approved by the organization can lead to confusion; thus, incorporating is usually limited to approved documents. If absolutely necessary, incorporation of text from a draft document can be made where cooperative work requiring cross-incorporation is being approved by ITU-T and another organization in approximately the same time-frame.

*[Choose status of approval from the drop-down list]*

#### **II.3 Justification for the specific incorporation**

*[Insert justification, including why it is inappropriate to reference the text in the draft ITU-T Recommendation or other draft ITU-T document]*

#### **II.4 Intellectual property rights (patents, copyrights for software or text, marks) issues, if any, related to the proposed text for incorporation**

*[Insert current information, if any, about patents, copyrights for software or text, marks, etc. Relevant documents should be attached.]*

#### **II.5 Other information**

*[Insert other information that might be useful in describing the "quality" of the document, e.g. whether products have been implemented using it, whether conformance requirements are clear, whether the specification is readily and widely available]*

#### **II.6 Stability or maturity of the document**

*[Insert degree of stability or maturity, e.g. length of time it has existed]*

#### **II.7 Relationship with other existing or emerging documents**

*[Insert relationship]*

#### **II.8 List of normative references within the incorporated document**

NOTE – When text from a document is to be incorporated in an ITU-T Recommendation, all normative references within the incorporated document should be listed. The document should differentiate between normative references and non-normative references.

*[List all normative references]*

## **II.9 Qualification of the organization (per Annex B of [ITU-T A.5])**

NOTE – This needs to be done only the first time a document from the organization is being considered for incorporation, and only if such qualification information has not been already documented. Qualification of an organization is reviewed on a regular basis (any study group willing to incorporate a document from the organization may perform the review). In particular, if the patent policy of that organization has changed, it is important to check that the new patent policy is consistent with the Common Patent Policy for ITU T/ITU-R/ISO/IEC and the Guidelines for the Implementation of the Common Patent Policy for ITU-T/ITU-R/ISO/IEC. In case of a partnership project that is not a legal entity, qualification (per Annex B of [ITU T A.5]) is required for each organization in the partnership project.

*[Insert number of the TD containing the A.5 qualification of the organization if it is not yet qualified]*

## **II.10 Document maintenance process**

NOTE – Approved Recommendations need to be reviewed and maintained over time. This may require collaborative effort with the other organization. Depending on new agreements reached, new versions of the incorporated text can be produced by the ITU-T study group or by the other organization. Therefore, it shall be clarified if maintenance of the text is a shared responsibility between the ITU-T study group and the organization (see [b-ITU-T A.Sup5], in particular clause 10), or if the organization is responsible of producing new versions of the incorporated text.

*[Describe the maintenance process]*

### **Bibliography**

- [b-ITU-T A.1] Recommendation ITU-T A.1 (2012), *Working methods for study groups of the ITU Telecommunication Standardization Sector (ITU-T)*.
- [b-ITU-T A.Sup5] ITU-T A-series Recommendations – Supplement 5 (2016), *Guidelines for collaboration and exchange of information with other organizations*.

SUP

RESOLUTION 35 (Rev. Hammamet, 2016)

**Appointment and maximum term of office for chairmen and vice-chairmen  
of study groups of the Telecommunication Standardization Sector  
and of the Telecommunication Standardization Advisory Group**

*(Montreal, 2000; Florianópolis, 2004; Johannesburg, 2008;  
Dubai, 2012; Hammamet, 2016)*

SUP

RESOLUTION 45 (Rev. Hammamet, 2016)

**Effective coordination of standardization work across study groups in the  
ITU Telecommunication Standardization Sector and the role of the  
ITU Telecommunication Standardization Advisory Group**

*(Florianópolis, 2004; Johannesburg, 2008; Dubai, 2012; Hammamet, 2016)*

SUP

RESOLUTION 59 (Rev. Dubai, 2012)

**Enhancing participation of telecommunication operators  
from developing countries<sup>1</sup>**

*(Johannesburg, 2008; Dubai, 2012)*

SUP

RESOLUTION 66 (Rev. Dubai, 2012)

**Technology Watch in the Telecommunication  
Standardization Bureau**

*(Johannesburg, 2008; Dubai, 2012)*

# **Part 3**

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<b>SCV</b>	Vacant		
<b>SCV</b>	Mr Tong	WU	China (P.R.)

