

**TELECOMMUNICATION
STANDARDIZATION SECTOR**

TD 415

STUDY PERIOD 2013-2016

English only

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Geneva, 1-5 February 2016

TD

Source: Director, TSB

Title: Updated WTSA-12 Action Plan (version 4) for TSAG (Feb 2016)

Summary:

WTSA-12 Action Plan is a living document set updated periodically by ITU-TSB to monitor and facilitate the implementation of WTSA-12 outcome. It has been updated and published for TSAG 2013, 2014 and 2015.

It contains two files: a WINWORD Report records the implementation progress and a set of EXCEL Sheets details the actions, their associated responsibilities, necessary collaborations, reporting mechanisms and implementation status in a table. More background explanation of its content is found in [TD293/TSAG](#).

Attached here is an updated version 4 for TSAG Feb 2016. However please note that this time it is not a 'complete' version of updates: Due to the recent redeployment of TSB staff as ITU-T SG councilors/advisors and the heavy workload of ITU-T SG2 and SG20 councilors/advisors prior to this TSAG meeting, updates of responsibility change (since TSAG 2015) haven't been reflected in the EXCEL sheet, Nor updates of ITU-T SG2, SG5 and SG20 work are included in the WINWORD report of this release.

A further updated version will be submitted to next TSAG meeting, before a final complete document set be submitted to WTSA-16 for consideration by ITU membership.

Action required:

TSAG is invited to:

- 1) note this document, and
- 2) review and take necessary actions to ensure the implementation of relevant action items under the responsibility of TSAG (see the last sheet in the EXCEL file).

WTSA-12 Action Plan, V4

(28 Jan 2016)

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Section I - List of WTSA-12 Resolutions and Opinion

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List of WTSA-12 Resolutions and Opinion

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<u>7</u>	<u>Resolution 7</u> – Collaboration with the International Organization for Standardization and the International Electrotechnical Commission
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<u>18</u>	<u>Resolution 18</u> – Principles and procedures for the allocation of work to, and coordination between, ITU Radiocommunication and ITU Telecommunication Standardization Sectors
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<u>31</u>	<u>Resolution 31</u> – Admission of entities or organizations to participate as Associates in the work of the ITU Telecommunication Standardization Sector
<u>32</u>	<u>Resolution 32</u> – Strengthening electronic working methods for the work of the ITU Telecommunication Standardization Sector
<u>33</u>	<u>Resolution 33</u> – Guidelines for strategic activities of the ITU Telecommunication Standardization Sector
<u>34</u>	<u>Resolution 34</u> – Voluntary contributions
<u>35</u>	<u>Resolution 35</u> – Appointment and maximum term of office for chairmen and vice-chairmen of study groups of the Telecommunication Standardization Sector and of Telecommunication Standardization Advisory Group
<u>38</u>	<u>Resolution 38</u> – Coordination among the three ITU Sectors for activities relating to International Mobile Telecommunications
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<u>49</u>	<u>Resolution 49</u> – ENUM
<u>50</u>	<u>Resolution 50</u> – Cybersecurity
<u>52</u>	<u>Resolution 52</u> – Countering and combating spam
<u>54</u>	<u>Resolution 54</u> – Creation of, and assistance to, regional groups
<u>55</u>	<u>Resolution 55</u> – Mainstreaming a gender perspective in ITU Telecommunication Standardization Sector activities

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57	Resolution 57 – Strengthening coordination and cooperation among the three ITU Sectors on matters of mutual interest
58	Resolution 58 – Encourage the creation of national Computer Incident Response Teams, particularly for developing countries
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69	Resolution 69 – Non-discriminatory access and use of Internet resources
70	Resolution 70 – Telecommunication/information and communication technology accessibility for persons with disabilities
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74	Resolution 74 – Admission of Sector Members from developing countries in the work of the ITU Telecommunication Standardization Sector
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79	Resolution 79 – 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
80	Resolution 80 – Acknowledging the active involvement of the membership in the development of ITU Telecommunication Standardization Sector deliverables
81	Resolution 81 – Strengthening collaboration
82	Resolution 82 – Strategic and structural review of the ITU Telecommunication Standardization Sector
Opinion 1	Opinion 1 – Practical application of network externality premium

* Numbers in the Resolution Number column are hyperlinked to the full texts of the published Resolutions

** The Resolution titles are hyperlinked to the status reports in this document below

The Action Plan for WTSA-12 Resolutions and Opinion includes references and linkages ITU-T documents and activities, and also to documents and activities of Council, Plenipotentiary Conference and the other Sectors. These references and links are updated with each update to the Action Plan.

Section II - Progress reports on implementation of the WTSA-12 Resolutions and Opinion

This section of the report shows the name of each WTSA-12 Resolution/Opinion, followed by the text of the “operative” portion of the Resolution, i.e., the *resolves, calls upon, instructs*, etc., a listing of the Action Items and due dates, with a column that indicates if a particular Action Item is ongoing by nature that has been met periodic goals, and another column that indicates if a particular Action Item has been completed. A box coloured with red indicates an item requiring attention or one that is in jeopardy. Further on in each section, detailed information on each Action Item will be provided. The Action Item number, in the first column of the chart of Action Items, is hyperlinked to the status report for that particular Action Item.

1. Resolution 1 - Rules of procedure of the ITU Telecommunication Standardization Sector

Resolution 1

resolves

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

Action Item	Action	Milestone	Periodic goals met	Completed
01-01	TSB to prepare agreement with host country for WTSA-16	One year ¹ before WTSA-16		
01-02	Director to prepare proposal for organization and structure of WTSA-16	3 months before WTSA-16		
01-03	Director to prepare report to WTSA-16 (§1.9.1)	Last TSAG before WTSA-16		

Action Item 01-01: TSB

Action Item 01-02: TSB

Action Item 01-03: TSB

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2. Resolution 2 - ITU Telecommunication Standardization Sector Study Group responsibility and mandates

Resolution 2

¹ ITU Council approved the date and venue of WTSA-16: 25 October to 3 November 2016, Yasmine Hammamet, Tunisia. Concurrence of a majority of ITU Member States is being sought until 15 Feb 2016.

resolves

1 that the mandate of each study group, which it shall use as the basis for organizing its study programme, shall consist of:

- a general area of responsibility, as set out in Annex A, 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. Dubai, 2012) 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,

instructs the Telecommunication Standardization Bureau

to support and facilitate the operational aspects of such collocation.

Action Item	Action	Milestone	Periodic goals met	Completed
02-01	TSB Counsellors to insert pointer on Resolution 2 webpage to location of updated SG structure, mandate or Annex C information within one month of change.	Ongoing	√	√
02-02	SG2 and SG3 to hold meetings back-to-back going forward	Ongoing	√	

Action Item 02-01: TSB

An updated Annex C is available on the ITU-T website here: <http://itu.int/en/ITU-T/about/Pages/res2-annexc-sp15.aspx>. Updates are recorded on this page shortly after approval.

Changes in mandate and lead SG roles are recorded directly under the "**Mandate and lead roles**" sub-page under each individual study group, <http://itu.int/en/ITU-T/studygroups/2013-2016/xx/Pages/mandate.aspx>, where xx=02, 03, 05, 09, 11, 12, 13, 15, 16, 17, 20.

Action Item 02-02: TSB

Conference Call held between SG2 and SG3 Chairmen and TSB Secretariat. SG2 and SG3 met back-to-back in May-June 2014 and March 2015.

It was impossible for SG2 and SG3 to hold their first meeting back to back in 2016. This is caused by arrangements of SG3 Regional Group meetings, availability of meeting rooms, dates of the Geneva Car Show and the planned dates for SG2's second meeting in 2016.

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3. Resolution 7 - Collaboration with the International Organization for Standardization and the International Electrotechnical Commission

Resolution 7

resolves

1 to continue inviting ISO and IEC to examine 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, and to so advise the Director of the Telecommunication Standardization Bureau (TSB);

2 to request the Director of TSB, after consultation with the study group chairmen concerned, to reply, and to furnish any additional information requested by ISO and IEC, as it becomes available;

3 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;

4 to request the Director of TSB, the study groups and the Telecommunication Standardization Advisory Group to consider and propose further improvements to the procedures for cooperation between ITU-T and ISO and IEC, including setting the priorities for such cooperation, such as conformance assessment schemes and laboratory standards;

5 that the necessary contacts with ISO and/or IEC should be 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;

6 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 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 joint interest;

7 that, for reasons of economy, any necessary collaborative meetings take place as far as possible in association with other meetings;

8 that the report concerning such coordination indicate the status of alignment and compatibility of draft texts on points of common concern, in particular identifying any subject which could be dealt with in a single organization, and cases where cross-referencing would be helpful to users of published International Standards and Recommendations;

9 to invite administrations to contribute significantly to the coordination between ITU-T on the one hand and ISO and IEC on the other by ensuring adequate coordination of national activities associated with the three organizations.

Action Item	Action	Milestone	Periodic goals met	Completed
07-01	Director to consult with ISO and IEC on work programmes and follow through with study group chairmen according to Resolves of Resolution 7.	Ongoing	√	
07-02	TSAG and SG17 to continue work on the Amendment to Rec ITU-T A.23 regarding registration authority	Ongoing	√	
07-03	TSB, in consultation with the study groups, to update programme of cooperation and priority among ITU-T, ISO and IEC, and update website	Ongoing	√	
07-04	TSB, in consultation with the study groups, to cooperate with ISO/IEC on C&I issues	Ongoing	√	

Action Item 07-01: TSB and SGs

The [World Standards Cooperation](#) (WSC) meets annually in the February timeframe. In addition, the TSB Director, ISO Secretary General and IEC General Secretary meet periodically (two-three times a year) to discuss cooperation topics.

WSC meetings:

- 14 February 2013, hosted by the ISO Secretariat.
- 20 February 2014, hosted by the ITU Secretariat.
- 12 February 2015, hosted by the IEC Secretariat.
- 25 February 2016, to be hosted by the ISO Secretariat.

WSC members agree at their annual meeting on a three-year rolling plan. Joint WSC activities include:

- World Standards Day
 - For WSD 2014, the traditional on-line poster competition was developed around the theme “International Standards level the playing field”.
 - For WSD 2015, the theme will be “Standards – building on a common language”.
- Academia
 - WSC organized the Academic Day, part of the WSC cooperation between SDOs and academic institutions, in Ottawa, Canada, 15 August 2014, in conjunction with the annual conference of SES. The theme was “Encouraging the next generation of standards experts”, with focus on the contribution that higher education in standardization can give to educate new standards experts and on programmes aiming to develop and nurture young standards professionals. At the same venue, the 8th conference of the International Cooperation on Education about Standardization (ICES) took place.
 - ISO, IEC and ITU organized the WSC roundtable at the University of Washington, Seattle, USA on 22-23 January 2015. The event brought together academics from world leading management schools, executives of standards institutes as well as industry, entrepreneurs, and government leaders interested in standardization strategy, practice, policy, innovation, and education. The theme was “The Role of Standardization in Innovation and Entrepreneurship”.
- Accessibility

Back in November 2010, WSC organized an international workshop on “Accessibility and the contribution of International Standards”. The workshop agreed upon several WSC recommendations with different level of priority.

Among those with high priority, WSC recommendation no. 4 stated that “*WSC-organizations should strengthen their relationship with the United Nations Convention of the Rights of Persons with Disabilities (UNCRPD) and establish links and liaisons with disability organizations*”. ITU facilitates this WSC effort as a United Nations agency and permanent member of the Inter-Agency Support Group (IASG) of the UNCRPD. A presentation on WSC accessibility work was made by TSB during the IASG for the UNCRPD meeting on 25 - 26 November 2013 at the UNESCO headquarters, as part of the follow-up. The presentation was very well received by the IASG and the Committee on the Rights of Persons with Disabilities (CRPD) which is the group of independent experts which monitors implementation of UNCRPD.

In April 2014, ITU facilitated and presented the role of accessibility standards during a briefing “Advancing on the implementation of Article 9 of the CRPD on “Accessibility”. This briefing was organized by ITU and UNHCR (Office of the United Nations High Commissioner for Human Rights) which is the Secretariat of the CRPD, during the 11th session of the CRPD. TSB led the initiative and a fruitful discussion took place with the experts of CRPD. ISO and IEC were invited and contributed to the meeting. This activity resulted in an inclusion of several references to ITU and the role of international standards into the draft General Comment on Article 9 of the UNCRPD.

Another 'high prioritized' recommendation lead to a [Joint IEC/ISO/ITU Policy Statement on Standardization and accessibility](#) which was published in October 2014. Also ITU is publishing therevised ISO/IEC Guide 71 as ITU-T H. Supplement 17, Guide for addressing accessibility in standards.

- Coordination of relations with WTO
- Conformity assessment
 - Under the lead of IEC, WSC will organize a WSC Conformity Assessment Workshop on 1-2 December 2015 to enhance awareness of global conformity assessment
- Promotion
 - WSC members agreed to a proposal to organize a Joint WSC Symposium at Smart City Expo World Congress 2015 in Barcelona, under IEC's lead.
- Intellectual Property Rights (IPR)

Regarding concerns raised by the participants of the ITU IPR ad hoc group regarding the process of working out and approving updates to the texts related to the IEC/ISO/ITU common patent policy, WSC agreed to revisit the process and either reconfirm it or propose enhancements.

ITU, ISO and IEC jointly organized The Fully Networked Car Workshops during the Geneva International Motor Show up to 2013. The 2013 edition took place on 6 March and was led by ISO (<http://www.worldstandardscooperation.org/fnc2013.html>). As of 2014, ISO and IEC are no longer co-organizers of the Fully Networked Car workshop. In 2014, ITU organized the "Future Networked Car" Symposium" during the Geneva International Motor Show.

TSB (Deputy Director) participated at the IEC SMB (Standardization Management Board) in February 2014 and at the ISO TMB (Technical Management Board) in June 2014. Action Item 07-02: TSAG and SG17

SG17 continues to work jointly with several ISO TCs, IEC TCs and ISO/IEC JTC 1/SCs on work items of common interest.

Revised Annex A to Recommendation A.23 is implemented by SG17. SG17 expects its work on registration authorities will be useful to TSAG in updating Annex A.

Action Item 07-03: TSB

The much-anticipated new codec standard – the successor to award-winning standard ITU-T H.264 – was consented at a meeting of Study Group 16 formally as Recommendation ITU-T H.265 or ISO/IEC 23008-2. It is the product of collaboration between the ITU Video Coding Experts Group (VCEG) and the ISO/IEC Moving Picture Experts Group (MPEG).

SG17 continues to work jointly with several ISO TCs, IEC TCs and ISO/IEC JTC 1/SCs on work items of common interest.

The mapping of SG17 Questions with TC or SC in IEC, ISO or ISO/IEC JTC 1 is updated at each SG17 meeting. See <http://itu.int/ITU-T/studygroups/com17/refdocs/relationships.html>.

SG17 reviewed the established liaison relationships between ISO TCs, SCs and JTC 1/SCs, and ITU-T. Update to the ICT Security Standards Roadmap is on-going to include information on new standards from ITU-T, ISO and IEC. Similar coordination is done on e-business standardization. SG17 sent a liaison to new ISO TC 292, Security.

Action Item 07-04: TSB

WSC, under the lead of IEC, plan to organize a conformity assessment workshop in December 2015 in conjunction with the UNECE Working Party 6 meeting and ITU-T Study Group 11 meeting.

A presentation on the IECCEE Conformity Assessment scheme was given on 26 February 2013 to both ITU-T SG11 and ITU-T SG13 and in a session at TSAG July 2013. Discussions between TSB Director and IEC General Secretary reveal possible mutually beneficial solutions for the implementation of pillar 1 of the ITU

C&I programme through the IEC schemes. ITU-T SG 11 at its meeting encouraged the TSB Director to explore this cooperation with IECEE and to report to TSAG.

ITU-T SG11 proposed a two-step implementation of ITU’s recognition procedure of testing labs with competence on ITU-T Recommendations:

- 1st step: to partner with existing voluntary conformity assessment (CA) programs to promote CA against ITU standard(s) by providing ITU’s technical experts to carry out part of TL assessment relevant to ITU standard(s);
- 2nd step: Based on market response to CA against ITU standard(s) introduced in the 1st step and the experience ITU gained from collaboration with existing schemes in the 1st step, to consider establishing ITU’s own TL recognition procedure.

Following this proposal, ITU-T is starting cooperation with IEC to conduct a trial of voluntary 3rd party CA of suitable ITU-T Recommendations (see PP-14 [C63](#)).

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4. Resolution 11 - Collaboration with the Postal Operations Council of the Universal Postal Union in the study of services concerning both the postal and the telecommunication sectors

Resolution 11

resolves

that the relevant ITU-T study groups should continue to collaborate with the Postal Operations Council (POC) committees as necessary, on a reciprocal basis and with a minimum of formality, in particular by investigating issues of common interest such as quality of service, electronic services and security of mobile payment,

instructs the Director of the Telecommunication Standardization Bureau

to encourage and assist this collaboration between the two organs.

Action Item	Action	Milestone	Periodic goals met	Completed
11-01	ITU-T SGs to collaborate with the POC on issues of common interest	Ongoing	√	

Action Item 11-01: SGs

TSB gave a talk at the UPU’s “Global Forum on Financial Inclusion”, 24-25 October 2013. This participation catalysed a mini workshop with UPU during the meeting of ITU-T SG 17 in January 2014. The workshop explored opportunities for cooperation in areas of joint interest. The mini workshop helped to achieve better mutual understanding of the interests and concluded with a couple of touch points for future collaboration. In particular, SG17 has some specific collaboration with UPU on identity management (Q10/17) and on secure e-mail (Q11/17).

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5. Resolution 18 - Principles and procedures for the allocation of work to, and coordination between, ITU Radiocommunication and ITU Telecommunication Standardization Sectors

Resolution 18

resolves

- 1 that TSAG and RAG, meeting jointly as necessary, shall continue the review of new and existing work and its distribution between ITU-T and ITU-R, for approval in accordance with the procedures laid down for the approval of new and/or revised Questions;
- 2 that, if considerable responsibilities in both Sectors in a particular subject are identified:
 - i) the procedure as given in Annex A to this resolution should be applied; or
 - ii) a joint group should be established; or
 - iii) the matter should be studied by relevant study groups of both Sectors, with appropriate coordination (see Annexes B and C to this resolution).

Action Item	Action	Milestone	Periodic goals met	Completed
18-01	TSAG to continue to review work and its distribution and possible coordination between ITU-T and ITU-R	Ongoing	√	

Action Item 18-01: TSAG

Collaboration with ITU-R is a standing agenda point of TSAG, and review is performed on a regular basis based on information received.

Three intersector rapporteur groups (IRGs) were created to work on items of interests to various ITU-T and ITU-R study groups:

- [IRG-AVA](#): Intersector Rapporteur Group Audiovisual Media Accessibility amongst ITU-T SG9, ITU-T SG16 and ITU-R SG6
- [IRG-AVQA](#): Intersector Rapporteur Group Audiovisual Quality Assessment amongst ITU-T SG9, ITU-T SG12 and ITU-R SG6
- [IRG-IBB](#): Intersector Rapporteur Group Integrated Broadcast-Broadband between ITU-T SG9, ITU-T SG16 and ITU-R WP 6B

At the recent Radio Assembly 2015, ITU-R has updated their rules for cooperation with ITU-T, see [TD 366/TSAG \(2016-02\)](#) for detailed information.

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6. Resolution 20 - Procedures for allocation and management of international telecommunication numbering, naming, addressing and identification resources

Resolution 20

resolves to instruct

- 1 the Director of TSB, before assigning, reassigning and/or reclaiming international 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; 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- and ITU-T X-series, and those to be further adopted;

2 Study Group 2, in liaison with the chairmen of the other relevant study groups, to provide to the Director of TSB:

- i) advice on technical, functional and operational aspects in the assignment, reassignment and/or reclamation of international NNAI resources in accordance with the relevant Recommendations, taking into account the results of any ongoing studies;
- ii) information and guidance in cases of reported complaints about misuses 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 on the misuse of any NNAI resources and inform the ITU Council accordingly;

4 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;

5 Study Group 2 to study, urgently, 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 NNAI resources, and of call progress tones and signals, through proper development of a proposed resolution and/or the development and adoption of a Recommendation towards this aim.

Action Item	Action	Milestone	Periodic goals met	Completed
20-01	Director to use procedures in relevant Recommendations upon receipt of new numbering, addressing and identification resource requests	Ongoing	√	
20-02	SG2 to provide Director with advice and guidance related to Resolution 20	Ongoing		
20-03	Director, in close collaboration with SG2 and other relevant study groups, to follow-up on misuse of resources and inform Council accordingly	Ongoing	√	
20-04	SG2 to study necessary action to ensure sovereignty of ITU Member States with regard to country code NNAI plans is maintained, including ENUM.	Ongoing	√	

Action Item 20-01: TSB

The Director has been following the relevant Recommendations in his deliberations and consultations for assigning, reassigning and/or reclaiming international NNAI.

In order to perform the administration and registration function for the international numbering resources under the purview of ITU-T more efficiently and precisely, database systems for many of the International Numbering Resources are undergoing a major revamp, which also presents a more intuitive user interface. So far in 2013 the overhaul of the database for national-only numbers linked with emergency services and other services of social value (ITU-T E.129) has been completed - http://www.itu.int/net/itu-t/inrdb/e129_important_numbers.aspx. This database is derived from elements reported by the Member States according to the format specified in Recommendation ITU-T E.129 (01/2013).

Databases displaying information related to Terrestrial trunk radio mobile country codes (TMCC) (ITU-T E.218); Issuer identifier numbers (IIN) for the international telecommunication charge card (ITU-T E.118); E.164 Geographic Country Codes; ITU-T E.164 International Shared Country Codes for Global Mobile Satellite System (GMSSS), Groups of countries, International Networks, Trial of a proposed new

international telecommunication public correspondence service and Universal Personal Telecommunication Service (UPT) were launched in September-October 2013.