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**PART 4**  
**QUESTIONS**

## 1 Study Group 2

Question number	Question title
A/2	Application of numbering, naming, addressing and identification plans for fixed and mobile telecommunications services
B/2	Routing and interworking plan for current and future networks
C/2	Service and operational aspects of telecommunications, including service definition
D/2	Requirements, priorities and planning for telecommunication/ICT management and operation, administration and maintenance (OAM) Recommendations
E/2	Management architecture and security
F/2	Interface specifications and specification methodology

## 2 Study Group 3

New number	Current Question title
A/3	Development of charging and accounting/settlement mechanisms for current and future international telecommunication/ICT services and networks
B/3	Study of economic and policy factors relevant to the efficient provision of international telecommunication services
C/3	Regional studies for the development of cost models together with related economic and policy issues
D/3	International Internet and fibre cables connectivity including relevant aspects of Internet protocol (IP) peering, regional traffic exchange points, fibre cables optimization, cost of provision of services and impact of transition from Internet protocol version 6 (IPv6) deployment
E/3	International mobile roaming issues (including charging, accounting and settlement mechanisms and roaming at border areas)
F/3	Economic aspects of alternative calling procedures in the context of international telecommunications/ICT services and networks
G/3	Economic and policy aspects of the Internet, convergence (services or infrastructure) and OTTs in the context of international telecommunication/ICT services and networks
H/3	Competition policy and relevant market definitions related to the economic aspects of international telecommunication services and networks
I/3	Economic and policy aspects of big data and digital identity in international telecommunications services and networks
J/3	Economic and policy issues pertaining to international telecommunication/ICT services and networks that enable Mobile Financial Services (MFS)

### 3 Study Group 5

Question number	Question title
A/5	Electrical protection, reliability, safety, and security of ICT systems
B/5	Protecting equipment and devices against lightning and other electrical events
C/5	Human exposure to electromagnetic fields (EMFs) due to digital technologies
D/5	Electromagnetic compatibility (EMC) aspects in ICT environment
E/5	Environmental efficiency of digital technologies
F/5	E-waste, circular economy, and sustainable supply chain management
G/5	Guides and terminology on environment
H/5	Climate change and assessment of digital technologies in the framework of the Sustainable Development Goals (SDGs) and the Paris Agreement
I/5	Climate change mitigation and smart energy solutions
J/5	Adaptation to climate change through sustainable and resilient digital technologies
K/5	Building circular and sustainable cities and communities

### 4 Study Group 9

Question number	Question title
A/9	Transmission and delivery control of television and sound programme signal for contribution, primary distribution and secondary distribution
B/9	Methods and practices for conditional access and content protection
C/9	Guidelines for implementations and deployment of transmission of multichannel digital television signals over optical access networks and Hybrid Fibre-Coaxial (HFC)
D/9	Software components, application programming interfaces (APIs), frameworks and overall software architecture for advanced content distribution services within the scope of Study Group 9
E/9	Functional requirements for terminal devices of the integrated broadband cable network
F/9	Transmission control and interfaces (MAC layer) for IP and/or packet-based data over integrated broadband cable networks
G/9	The Internet protocol (IP) enabled multimedia applications and services for cable television networks enabled by converged platforms
H/9	Requirements, methods, and interfaces of the advanced service platforms to enhance the delivery of audiovisual content, and other multimedia interactive services over integrated broadband cable networks
I/9	Work programme, coordination and planning
J/9	Accessibility to cable systems and services
K/9	AI-enabled enhanced functions over integrated broadband cable network

## 5 Study Group 11

Question number	Question title
A/11	Signalling and protocol architectures for telecommunication networks and guidelines for implementations
B/11	Signalling requirements and protocols for services and applications in telecommunication environments
C/11	Signalling requirements and protocols for emergency telecommunications
D/11	Protocols for control, management and orchestration of network resources
E/11	Signalling requirements and protocols for border network gateway in the context of network virtualization and intelligentization
F/11	Protocols supporting control and management technologies for IMT-2020 network and beyond
G/11	Signalling requirements and protocols for network attachment and edge computing for future networks, IMT-2020 network and beyond
H/11	Protocols supporting distributed content networking, information centric network (ICN) technologies for future networks, IMT-2020 network and beyond
I/11	Testing of internet of things, its applications and identification systems
J/11	Monitoring parameters for protocols used in emerging networks, including cloud/edge computing and software-defined networking/network function virtualization (SDN/NFV)
K/11	Testing of cloud, SDN and NFV
L/11	Combating counterfeit and stolen telecommunication/ICT devices
M/11	Test specifications for protocols, networks and services for emerging technologies, including benchmark testing
N/11	Combating counterfeit or tampered telecommunication/ICT software

## 6 Study Group 12

Question number	Question title
QA/12	SG12 work programme and quality of service/quality of experience (QoS/QoE) coordination in ITU-T
QB/12	Definitions, guides and frameworks related to quality of service/quality of experience (QoS/QoE)
QC/12	Objective methods for speech and audio evaluation in vehicles
QD/12	Telephonometric methodologies for handset and headset terminals
QE/12	Analysis methods for speech and audio using complex measurement signals