Database systems for INRs have undergone a major revamp, including the development a more intuitive user interface.

Action Item 20-02: SG2

In the ITU Activity report to Council 2013 ([C13/35](#)), the TSB Director reports that ITU-T Study Group 2 established the membership of the advisory Number Coordination Team (NCT) in accordance with WTSA Resolution 20 (as stated in appendix I of E.164.1). It was agreed that the NCT will take on the responsibilities of the Assessment Committee for misuse of numbers, which advises the TSB Director on actions relating to misuses of a numbering resource according to ITU-T E.156.

At the ITU-T SG2 meeting (22-31 January 2013), the potential new applications and risks of exhaustion of E.212 resource were discussed. The evaluation of the impact of introducing 3 digit MNCs for E.212 resource is ongoing. Response from GSMA regarding 3-digit MNCs was received and noted by SG2 meeting of 17-26 September 2013. The possibility of assigning a global MCC either for M2M or only for automated in-vehicle emergency call systems or making MNC assignment more flexible for geographic MCCs is under discussion.

Recommendation ITU-T E.212 and its annexes are under revision in ITU-T SG2. Revisions to Annex B will provide more flexible guidelines and principles for the national regulators on the assignments of MNCs in a competitive market environment considering the need for consistency and backward-compatibility with the resources that have already been assigned. The option of using both 2 and 3 digit MNCs was kept in the new Annex G.

Responding to the invitation of TSB Director, the Expert Group (EG) on International Numbering Resources (INRs) was set up by ITU-T SG2 in its meeting of May 28 to June 6, 2014. The EG on INRs has held five physical meetings in Geneva, ITU headquarter with remote participation (2, 16, 22, 31 July and 22 August 2014).

Input documents from Chairman of the EG, TSB, ITU-T Sector Member (Telecom Italia) and Member States (Sweden and Egypt) were reviewed, discussed and revised as appropriate based on the comments raised in the EG meetings and comments sent to the mailing list for the EG on INRs.

In the Expert Group's meetings, the following issues have been reviewed and discussed:

- The list of INRs specified in ITU-T recommendations;
- ITU cost and income associated with allocation of INRs;

Practices of comparable organizations

- Changes resulting in more flexible assignment of INRs
- Changes that would result in revenue generation from INRs
- Advantages and disadvantages of utilizing revenue to balance the ITU budget
- Cost benefit analysis of changes; and
- Other issues including ITU satellite filings, WIPO's International Patent System, ITU Telecom, ITU publications and potential possibility of outsourcing of INR assignments

All the input and output documents, as well as archives of the mailing list for the EG can be found at (<https://extranet.itu.int/ITU-T/2013-2016/sg2/inr/SitePages/Home.aspx> . These materials have assisted the TSB Director in preparing his report to the final session of Council on 18 October 2014.

In its meeting of 18-27 March 2015, ITU-T SG2 agreed to create a correspondence group to review the Recommendations under SG2 mandate that put management requirements for both TSB and Member states relative to INRs and see whether improvement can be made.

ITU-T Study Group 2 has discussed the issue of reachability for shared/non geographic resources specified in Recommendation ITU-T E.164 and E.212 in its meeting held from 18-27 March 2015. It was agreed to bring to the attention of Member States, Sector Members and operators of the status of these resources by publishing a note in ITU Operational Bulletin. The agreed note was published in ITU Operational Bulletin No. 1074. The meeting also agreed that a correspondence group be organised to consider developing a supplement to address both the awareness of global resources within Member States and Sector Members and alleviating barriers for using these resources when they exist.

Action Item 20-03: TSB and SG2

Over 200 reports of misuse of numbering resources have been received by the end of 2013 in accordance with the established procedures. The Director of TSB has notified the concerned administrations. Around 30% of the reports got replies. Responses have been published as soon as they have been received. Most of them were sent by GSMA between March 2012 and February 2013 but GSMA has suspended submission of numbering resource misuse reports to ITU-T. How to update Recommendation ITU-T E.156 to reflect today's numbering misuse and to propose a more efficient means of combating numbering misuse is being considered by SG2.

At its January 2013 meeting, it was also agreed to study how TSB could 'streamline' the process and make it as automatic as possible. The reporting mechanism is being redesigned to allow for a more user-friendly interface and TSB is working to enable its global membership to receive misuse notification at the earliest possible time. However, it was agreed by SG2 at its meeting of 17-26 September 2013 that the main point of the reporting procedure at this stage is to provide accurate information regarding the numbering misuse to member states through a robust procedure in strict conformance with Recommendation ITU-T E.156 even if such reporting is not provided in "real time". Such a reporting procedure would also have merits since the reporter is sure that the information is sent to the legitimate assignee of the resource.

Five reports of [misuse of numbering resources](#) were received in 2014, two of which received replies. [Recommendation ITU-T E.156 "Guidelines for ITU-T action on reported misuse of E.164 number resources"](#) is under revision to include new cases of misuse and to investigate more efficient means of combating misuse. It was noted in the meeting of ITU-T Study Group 2 in June 2014 that further bilateral cooperation between the relevant Member States would help to address the issue in a more timely manner. Investigation is ongoing on how bilateral communication between Member States can be facilitated, for example, by the appointment of one or several contact points. Modalities associated with the reporting of misuse of numbering resources currently defined in Recommendation ITU-T E.156 was discussed at the ITU-T Study Group 2 meeting in March 2015 and amendments to Recommendation ITU-T E.156 were proposed.

Action Item 20-04: TSB and SG2

Notifications of national numbering/identification plan update and assignment or reclamation of national numbering/identification resources were received and published in the ITU Operational Bulletin. The ITU Operational Bulletin is now published in the six official languages.

DNS-based use of international numbering resources was discussed by SG2 in its meeting of 17-26 September 2013. It was agreed to invite the Director of TSB to initiate a correspondence between the ITU-T and ICANN, seeking assistance in understanding issues related to registering digit strings in the .TEL domain that appear to be of similar length and format of international telephone numbers. The Director of TSB has sent a letter dated 11 October 2013 to the President & CEO of ICANN and a response dated 29 October 2013 has been received. A conference call was held on 4th November 2013. The Director of TSB further explained ITU's concern during the meeting. Another letter from the Director of TSB dated 3 Feb. 2014 provided a brief explanation of Recommendation ITU-T E.164, the International Public Telecommunication Numbering Plan, and some preliminary thoughts on the validation requirements on ICANN's request. Points raised by ITU-T SG2 were mentioned again and a request made to receive ICANN's response in time for the forthcoming ITU-T SG2 meeting 28 May - 6 June 2014. No response has been received from ICANN to the issues raised in both letters and the teleconference. For more info, see [C14/INF21](#). A representative from ICANN participated the ITU-T SG2 meeting (28 May – June 2014) and provided some background on the TELNIC application. The opportunity of discussing the issues directly

with TELNIC was also considered as an option to progress the work. ICANN offered to assist in facilitating such discussions. Before going back to TELNIC, SG2 agreed to identify: (1) the risks that exist with registering numeric strings under '.tel' that resemble E.164 numbers; (2) in what way those risks could be harmful; and (3) how to provide a potential remedy for this problem. It was also agreed to set up a correspondence group in this regard.

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7. Resolution 22 - Authorization for Telecommunication Standardization Advisory Group to act between world telecommunication standardization assemblies

Resolution 22

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, as appropriate:

- a) maintain up-to-date, efficient and flexible working guidelines;
- b) assume responsibility, including development and submission for approval under appropriate procedures, for the ITU-T A-series Recommendations (Organization of the work of ITU-T);
- c) restructure and establish ITU-T study groups and assign chairmen and vice-chairmen to act until the next WTSA in response to changes in the telecommunication marketplace;
- d) issue advice on study group schedules to meet standardization priorities;
- e) 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;
- f) review reports of and consider appropriate proposals made by coordination groups and other groups, and implement those that are agreed;
- g) 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;
- h) advise the Director of TSB on financial and other matters;
- i) 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;
- j) group, as far as practicable, Questions of interest to developing countries, 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;
- k) 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. Dubai, 2012) of this assembly, Section 9;

2 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. Dubai, 2012) of this assembly, Section 9;

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

4 that TSAG consider the implications, for ITU-T, of market needs and new 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 nominate their chairmen and vice-chairmen;

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

6 that a report on the above TSAG activities shall be submitted to the next WTSA.

Action Item	Action	Milestone	Periodic goals met	Completed
22-01	TSAG to consider results of WTSA concerning GSS, for appropriate action (Resolves 5)	June 2013		√
22-02	TSAG to establish an appropriate mechanism to examine and coordinate work on emerging technologies (Resolves 4)	June 2013		√
22-03	TSAG report on its activities to WTSA-16 (Resolves 6)	Last TSAG before WTSA-16		

Action Item 22-01: TSAG and Review Committee

Done at their first meeting in the study period (June 2013).

Action Item 22-02: TSAG

Done at their first meeting in the study period (June 2013).

Action Item 22-03: TSAG

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8. Resolution 29 - Alternative calling procedures on international telecommunication networks

Resolution 29

resolves

1 that administrations and operating agencies authorized by Member States should take, to the furthest extent practicable, all measures to suspend the methods and practices of call-back which seriously degrade the quality and the performance of the PSTN, such as constant calling (or bombardment or polling) and answer suppression;

2 that administrations and operating agencies authorized by Member States should take a cooperative approach to respecting the national sovereignty of others, and suggested guidelines for this collaboration are attached;

3 to continue developing appropriate Recommendations concerning alternative calling procedures and, in particular, the technical aspects of the methods and practices of call-back which seriously degrade the quality and the performance of the PSTN, such as constant calling (or bombardment or polling) and answer suppression;

4 to instruct ITU-T Study Group 2 to study other aspects and forms of alternative calling procedures, including refiling and non-identification, and service definition and requirements for hubbing;

5 to instruct ITU-T Study Group 3 to study the economic effects of call-back, refiling and inappropriate hubbing and other forms of alternative calling procedures, as well as origin non-identification or spoofing, on the effort of developing countries for sound development of their local telecommunication networks and services, and to evaluate in cooperation with Study Group 2 the effectiveness of the suggested guidelines on call-back,

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.

Action Item	Action	Milestone	Periodic goals met	Completed
29-01	SG2 to study other aspects and forms of alternative calling procedures, including refiling, non-identification and hubbing	Ongoing	√	
29-02	SG3 to study the economic effects of call-back, refiling and inappropriate hubbing, spoofing, etc. on the effort of developing countries for sound development of their local telecommunication networks and services, and to evaluate with SG2 the effectiveness of the suggested guidelines for consultation on call-back	Ongoing	√	
29-03	Director to facilitate developing countries' participation and make use of the work/studies of SG2 and SG3 on alternative calling procedures	Ongoing	√	

Action Item 29-01: SG2

Non-identification issue was discussed at the SG2 meeting (17-26 September 2013). An ITU workshop on Caller ID Spoofing was held on 2 June 2014 during the SG2 meeting (Geneva, 28 May-6 June 2014). A presentation ([TD619/GEN2](#)) on number spoofing was made by the US Federal Trade Commission during the SG2 meeting of 18-27 March 2015.

Action Item 29-02: SG3 and SG2

A conference call was held between the TSB, the SG2 and SG3 Chairmen on 30 April 2013.

A TD sourced by the SG2 and SG3 Chairmen with the title of Areas for cooperation between SG2 and SG3 following WTSA-12 Resolutions has been agreed. Areas, breakdown of areas and modalities of cooperation for SG2 and SG3 as to WTSA-12 Resolutions 29, 61, 64 and 65 were proposed.

A joint ITU-T SG3 and SG2 Rapporteur Group was proposed in 2013 to study the economic impact of call-back, refiling and inappropriate hubbing, and other forms of alternative calling procedures as well as origin non-identification or spoofing. SG3 proposed Terms of Reference to SG2. At its May 2014 meeting, SG3 accepted proposed changes by SG2 to that the Terms of Reference (via liaison statement) are ready and collaborative work can begin. At its May 2015 meeting, SG3 suggested a final addition, namely that the TSB Director would make available the result of study agreed by SG2 (see also [64-02](#)) to monitor the allocation of IPv4 addresses, to the joint rapporteur group.

Action Item 29-03: TSB

The ad hoc group on developing countries met during the ITU- T SG2 meeting (22 – 31 January 2013). It was agreed that the SG2 Regional Groups should pay special attention to the relevant articles of the new ITRs and all WTSA-12 Resolutions related to SG2 and is of concern to developing countries, and to be reminded and encouraged to submit contributions in this regard to the next SG2 meeting. This point was raised again when the ad hoc group on developing countries met during the SG2 meeting (Geneva, 17-26 September 2013) and the SG2 meeting (28 May-6 June 2014).

In the ad hoc group meeting held during ITU-T SG2 meeting (18-27 March 2015), misuse and alternative calling procedure were listed as one of the important areas for developing countries to pay attention to. The meeting agreed to encourage ITU-T SG2 Regional Groups to submit contributions on these topics to the subsequent ITU-T SG2 meetings.

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9. Resolution 31 - Admission of entities or organizations to participate as Associates in the work of the ITU-T Telecommunication Standardization Sector

Resolution 31

resolves

- 1 that an interested entity or organization may join ITU-T as an Associate and be entitled to take part in the work of a selected single study group;
- 2 that Associates are limited to the study group roles described below and excluded from all others:
 - Associates may take part in the process of preparing Recommendations within a study group, including the following roles: meeting participant, contribution submitter, Recommendation editor, and, during the alternative approval process, provider of comments during the last-call period (but not during the additional review period);
 - Associates may have access to documentation required for their work;
 - an Associate may serve as rapporteur, responsible for directing the studies for the relevant study Question within the selected study group, except for taking part in any decision-making or liaison activities which are to be handled separately, in accordance with No. 248B of the Convention;
- 3 that the amount of the financial contribution for Associates be based upon the contributory unit for Sector Members as determined by Council for any particular biennial budgetary period,

requests

- 1 the Secretary-General to admit entities or organizations to participate as Associates in the work of a given study group or subgroups thereof following the principles set out in Nos. 241B, 241C, 241D and 241E of the Convention;
- 2 the Telecommunication Standardization Advisory Group to review on an ongoing basis the conditions governing the participation (including financial impact on the Sector budget) of Associates based on the experience gained within ITU-T,

instructs the Director of the Telecommunication Standardization Bureau

to prepare the necessary logistics for the participation of Associates in the work of ITU-T, including possible impacts of study group reorganization.

Action Item	Action	Milestone	Periodic goals met	Completed
31-01	TSAG to review conditions governing participation of Associates	Ongoing		
31-02	Director to continue to provide necessary logistics for participation of Associates	Ongoing	√	

Action Item 31-01: TSAG

Action Item 31-02: TSB

All necessary logistics is being provided.

The participation of Associates slightly increased in 2015:

- 31 December 2010: 125 Associates
- 31 December 2011: 136 Associates
- 31 December 2012: 144 Associates
- 31 December 2013: 139 Associates
- 31 December 2014: 138 Associates
- 31 December 2015: 142 Associates

In 2015, ITU-T Study Groups 5, 13, 17 and 20 attracted one or two new Associates while Study Group 2 had 6 new Associates and Study Group 15 had 8. The current list of Associates may be found at http://itu.int/online/mm/scripts/mm.list?_search=ASSOCIATES.

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10. Resolution 32 - Strengthening electronic working methods for the work of the ITU-T Telecommunication Standardization Sector

Resolution 32

resolves

1 that the principal EWM objectives of ITU-T are:

- that collaboration between members on development of Recommendations should be by electronic means;
- that TSB, in close collaboration with the ITU Telecommunication Development Bureau (BDT), should provide facilities and capabilities for EWM at ITU-T meetings, workshops and training courses, particularly to assist developing countries that have bandwidth limitations and other constraints;
- to encourage electronic participation of developing countries in ITU-T meetings, by providing simplified facilities and guidelines, and by waiving any expenses for those participants, other than the local call or Internet connectivity charges;
- that TSB, in close collaboration with BDT, should provide facilities and capabilities for EWM at ITU-T meetings, workshops and training courses, and encourage participation of developing countries, by waiving, within the credits that the Council is empowered to authorize, any expenses for those participants, other than the local call or Internet connectivity charges;
- that TSB should provide all members of ITU-T with appropriate and ready access to electronic documentation for their work, including a global, unified and consolidated view of document traceability;
- that TSB should provide appropriate systems and facilities to support the conduct of ITU-T's work by electronic means; and
- that all activities, procedures, studies and reports of ITU-T study groups be posted on the ITU-T website so as to facilitate navigation to find all relevant information,

2 that these objectives should be systematically addressed in an EWM action plan, including individual action items identified by the ITU-T membership or TSB, and prioritized and managed by TSB with the advice of the Telecommunication Standardization Advisory Group (TSAG),

instructs

1 the Director of TSB to:

- maintain the EWM Action Plan to address the practical and physical aspects of increasing the EWM capability of ITU-T;
- identify and review costs and benefits of the action items on a regular basis;
- report to each meeting of TSAG the status of the Action Plan, including the results of the cost and benefit reviews described above;
- provide the executive authority, budget within TSB, and resources to execute the Action Plan with all possible speed;
- develop and disseminate guidelines for the use of ITU-T EWM facilities and capabilities;
- take action, in order to provide appropriate electronic participation or observation facilities (e.g. webcast, audioconference, web conference/document sharing, videoconference, etc.) in ITU-T meetings, workshops and training courses for delegates unable to attend events in person and to coordinate with BDT to assist in the provision of such facilities; and
- provide an ITU-T website that is easy to navigate to find all relevant information,

2 the TSAG Rapporteur Group on Working Methods (incl. EWM) to continue to:

- act as the point of contact between ITU-T membership and TSB on EWM matters, in particular providing feedback and advice on the contents, prioritization and implementation of the Action Plan;
- identify user needs and plan the introduction of suitable measures through appropriate subgroups and pilot programmes;
- request study group chairmen to identify EWM liaisons;
- encourage participation by all participants in the work of ITU-T, especially EWM experts from TSAG, the study groups, TSB and appropriate ITU Bureaux and departments;
- continue its work electronically outside TSAG meetings as necessary to carry out its objectives.

Action Item	Action	Milestone	Periodic goals met	Completed
32-01	TSB to maintain EWM Action Plan	Ongoing	√	
32-02	TSB to review and recommend new and revised capabilities of ITU-T tools and applications, and report status of EWM Action Plan to each meeting of TSAG	Ongoing	√	
32-03	Director to develop budget estimate to implement EWM Action Plan and include it in budget request to Council	Ongoing	√	
32-04	TSB to develop and disseminate guidelines for use of ITU-T EWM facilities and capabilities	Ongoing	√	
32-05	TSAG Rapporteur Group on Working Methods (incl. EWM)to provide feedback and advice on the EWM Action Plan to TSB at each meeting	Ongoing	√	

Action Item 32-01: TSB

EWM Action Plan is being maintained and progress reports by EWM are regularly provided to TSAG.

Action Item 32-02: TSB

TSB in close collaboration with the ITU IS Department developed and introduced several new electronic applications and services and further enhanced existing electronic facilities to support and improve the electronic working methods of the members. Since TSAG June 2014, key achievements include:

The online collaborative platform has been developed to further improve the electronic working methods of ITU-T Study Groups. Based on SharePoint, the collaboration site allows members to conduct on-line discussions and work on documents in a secure and shared environment. Several categories for on-line discussions based on the current structures of the different Study Groups have been created and are now available to be used. In addition, basic social media functionalities are available to encourage lively and productive discussions between the members. The ITU-T Study Groups SharePoint collaboration sites are restricted to ITU-T Members and may be accessed using a TIES account here: <https://extranet.itu.int/ITU-T/2013-2016/SitePages/Home.aspx>

The SharePoint collaborative platform continues to be actively utilized by the members especially for the work of ITU-T Focus Groups. Some Focus Groups are now storing their documents exclusively in SharePoint document libraries and the advanced features and tools available in SharePoint enable participants to work more efficiently on their documents. Individual sites for the different working groups have also been set up to allow leaders to organize and manage their documents as needed. Several SharePoint web applications are also available to further improve the online collaboration of the participants. These include online surveys, calendars, photo libraries, discussion boards, newsfeeds, etc. Some of the Focus Groups Collaboration sites currently available at: <https://extranet.itu.int/ITU-T/focusgroups>.

A new version of the Meeting Documents Sync Application is now available. The app which was developed by ITU C&P allows meeting participants to synchronize documents of the current meeting of an ITU-T study group from the ITU server to their local drive. Improvements in the new version, include the indication of the version number, selective update, filtering of questions and other bug fixes.

To improve information accessibility about intellectual property rights (IPR) in ITU-T Recommendations, each declaration form is scanned into PDF and is freely available from www.itu.int/ipr. 2069 files were available online in May 2015, including old declarations. To get more information, each patent number is also associated with a direct link to its respective European Patent Office database record, if any.

Starting January 2014, TSB is providing Adobe Connect as the remote participation tool for all official ITU-T meetings that are held in ITU HQ in Geneva. In addition, users can use their TIES accounts to access sessions that require login details. Having two possibilities, **TIES secured** or **open to guest** sessions, adds more flexibility and security when setting up the sessions and simplifies the login procedure for all participants.

In 2015, a total of **1296** e-Meetings were provided by TSB using GoToMeeting and Adobe Connect. This resulted in **5434** online attendees.

To enable new features such as digital signature-based data integrity checks, role-based information management, data privacy and other advanced information management capabilities, the following database entries have been assigned unique and persistent identifiers and their corresponding structured records based on the Digital Object Architecture: ITU-T Recommendations; ITU-T Conformity Statements; ITU-T Patents and Software Copyrights; ITU-T Formal descriptions and Object identifiers; ITU-T Test Signals; ITU-T Liaison Statements.

Action Item 32-03: TSB

The four-year rolling Operational Plan, including resource requirements, was submitted to Council-2015 in document [C15/29](#) . It was also submitted to TSAG June 2015 as TSAG [TD 234/TSAG](#).