<b>Question number</b>	<b>Question title</b>
QF/12	Methodologies, tools and test plans for the subjective assessment of speech, audio and audiovisual quality interactions
QG/12	Perceptual-based objective methods and corresponding evaluation guidelines for voice and audio quality measurements in telecommunication services
QH/12	Conferencing and telemeeting assessment
QI/12	Operational aspects of telecommunication network service quality and end-to-end performance considerations
QJ/12	Quality of experience (QoE), quality of service (QoS) and performance requirements and assessment methods for multimedia applications
QK/12	Development of models and tools for multimedia quality assessment of packet-based video services
QL/12	Parametric and E-model-based planning, prediction and monitoring of conversational speech and audio-visual quality
QM/12	Performance of packet-based networks and other networking technologies
QN/12	Objective and subjective methods for evaluating perceptual audiovisual quality in multimedia and television services
QO/12	Perceptual and field assessment principles for quality of service (QoS) and quality of experience (QoE) of digital financial services (DFS)

## 7 Study Group 13

<b>Question number</b>	<b>Question title</b>
A/13	Networks beyond IMT2020: Quality of service (QoS) mechanisms
B/13	Networks beyond IMT-2020 and machine learning: Requirements and architecture
C/13	Networks beyond IMT-2020: Network softwarization
D/13	Networks beyond IMT2020: Emerging network technologies
E/13	Networks beyond IMT2020: Fixed, mobile and satellite convergence
H/13	Future Networks: Deep packet inspection and network intelligence
I/13	Future Networks: Requirements and capabilities for computing including cloud computing and data handling
J/13	Future Networks: Functional architecture for computing including cloud computing and data handling
K/13	Future Networks: End-to-end management, governance, and security for computing including cloud computing and data handling
L/13	Applying Future Networks and innovation in developing countries
M/13	Future Networks: Trustworthy and Quantum Enhanced Networking and Services
N/13	Future Networks: Innovative service scenarios, including environmental and socio economical aspects
O/13	Next-generation network (NGN) evolution with innovative technologies including software-defined networking (SDN) and network function virtualization (NFV)

## 8 Study Group 15

Question number	Question title
A/15	Coordination of access and home network transport Standards
B/15	Optical systems for fibre access networks
C/15	Technologies for in-premises networking and related access applications
D/15	Broadband access over metallic conductors
E/15	Characteristics and test methods of optical fibres and cables, and installation guidance
F/15	Characteristics of optical components, subsystems and systems for optical transport networks
G/15	Connectivity, operation and maintenance of optical physical infrastructures
H/15	Characteristics of optical fibre submarine cable systems
I/15	Interfaces, interworking, OAM, protection and equipment specifications for packet-based transport networks
J/15	Signal structures, interfaces, equipment functions, protection and interworking for optical transport networks
K/15	Transport network architectures
L/15	Network synchronization and time distribution performance
M/15	Management and control of transport systems and equipment

## 9 Study Group 16

Question number	Question title
A/16	Multimedia and digital services coordination
B/16	Artificial intelligence-enabled multimedia applications
C/16	Visual, audio and signal coding
D/16	Immersive live experience systems and services
E/16	Multimedia systems, terminals, gateways and data conferencing
F/16	Intelligent visual systems and services
G/16	Content delivery, multimedia application platforms and end systems for IP-based television services including digital signage Content delivery, multimedia application platforms and end systems for IP-based television services including digital signage
H/16	Multimedia framework, applications and services
I/16	Multimedia aspects of distributed ledger technologies and e-services
J/16	Digital culture-related systems and services
K/16	Human factors for intelligent user interfaces and services
L/16	Accessibility to multimedia systems and services
M/16	Vehicular multimedia communications, systems, networks, and applications
N/16	Multimedia framework for digital health applications

## 10 Study Group 17

Number	Question title
A/17	Security standardization strategy and coordination
B/17	Security architecture and network security
C/17	Telecommunication information security management and security services
D/17	Cybersecurity and countering spam
E/17	Security for telecommunication services and Internet of Things
F/17	Secure application services
G/17	Cloud computing and Big data infrastructure security
H/17	Identity management and telebiometrics architecture and mechanisms
I/17	Generic technologies (such as Directory, PKI, Formal languages, Object Identifiers) to support secure applications
J/17	Intelligent transport system security
K/17	Distributed Ledger Technology (DLT) security
L/17	Security for/by emerging technologies including quantum-based security

## 11 Study Group 20

Question number	Question title
A/20	Interoperability and interworking of IoT and SC&C applications and services
B/20	Requirements, capabilities and architectural frameworks across verticals enhanced by emerging digital technologies
C/20	IoT and SC&C architectures, protocols and QoS/QoE
D/20	Data analytics, sharing, processing and management, including big data aspects, of IoT and SC&C
E/20	Study of emerging digital technologies, terminology and definitions
F/20	Security, privacy, trust and identification for IoT and SC&C
G/20	Evaluation and assessment of Smart Sustainable Cities and Communities



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