Action Item 32-04: TSB

A site dedicated to providing immediate support and professional advice for SharePoint collaboration sites users is available at: <https://extranet.itu.int/ITU-T/support/>.

Access to remote participation sessions provided for ITU-T meetings has been simplified. From now on you can use your TIES account to join a specific session remotely, provided that your account has sufficient privileges for that meeting. A dedicated e-Meetings webpage has been created, listing all upcoming meetings with their relative e-meeting URL. A short user guide for those who are not yet familiar with Adobe Connect tool is also available. The webpage is accessible at: <http://itu.int/en/ITU-T/events/Pages/emeetings.aspx>.

For a better visibility, ITU-T tools and applications news are now disseminated through a new ITU-T blog easier to feed and to read; see: <http://tsbtech.itu.int/>.

Action Item 32-05: TSAG

A SharePoint collaboration site has been created for TSAG and several discussion categories based on the current structure of TSAG including an area for Working Methods have been set up at: <https://extranet.itu.int/ITU-T/2013-2016/tsag>.

The TSAG Rapporteur Group on Working Methods was established at the TSAG June 2014 meeting and produced the best practices guidelines for remote participation known as Supplement 4 to ITU-T A-series Recommendations "Supplement on guidelines for remote participation".

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11. Resolution 33 - Guidelines for strategic activities of the ITU Telecommunication Standardization Sector

Resolution 33

resolves to invite Member States and Sector Members

to continue contributing their insights on the strategic plan and priorities of ITU-T to the TSAG strategic planning process,

instructs the Telecommunication Standardization Advisory Group

1 to monitor the Sector's work during the current study period in light of the current strategic plan adopted in Resolution 71 (Rev. Guadalajara, 2010) and the evolution of the telecommunication environment, including:

- setting appropriate priorities during the course of the study period in order to achieve the Sector's objectives against which the performance of the Sector can be measured;
- obtaining regular reports from study group chairmen and other responsible entities as to the achievement of such priorities;
- implementing appropriate action to enable priorities and strategic objectives to be amended in light of changes in the telecommunication environment, or non-achievement of anticipated events;
- evaluating the continuing relevance and applicability of the current plan and proposing the necessary changes, as required;

2 to prepare proposals to assist in preparation of the Union's draft strategic plan for the coming study period that duly reflect:

- the main objectives in the current strategic plan that continue to be relevant;
- new and converging technologies, their priority outcomes and the need to develop, rapidly and reliably, appropriate global standards;
- ongoing and new changes in the telecommunication environment;
- the need to define clearly, and establish broadly, formal relationships with the broadest practicable population of international, regional and other standardization bodies, based on guidelines already agreed in relevant ITU-T A-series Recommendations, and to implement the relevant conclusions of the Global Standards Symposium (GSS), in accordance with Resolution 122 (Rev. Guadalajara, 2010) of the Plenipotentiary Conference;

- the ongoing evolution in the role of ITU-T, which needs to be increasingly inclusive of market dynamics, and needs to coordinate and cooperate, for mutual benefit, with other relevant entities, in order to accelerate the efficient development of internationally useful standards;
- the implementation of Resolution 123 (Rev. Guadalajara, 2010) of the Plenipotentiary Conference, on bridging the standardization gap between developed and developing countries, including the least developed countries, small island developing states, landlocked developing countries and countries with economies in transition.

Action Item	Action	Milestone	Periodic goals met	Completed
33-01	TSAG to monitor Sector's work, setting priorities and implementing appropriate actions at each meeting	Ongoing	√	
33-02	TSAG to prepare proposals for preparation of the Union's strategic plan for reporting to Council 2014	June 2014	√	
33-03	TSAG to prepare proposals for drafting ITU-T portion of Strategic Plan at July 2014 meeting	June 2014	√	
33-04	TSAG to prepare proposals for action by WTSA-16	Last TSAG before WTSA-16		

Action Item 33-01: TSAG

Review is performed on a regular basis based on information received.

Action Item 33-02 & 33-03: TSAG

At its June 2013 meeting, TSAG established the TSAG Rapporteur Group on the Strategic Plan.

The changes regarding the outcomes and outputs of the ITU-T strategic plan proposed by this TSAG Rapporteur Group were endorsed by TSAG 2014 and finally adopted by PP-14 Resolution 71. The Rapporteur Group was renamed by TSAG 2014 as TSAG Rapporteur Group on 'strategic and operational plan'.

Action Item 33-04: TSAG

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12. Resolution 34 - Voluntary contributions

Resolution 34

resolves

- 1 to encourage the financing of specific projects, focus groups or other new initiatives, including any activities which help achieve the objectives of Resolution 44 (Rev. Dubai, 2012) of this assembly, 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;
- 3 to invite Member States, Sector Members and Associates from both developing and developed countries 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.

Action Item	Action	Milestone	Periodic goals met	Completed
34-01	TSB to solicit Voluntary Contributions for specific activities, e.g., projects, meetings, workshops, EWM	Ongoing	√	
34-02	TSB presentations at workshops, regional meetings and other promotional events to include encouragement of voluntary contributions to fund new initiatives (also see Resolution 44)	Ongoing	√	

Action Item 34-01: TSB

As the full implementation of the WTSA-12 Resolutions cannot be achieved with the current level of ITU-T resources as all possible efficiency savings have already been made, the TSB Director has therefore appealed to the membership for voluntary contributions to fund extra activities of ITU-T, in accordance with Resolution 34. Voluntary contributions, whether in kind or monetary, can be used to fund specific projects, fellowships, or new initiatives, including any activities that help achieve the objectives of Resolution 44².

Action Item 34-02: TSB

Voluntary contributions to TSB to fund new initiatives (also see Resolution 44) are frequently encouraged at workshops, regional meetings and other promotional events.

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13. Resolution 35 - 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

Resolution 35

resolves

- 1 that candidates for the posts of chairmen and vice-chairmen of the ITU-T study groups and candidates for the posts of chairman and vice-chairmen of TSAG should be appointed according to the procedures given in Annex A, the qualifications given in Annex B and the guidelines given in Annex C to this resolution;
- 2 that candidates for the posts of study group chairmen and vice-chairmen and candidates for the posts of chairman and vice-chairmen of TSAG should be identified, taking into account that, for each study group and for TSAG, WTSA will appoint the chairman and only the number of vice-chairmen deemed necessary for the efficient and effective management and functioning of the group in question, applying the guidelines given in Annex C;
- 3 that nominations for the posts of study group chairmen and vice-chairmen or for a post of chairman and vice-chairmen of TSAG should be accompanied by a biographical profile highlighting the qualifications of the individuals proposed, taking into careful consideration continuity in participation in ITU-T study groups or TSAG, and that the Director of the Telecommunication Standardization Bureau will circulate the profiles to the heads of delegation present at WTSA;

² <http://itu.int/md/T13-TSB-CIR-0019>.

4 that the term of office for both chairmen and vice-chairmen should not exceed two terms of office between consecutive assemblies;

5 that the term of office in one appointment (e.g. as a vice-chairman) does not count towards the term of office for another appointment (e.g. as a chairman) and that steps should be taken to provide some continuity between chairmen and vice-chairmen;

6 that the interval between assemblies during which a chairman or vice-chairman is elected under No. 244 of the Convention does not count towards the term of office,

invites Member States and Sector Members

to support their successful candidates for such posts in ITU-T, and support and facilitate their task during their term of office.

Action Item	Action	Milestone	Periodic goals met	Completed
35-01	Director to issue Circular soliciting candidates for SG chairmen and vice chairmen, especially to make the BSG responsibilities known before the appointment of chairmen/vice-chairmen of TSAG and ITU-T study groups (see also Resolution 44) and to encourage women experts (see also Resolution 55)	31-Jan-16		

Action Item 35-01: TSB

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14. Resolution 38 - Coordination among the three ITU Sectors for activities relating to International Mobile Telecommunications

Resolution 38

resolves

1 that ITU-T maintain a roadmap for all of its standardization activities relating to IMT;

2 that the effective coordination currently established between ITU-T, ITU-R and ITU-D for activities relating to IMT be continued so as to ensure full alignment and harmonization of the work programmes, including the roadmaps, of the three Sectors,

instructs the Director of the Telecommunication Standardization Bureau

to bring this resolution to the attention of the Directors of BR and BDT,

encourages the Directors of the three Bureaux

to investigate new ways to improve the efficiency of ITU work on IMT.

Action Item	Action	Milestone	Periodic goals met	Completed
38-01	TSB and SG13 to maintain the roadmap for all standardization activities related to IMT in accordance to each ITU Sector's responsibilities.	Ongoing	√	

Action Item 38-01: TSB and SG13

SG13 has a permanent Ad-Hoc group to deal with implementation of Resolution 38. The roadmap with IMT standardization activities is the main product of this group that is updated at each SG13 meeting.

The Focus Group on network aspects of IMT-2020 was established in May 2015 to analyse how emerging 5G technologies will interact in future networks as a preliminary study into the networking innovations required to support the development of 5G systems. The group took an ecosystem view of 5G research of development and published the analysis in a Report to its parent group, ITU-T Study Group 13 .

In December 2015, the Focus Group received an extension to its lifetime.

ITU-T standardization activity based on the findings of the Focus Group will prioritize the alignment of 5G deliverables with those of ITU-R, ensuring that standardization work on the network aspects of 5G is informed by the progression of its radio-transmission systems.

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15. Resolution 40 - Regulatory aspects of work of the ITU Telecommunication Standardization Sector

Resolution 40

resolves

1 that, when determining whether a Question or Recommendation has policy or regulatory implications, particularly Questions or Recommendations which relate to tariff and accounting issues, 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 natural resources of numbering and addressing;
- 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 request TSAG to consult Member States on any relevant issues other than those specified above;

3 to instruct TSAG to study and identify the operational and technical areas related to quality of service/quality of experience (QoS/QoE) of telecommunications/ICTs 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.

Action Item	Action	Milestone	Periodic goals met	Completed
40-01	Study Groups to consider the Resolution when determining whether a Question or Recommendation has policy or regulatory implications	Ongoing	√	

Action Item	Action	Milestone	Periodic goals met	Completed
40-02	TSAG to study and identify the operational and technical areas related to quality of service/quality of experience (QoS/QoE) of telecommunications/ICTs that might have policy and regulatory nature			

Action Item 40-01: SGs

Study groups apply appropriate Resolutions (e.g., Resolution 1, Resolution 2, Resolution 40) to decide which approval process should be utilized for draft Recommendations.

For SG17, for example, the selection of approval process was done for each Question during the first meeting of the study period. For new or revised questions, the process is applied when developing the question. For Recommendations, the selection of the approval process is considered on a case-by-case basis, as and when work items on recommendations are created.

Action Item 40-02: TSAG

Activity not yet started. Contributions are solicited.

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16. Resolution 43 - Regional preparations for world telecommunication standardization assemblies

Resolution 43

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, 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 twelve 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 WSAs, 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 countries¹;

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;

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

iv) the organization of information sessions on expected work for WTSA;

3 to submit, no later than the 2013 session of the ITU Council, 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;

2 to convene, if possible, informal interregional meetings in order to arrive at interregional common proposals.

Action Item	Action	Milestone	Periodic goals met	Completed
43-01	Director to organize, at the request of the region, at least one regional preparatory meeting per region for WTSA-16 between Oct 2015 and June 2016	30-Sep-15		
43-02	Director to invite Secretary General to consult Member States and regional telecommunication organizations on the means by which their preparations for WTSA-16 can be supported, including support for a Bridging the Standardization Gap Forum per region.	30-Jun-15	√	
43-03	Director to submit a report to Council on feedback from MSs concerning regional preparatory meetings for WTSA-12.	01-Apr-13		√

Action Item 43-01: TSB

ITU-T organized together with regional telecommunication organizations preparation meetings for WTSA-16, see: <http://www.itu.int/en/ITU-T/wtsa16/prepmeet/Pages/default.aspx>.

Action Item 43-02: TSB and General Secretariat

After WTSA-12, the strategy of organizing regional meetings, co-located with other events, will continue. WTSA-12/WCIT debriefing events were held for Asia-Pacific region in Bangkok, Thailand, 7-8 March 2013, Africa region in Durban, South Africa, 10-11 July 2013 and Arab region in Rabat, Morocco, 2-3 Sept 2013.

See also Action Item [44-24 below on Regional Standardization Forum activities](#).

Action Item 43-03: TSB

Done

In the ITU Activity report to Council 2013 ([C13/35](#)), the TSB Director reports about the back-to-back regional WTSA-12 and WCIT-12 preparatory meetings in the following regions.

- APT (March, Australia)
- RCC (March, Uzbekistan)
- Arab States (April-May, Egypt)

- Americas (May, Argentina)
- Africa (May, South Africa)
- Caribbean (October, Trinidad & Tobago)

(full details regarding the regional preparatory meetings are found at <http://www.itu.int/en/ITU-T/wtsa-12/prepmeet/Pages/default.aspx> for complete details).

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17. Resolution 44 - Bridging the standardization gap between developing and developed countries

Resolution 44

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, as appropriate, shall develop a programme to:
 - i) assist developing countries in developing methods that facilitate the process of linking innovations to the standardization process;
 - 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;
- 3 to request the Director of TSB to strengthen cooperation and coordination with the relevant regional organizations, in particular those of the developing countries;
- 4 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 planning, operation and maintenance of telecommunications networks;
- 5 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, and encourage cooperation and collaboration of these groups with other regional standardization entities;
- 6 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;
- 7 that the responsibilities of all vice-chairmen and chairmen from developing countries appointed to leadership positions in TSAG and in ITU-T study groups include, among others:
 - 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,

further resolves that ITU regional offices

- 1 be engaged in the activities of TSB in order to promote and coordinate standardization activities in their regions to support the implementation of the relevant parts of this resolution and to carry out the objectives of the action plan, and launch campaigns to attract new Sector Members, Associates and Academia from developing countries to join ITU-T;
- 2 assist the vice-chairmen, within the offices' budgets, in mobilizing members within their respective regions for increased standardization participation;
- 3 organize and coordinate the activities of the regional groups of ITU-T study groups;

- 4 provide the necessary assistance to the regional groups of ITU-T study groups;
- 5 provide assistance to the regional telecommunication organizations for the setting-up and management of regional standardization bodies,

invites the Council

- 1 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 encourage the establishment of a specialized panel for stimulating ICT innovations, under ITU-T, with the objective of enhancing global collaborative innovation in order to bridge the standardization gap between developed and developing countries and to identify and support innovations from developing countries;
- 3 to report, as appropriate, on this matter to the 2014 plenipotentiary conference;
- 4 to advise the 2014 plenipotentiary conference on its implementation of *invites the Council*,

instructs the Director of the Telecommunication Standardization Bureau, in collaboration with the Directors of Telecommunication Development Bureau and the Radiocommunication Bureau, within available resources

- 1 to continue implementing the objectives of the action plan annexed to this resolution;
- 2 to assist developing countries with their studies, particularly in respect of their priority questions and towards developing and implementing ITU-T Recommendations;
- 3 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;
- 4 to take the appropriate actions in respect of each new ITU-T Recommendation having implementation aspects, and consider the need for developing implementation guidelines;
- 5 to arrange for the drafting of a set of guidelines on the application of ITU Recommendations at national level, having regard to the provisions of Resolution 168 (Rev. Guadalajara, 2010) of the Plenipotentiary Conference;
- 6 to provide the support needed for regional mobilization for standardization;
- 7 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;
- 8 to include in the TSB budget proposal to the ITU Council funds identified for the implementation of this resolution, taking into account financial constraints and existing and planned BDT activities;
- 9 to assist in institutionalizing the terms of reference, specified in *resolves 7* above in the working of TSAG and ITU-T study groups, so as to ensure that the specific responsibilities are made known to aspiring vice-chairmen before their appointment;
- 10 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 to implement this resolution;
- 11 to provide assistance to developing countries, if requested, in developing guidelines for use by the national entities of the requesting country in order to enhance their participation in ITU-T study groups, with the assistance of the ITU regional offices, for bridging the standardization gap;
- 12 to enhance use of electronic channels such as webinars or e-learning for education and training on implementation of ITU-T Recommendations;
- 13 to provide all necessary support for creating and ensuring the smooth functioning of the regional groups;

14 to take all necessary measures to facilitate the organization of meetings and workshops of the regional groups;

15 to report on the effectiveness of the regional groups to the ITU Council;

16 to conduct workshops and seminars, as appropriate, to disseminate information and increase understanding of new Recommendations, in particular for developing countries,

instructs ITU-T study groups 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 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 environment of the developing countries in the process of establishing standards in the fields of planning, services, systems, operation, tariffs and maintenance, and to provide solutions/options 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 world telecommunication development conferences;

3 to continue liaising with study groups of the ITU Telecommunication Development Sector, 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,

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 consider, whenever possible, holding workshops concurrently with meetings of the ITU-T regional groups, in coordination and collaboration with the Director of BDT,

invites 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* 5 of this resolution and Resolution 54 (Rev. Dubai, 2012) of this assembly, and to support their meetings and activities, as appropriate, in coordination with TSB;

2 to take an active part in the activities of the ITU-T regional groups and support regional 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, which are to be approved by the parent study group,

encourages Member States and Sector Members

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

Action Item	Action	Milestone	Periodic goals met	Completed
44-01	TSB to continue BSG action plan in annex and review on an annual basis	Ongoing	√	
44-02	TSB to develop a programme to assist developing countries to develop methods and means to link national innovations to standardization process	Ongoing	√	
44-03	TSB Dir to strengthen cooperation and coordination with regional organizations, particularly of developing countries	Ongoing	√	
44-04	TSB Dir to propose for Council to consider free online access to manuals, handbooks, directives and other ITU material to implement ITU-T Recommendations.	Council 2013		√
44-05	TSB further encourage voluntary contributions to the bridging the standardization gap fund (see also Resolution 34)	Ongoing	√	
44-06	SGs to mobilize chairmen and vice-chairmen from developing countries for BSG at first meeting and report to TSAG	TSAG 2013	√	
44-07	ITU regional offices to be engaged in implementation of BSG action plan, assist to increase standardization participation, attract new ITU-T membership, organize/coordinate/assist regional groups of ITU-T SG, assist regional telecommunication organization for the setting-up and management of regional standardization bodies.	Ongoing	√	
44-08	TSB Director to propose for Council to consider to maintain in the annual budget of the Union a separate expenditure line item for BSG and propose the funds identified for implementation of this resolution, and to increase ITU-T budgetary provisions for fellowships, interpretation and translation of documents for meetings of TSAG, ITU-T SGs and regional groups of ITU-T SGs.	Council 2013		√
44-09	TSB Director to propose for Council to consider to establish a specialized panel for stimulating ICT innovations, under ITU-T	Council 2013	√	
44-10	Council to report and advise to PP-14 on the establishment of the specialized panel for stimulating ICT innovations, under ITU-T	Council 2014		
44-11	SGs to take account of specific characteristics of telecommunication environment in developing countries, and provide solutions/options relevant to developing countries wherever possible.	Ongoing	√	
44-12	SGs to continue liaise with ITU-D SGs, to assist developing countries with their priority questions for studies, such as identified by WTDC	Ongoing	√	
44-13	SGs to consider the need for developing implementation guidelines for new ITU-T Recs having implementation aspects, drafting guidelines of ITU-T Recs at national level regarding to PP Res.168.	Ongoing	√	
44-14	SGs and TSAG to coordinate joint meetings of regional groups	Ongoing	√	

Action Item	Action	Milestone	Periodic goals met	Completed
44-15	Director to continue the activities of the Bridging the Standardization Gap (BSG) implementation group within TSB.	Ongoing	√	
44-16	TSB Dir to carry out necessary studies on the role of innovation management and innovation stimulation programmes on BSG between developed and developing countries.	TBD		
44-17	TSB Dir to institutionalize the BSG responsibilities of chairmen/vice-chairmen of TSAG and ITU-T study groups and made them known before the appointment of ITU-T management leadership (see also Resolution 35).	TSAG 2015		
44-18	Director to report to future WTSA and PP on implementation of BSG plan to introduce appropriate amendments of implementation outcomes, as well as necessary budgetary adjustments	Council 2013, PP-14, WTSA-16	√	
44-19	TSB to assist requested developing countries to develop guidelines to enhance national participation in ITU-T SGs	Ongoing	√	
44-20	TSB to enhance use of electronic channels such as webinars or e-learning for education and training on implementation of ITU-T Recommendations	Ongoing	√	
44-21	TSB to provide all necessary support for creation, organization of meeting and workshop of the regional groups to ensure their smooth functioning.	Ongoing	√	
44-22	TSB Dir to report the effectiveness of regional groups to Council	Council 2013	√	
44-23	TSB Dir to work closely with BR and BDT Dirs, to encourage partnership under the patronage of ITU-T as one of the means for financing the BSG action plan	Ongoing	√	
44-24	TSB to conduct BSG workshops and seminars for developing countries, concurrently with meetings of ITU-T regional groups if possible, in coordination/collaboration with ITU-D	Ongoing	√	
44-25	Member States and regions to encourage the creation of regional standardization bodies as appropriate, and joint and coordinated meetings of such bodies with regional groups.	Ongoing		
44-26	Developing guidelines to assist developing countries in their involvement in ITU-T activities, such as but not limited to, ITU-T working methods, formulating draft Questions and in making proposals.	Ongoing		
44-27	Improve and promote the use of an electronic forum for “questions and answers on standards” where developing countries can raise questions concerning their understanding and application of Recommendations and seek advice from study group experts.	Ongoing	√	
44-28	In close collaboration with BDT and BR, providing training courses on standardization to developing countries.	Ongoing		
44-29	Organizing in-depth tutorials on implementation of ITU-T Recommendations.	Ongoing	√	
44-30	Provision, by the TSB, of fellowships to eligible countries to attend relevant ITU-T meetings.	Ongoing		

Action Item 44-01: TSB

BSG Task Force is chaired by TSB Director and is working on monitoring progress of implementation of Action Plan in Resolution 44.

Action Item 44-02: TSB

ITU-T Focus Group Bridging the Gap: from Innovation to Standards (FG Innovation) is working on developing means to enable developing countries to bring their innovations to ITU-T for standardization. In this respect, the establishment of an ICT innovation panel is proposed in the deliverable of the FG Innovation as the means for achieving this objective.

Action Item 44-03: TSB

TSB is organising one Regional Standardization Forum for each region on an annual basis. In 2014, three Regional Standardization Forums were held: for the Arab region on 28 January 2014 in Tunis, for the African region on 23-25 June 2014 in Uganda and for the Asia-Pacific region on 25 August 2014 in Bangkok, Thailand. In 2015 one Regional Standardization Forum was held on 24-25 March 2015 in Dakar, Senegal and two are planned later in the year in Asia-Pacific Region (August) and Americas Region (November).

Action Item 44-04: TSB

Action Item 44-05: TSB

The TSB Director has appealed in April 2013 in a Circular Letter to the ITU membership for voluntary contributions to fund extra activities of ITU-T, in accordance with Resolution 34³. Microsoft has since made another contribution to the fund in 2013.

Action Item 44-06: TSB

TSB Director invited TSAG at its meeting in June 2013, to establish a Group where Vice-chairs from developing countries can report on their mobilisation programme. SGs were invited to designate mentors to assist new delegates in particular from developing countries in becoming familiarized with the work of the study groups.

Action Item 44-07: TSB

BDT is represented in the BSG Task Force as well as the Directors of the ITU Regional Offices. The BSG Task Force is chaired by the TSB Director.

Action Item 44-08: TSB

There is a separate expenditure line item in the annual budget of the Union.

Action Item 44-09: TSB

In his WTSA-12 report to Council 2013 (C13/22), the TSB Director invited Council to discuss the establishment of a specialized panel for stimulating ICT innovations, under ITU-T, with the objective of enhancing global collaborative innovation in order to bridge the standardization gap between developed and developing countries and to identify and support innovations from developing countries". The recommendations of the FG Innovation report will be considered at the TSAG meeting in June 2015.

Action Item 44-10: TSB

³ <http://itu.int/md/T13-TSB-CIR-0019>.

Action Item 44-11: SGs

Study groups will develop implementation guidelines for new ITU-T Recommendations to enable developing countries to adopt them, based on contributions received.

Action Item 44-12: SGs

There has been a regular flow of exchange of information between ITU-T and ITU-D Study groups on matters of expressed common interest. For Study Group 3, for example, there are four annual joint meetings in the regions (BDT Forum and SG meeting). Representatives from the BDT regularly update the delegates on ITU-D study group questions relevant to tariff and accounting matters.

Action Item 44-13: SGs

Study groups will develop implementation guidelines for new ITU-T Recommendations to enable developing countries to adopt them, based on received contributions. Examples are the IPTV and e-health areas in SG16.

Action Item 44-14: SGs and TSAG

Meetings of Regional Groups are being held back to back where they occur in the same region.

For example, SG3RG-ARB held its meetings back to back with the regional meetings for SG5 and SG2 in November 2015. SG3RG-AFR and SG17RG-AFR were held back to back in January 2016, together with a joint Bridging the Standardization Gap Training for SG Effectiveness. Effectiveness training will be offered at the meeting of the SG13RG-AFR in March 2016.

Action Item 44-15: TSB

The BSG Task Force meets every two months under the chairmanship of the TSB Director to review progress on the implementation of WTSA-12 Resolution 44. In 2014, the Directors of the ITU Regional Offices are also invited to participate in the meeting of the BSG Task Force.

Action Item 44-16: TSB

The topic will be discussed at TSAG meeting in June 2015, based on the proposals of the ITU-T Focus Group on Innovation.

Action Item 44-17: TSB, SGs and TSAG

Action Item 44-18: TSB

Action Item 44-19: TSB

TSB has developed a guideline on establishing a national standardization secretariat to coordinate ICT standardization activities at national level and participation in ITU-T Study Groups and meetings. The guideline was launched in March 2014 and is available on the BSG website.

The Guidelines on Establishment of a National Standardization Secretariat (NSS) for ITU-T takes into account the different capability levels for standardization across the developing countries, showing how it is possible to establish an NSS at a basic level with very little new cost or resource requirements. At this “NSS-General Level”, the developing country would focus mainly on the general, high-level activities of ITU-T, such as the World Telecommunication Standardization Assembly (WTSA) and the Telecommunication Standardization Advisory Group (TSAG). It would also accommodate involvement in a limited number of the ITU-T study groups through creation of ad hoc groups on an as-needed basis.

Moving to a level of greater involvement in ITU-T when a developing country is engaged in several of the ITU-T study groups on a continuous basis, the NSS can easily evolve from an “NSS-General Level” to an “NSS-Study Group Level” by adding some additional national committees to cover study groups of interest, adding some additional support staff and upgrading former ad hoc national groups to permanent national study groups.

Finally, for developing countries engaged in all or nearly all of the ITU-T study groups, the Guidelines show how an NSS can smoothly evolve from an “NSS-Study Group Level” to an “NSS-Full Sector Level”. For

the option of an NSS-Full Sector Level structure, there would be a national study group for each of the ITU-T study groups, with a corresponding increase in secretariat support functions, including maintenance of a website and a document archive system.

In all three options (i.e., NSS-General Level, NSS-Study Group Level and NSS-Full Sector Level), the same Responsible Agency of the government which has been given authority for relations with the ITU-T would be responsible for the organization and operation of the NSS. Each of the subordinate national committees comprising the NSS, relating to e.g., WTSA, TSAG or particular ITU-T study groups, reports its proposals and advice to the Responsible Agency for formal approval on behalf of the Member State. Estimates of human and financial resources for each of the three NSS options are provided.

The Guidelines show, for each group within the NSS, information on its responsibilities, leadership, membership and working methods. The Guidelines also include a step-by-step roadmap to assist developing countries to establish a National Standardization Secretariat from the initial determination of the legal basis for the Responsible Agency to organize and manage an NSS process, to determination of human and financial resource requirements and establishment of the appropriate national level committees and appointment of their leadership.

Action Item 44-20: TSB

TSB has developed an e-learning course on Recommendation ITU-T A.1: Working Methods of ITU-T study groups in 2013. This course is hosted on the ITU Academy platform and was launched in February 2014. The main objectives of the e-learning course are to introduce the structures, management, coordination mechanisms and operating procedures of ITU-T study groups as defined in Recommendation ITU-T A.1.

Recommendation ITU-T A.1 describes general working methods for ITU-T study groups. It provides guidelines related to work methods, such as the conduct of meetings, preparation of studies, management of study groups, the role of Rapporteurs and the processing of ITU-T contributions and temporary documents. The course is intended for delegates participating in ITU-T study group meetings, especially new participants.

The course consists of six modules:

- Standardization in ITU-T
- Managing the study groups
- Coordination
- Inputs to the study groups
- Outputs of the study groups
- Further infrastructure supporting the study group process

Each module is a self-contained unit, including course content and quizzes. After going through the course, participants need to take a final assessment online which upon scoring at least 80%, they can obtain a certificate of achievement.

The course is available on the ITU Academy website at <http://academy.itu.int> or using the link <http://academy.itu.int/index.php/component/k2/item/1115>.

TSB is planning to develop further e-learning courses on ITU-T Recommendations during the coming years. Partnerships with academia and Sector Members will be explored for the content development for the courses.

Action Item 44-21: TSB

Implemented in the context of [44-24](#) (see below).

Action Item 44-22: TSB

TSB Director reported on the effectiveness of regional Groups to Council-14.

Action Item 44-23: TSB

BDT is represented in the BSG Task Force as well as the Directors of the ITU Regional Offices.

Action Item 44-24: TSB

One regional Bridging the Standardization Gap workshop was held in Myanmar in 2013. BSG workshops are now referred to as Regional Standardization Forum and are held back to back with Regional Group meeting wherever there is a request. In 2013, a workshop on Quality of Service for Mobile Networks is being held for the Regional Group of SG12 in Africa and another workshop on Management of e-waste is being held for Regional Group of SG5 in Africa

Study Group 3 held its regional meeting for the African region in Abidjan (Cote d' Ivoire) from 19-21 February 2016. The SG3 regional meeting for the Latin American and Caribbean region was held in Bahamas from 22-24 April 2015. The SG3 regional meeting for the Arab States was held in Manama (Bahrain) from 30 November to 2 December 2015. The SG3RG-AO meeting was held in Kuala Lumpur (Malaysia) from 29 September to 1 October 2015. All three SG3 regional meetings were held in collaboration with BDT Regional Economic and Financial Forums.

Most ITU-T SG3 regional groups held structured hands-on training for enhancing the participation of developing countries in the work of ITU-T, organized by the TSB Secretariat.

In 2014, three Regional Standardization Forums were held: for the Arab region on 28 January 2014 in Tunis, for the African region on 23-25 June 2014 in Uganda and for the Asia-Pacific region on 25 August 2014 in Bangkok, Thailand. In 2015 one Regional Standardization Forum was held on 24-25 March 2015 in Dakar, Senegal and two are planned later in the year in Asia-Pacific Region (August) and Americas Region (November).

SG12 organizes thematic workshop on performance, QoS and QoE in conjunction with the meetings of its regional group for Africa, and meetings of the Quality of Service Development Group (QSDG). These events include presentations about ITU's BSG activities, as well as hands-on training for enhancing the participation of developing countries in the work of ITU-T.

SG17 has successfully established an African Regional Group within SG17; the African Regional Group is reporting to SG17. It held its first back-to-back meeting with SG3RG-AFR on 22 January 2016 in Abidjan. SG17 has organized a BSG session in each SG17 meeting since 2013 with live interpretation and remote participation facilities.

ITU-T SG17 and ITU-D SG2 jointly organized a workshop on "Global Cybersecurity Challenges - Collaborating for effective enhancement of cybersecurity in developing countries" in ITU Headquarters in Geneva, Switzerland on Tuesday, 8 September 2015 from 14:30-17:30.

SG13 organizes the regional workshops on the occasion of each meeting of its regional group for Africa. By today there are 3 such workshops held and one planned for the next month (March 2016).

Action Item 44-26: TSB

Action Item 44-27: TSB

The Standards Q&A Forum is being reviewed and enhanced in 2013 to provide a more intuitive user interface. A webinar will be held during each Study Group meeting on topics of interest for developing countries encouraging questions from the audience to be posted on the Standards Q&A website.

Action Item 44-28: TSB

Action Item 44-29: TSB

The e-learning course on Recommendation ITU-T A.1: Working Methods of ITU-T study groups is available on the ITU Academy website at <http://academy.itu.int> or using the link <http://academy.itu.int/index.php/component/k2/item/1115>.

TSB is planning to develop further e-learning courses on ITU-T Recommendations during the coming years. Partnerships with academia and Sector Members will be explored for the content development for the courses.

SG17 organized the ITU workshop on ICT Security Standardization Challenges for Developing Countries - Geneva, Switzerland, 15 – 16 September 2014. Key topics were cybersecurity, data protection, trust services and cloud computing including big data, with a focus on standardization and the role of ICTs in safeguarding critical infrastructure.

SG17 has organized a BSG session in each SG17 meeting since 2013 with live interpretation and remote participation facilities.

Action Item 44-30: TSB

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18. Resolution 45 - Effective coordination of standardization work across study groups in the ITU Telecommunication Standardization Sector and the role of the ITU Telecommunication Standardization Advisory Group

Resolution 45

resolves

that the coordination of ITU-T activities in regard to high-priority standardization issues and work related to more than one study group should ensure:

- i) the identification of high-level objectives and priorities for ITU-T studies from a global viewpoint;
- ii) cooperation between study groups, including the avoidance of duplication of work and the identification of linkages between related work items;
- iii) the planned coordination of time-frames, deliverables, objectives and milestones for standardization activities;
- iv) that the interests of developing countries are taken into account and that their involvement in these activities is encouraged and facilitated;
- v) cooperation and coordination with the ITU Radiocommunication and Telecommunication Development Sectors and with other, external, standardization bodies,

instructs the Telecommunication Standardization Advisory Group

1 to take an active role in ensuring coordination between study groups, particularly on high-priority standardization issues that are being studied in more than one study group, including by inviting coordination groups to hold the necessary meetings to achieve the objectives set for them;

2 to take into account, and implement as necessary, advice given to TSAG by other groups established in the interests of effective coordination on high-priority and joint standardization topics.

Action Item	Action	Milestone	Periodic goals met	Completed
45-01	TSAG, at each meeting, to review status on the coordination of standardization work involving multiple study groups, ITU-R and/or ITU-D, and take necessary action to ensure effective coordination.	Ongoing	√	

Action Item 45-01: TSAG

Review is performed on a regular basis based on information received. Collaboration with ITU-R and ITU-D are standing items on the agenda of TSAG.

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19. Resolution 47 - Country code top-level domain names

Resolution 47

instructs ITU-T Study Group 2

to continue studies, and to work with Member States and Sector Members, in their respective roles, recognizing the activities of other appropriate entities, to review Member States' ccTLD experiences,

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

to contribute to these activities,

further invites Member States

to take appropriate steps within their national legal frameworks to ensure that issues related to delegation of country code top-level domains are resolved.

Action Item	Action	Milestone	Periodic goals met	Completed
47-01	SG2 to review and study contributions regarding MS' ccTLD experiences	Ongoing		
47-02	Director to report to Council annually regarding progress in ccTLDs.	Ongoing, 3 months before Council	√	

Action Item 47-01: SG2

Actions by ITU-T SG2 depend on Contributions.

Action Item 47-02: TSB

The TSB Director reports annually in the Council document on “ITU Internet activities: Resolutions 101, 102 and 133”, which includes updates regarding ccTLDs, if any.

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20. Resolution 48 - Internationalized (multilingual) domain names

Resolution 48

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.

Action Item	Action	Milestone	Periodic goals met	Completed
48-01	SG16, and other relevant SGs, considering input contributions, to study internationalized (multilingual) domain names	Ongoing		See comment below.
48-02	Director to report to Council annually regarding progress achieved in internationalized (multilingual) domain names	Ongoing, 3 months before Council	√	

Action Item 48-01: SG16

Only one contribution was submitted in the previous study period to ITU-T SG16, which resulted in an exchange of Liaison Statements with relevant external organizations. Feedback provided and lack of further activity (including in the current study period) suggests that perhaps the work is complete.

Action Item 48-02: TSB

The TSB Director reports annually in the Council document on “ITU Internet activities: Resolutions 101, 102 and 133”, which includes updates regarding internationalized domain names, if any.

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21. Resolution 49 - ENUM

Resolution 49

resolves to instruct ITU-T Study Group 2

- 1 to study how ITU could have administrative control over changes that could relate to the international telecommunication resources (including naming, numbering, addressing, and routing) used for ENUM;
- 2 to evaluate the current interim procedure for ENUM delegation, and report back to the Director of the Telecommunication Standardization Bureau,

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

to contribute to these activities,

further invites Member States

to take appropriate steps within their national legal frameworks to ensure proper implementation of this resolution.

Action Item	Action	Milestone	Periodic goals met	Completed
49-01	SG2 to study how ITU could have administrative control over changes that could relate to the international telecommunication resources used for ENUM	Ongoing		
49-02	SG2 to evaluate the current interim procedure for ENUM delegation and report back to TSB Dir	Ongoing		
49-03	Director to report to Council annually regarding progress achieved in ENUM	Ongoing, 3 months before Council	√	

Action Items 49-01 and 49-02: SG2

Actions by ITU-T SG2 depend on Contributions.

Action Item 49-03: TSB

The TSB Director reports annually in the Council document on “ITU Internet activities: Resolutions 101, 102 and 133”, which includes updated Information on ENUM including information⁴ on approved ENUM delegations and ENUM trials, if any.

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22. Resolution 50 - Cybersecurity

Resolution 50

resolves

1 that all ITU-T study groups continue to evaluate existing and evolving new Recommendations, and especially signalling and telecommunication protocol Recommendations, with respect to their robustness of design and potential for exploitation by malicious parties to interfere destructively with their deployment in the global information and telecommunication infrastructure, develop new Recommendations for emerging security issues and take into account new services and applications to be supported by the global telecommunication/ICT infrastructure (e.g. cloud computing, smart grid and intelligent transport systems, which are based on telecommunication/ICT networks);

2 that ITU-T continue to raise awareness, within its area of operation and influence, of the need to defend information and telecommunication systems against the threat of cyberattack, 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;

3 that ITU-T should work closely with ITU-D, particularly in the context of Question 22/1;

4 that, in assessing networks and protocols for security vulnerabilities and facilitation of exchanging cybersecurity information, ITU-T Recommendations, including the ITU-T X-series of Recommendations and Supplements thereto, among them ITU-T X.805, ITU-T X.1205, ITU-T X.1500, ISO/IEC standards and other relevant deliverables from other organizations, be taken into consideration and applied as appropriate;

⁴ <http://itu.int/ITU-T/inr/enum/>.

- 5 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;
- 6 that parties concerned are invited to work together to develop standards and guidelines in order to protect against cyberattacks, and facilitate tracing the source of an attack;
- 7 that global, consistent and interoperable processes for sharing incident-response related information should be promoted;
- 8 that all ITU-T study groups continue to provide regular reports on security of telecommunications/ICT to the Telecommunication Standardization Advisory Group (TSAG) on progress in evaluating existing and evolving new Recommendations;
- 9 that ITU-T study groups continue to liaise with standards development organizations and other bodies active in this field, such as ISO/IEC JTC1, the Organisation for Economic Co-operation and Development (OECD), the Asia-Pacific Economic Cooperation Telecommunication and Information Working Group (APEC-TEL) and the Internet Engineering Task Force (IETF);
- 10 that Study Group 17 continue its work on the issues raised in Resolution 130 (Rev. Guadalajara, 2010), and on the ITU-T X-series of Recommendations, including Supplements as appropriate,

instructs the Director of the Telecommunication Standardization Bureau

- 1 to prepare, 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;
- 2 to report annually to the ITU Council, as specified in Resolution 130 (Guadalajara, 2010), on progress achieved in the actions outlined above;
- 3 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,

further instructs the Director of the Telecommunication Standardization Bureau

- 1 to continue to follow up WSIS activities on building confidence and security in the use of ICTs, in cooperation with relevant stakeholders, as a way to share information on national, regional and international and non-discriminatory cybersecurity-related initiatives globally;
- 2 to cooperate with BDT in relation to any item concerning cybersecurity in accordance with Resolution 45 (Rev. Hyderabad, 2010),
- 3 to continue to cooperate with the Secretary-General's Global Cybersecurity Agenda (CGA) and with IMPACT, FIRST and other global or regional cybersecurity projects, as appropriate, to develop 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;
- 4 taking into account Resolution 130 (Rev. Guadalajara 2010), to work collaboratively with the other Directors of the Bureaux to support the Secretary-General in preparing a document relating to a possible memorandum of understanding (MoU) (according to Resolution 45 (Rev. Hyderabad, 2010)) among interested Member States to strengthen cybersecurity and combat cyberthreats in order to protect developing countries and any country interested in acceding to this possible MoU,

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

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

Action Item	Action	Milestone	Periodic goals met	Completed
50-01	SG experts to identify related work on cybersecurity being done outside ITU-T and, if appropriate, invite participation in the work of ITU-T.	Ongoing	√	
50-02	SGs to evaluate Recommendations for robustness and potential for malicious exploitation, and document results, e.g., in Implementers Guides, Guidelines, Manuals, ...	Ongoing	√	
50-03	SGs to report regularly on security to TSAG on their Recommendations evaluation progress	Ongoing		
50-04	SGs to develop new Recommendations for emerging security issues with new services and applications (e.g. cloud computing, smart grid, ITS)	Ongoing	√	
50-05	SG17 to continue develop and improve terms and definitions related to building confidence and security, including the term cybersecurity	Ongoing	√	
50-06	SG17 to develop standards/guidelines against cyber-attacks and facilitate tracing the sourcing of attack, and promote global, consistent and interoperable process for sharing incident-response related information	Ongoing	√	
50-07	SG17 to continue its work on the issues raised in Resolution 130 (Rev. Guadalajara, 2010), and on the ITU T X-series of Recs., including Supplements; to evaluate need for additional material or revision of existing material in the Security Roadmap, Manual and Compendium.	Ongoing	√	
50-08	Director to prepare an inventory of initiatives and activities to promote harmonization of strategies and approaches in cybersecurity	Ongoing	√	
50-09	Director to report to Council on actions taken under Resolution 50	Annual, Council 2013	√	
50-10	Director to continue contributing to WSIS security activities	Ongoing	√	
50-11	Director to cooperate with GCA, IMPACT, FIRST etc to develop relationship/partnership for ITU membership, esp. developing countries	Ongoing	√	
50-12	Director to collaborate with other ITU elected officials to support Sec-Gen in preparing a possible MoU according to WTDC Res 45	Ongoing		

Action Item 50-01: SG17

Q4/17 “Cybersecurity” has the primary role on Resolution 50. Development of the ITU-T X.1500 CYBEX ensemble of techniques represents significant means for enhancing cybersecurity globally. The cybersecurity landscape is monitored and new groups and activities are identified and evaluated. Continuing liaisons exists with a broad array of organizations – in many cases, importing their technical platforms related to ITU-T X.1500.

This includes FIRST, OASIS, TCG, ETSI, CCDB, APWG, IETF, ENISA, and ISO/IEC. For some of these bodies, International Organization status and ITU-T A.4 qualification of forums and consortiums have been established and will continue to be pursued.

Action Item 50-02: SGs

SG17 provided guidelines and methodology to other study groups; e.g., ITU-T X.805.

Recommendations have been issued on information security management, risk management and security incident management, others are being developed, on how to best deal proactively with security vulnerabilities and threats.

Action Item 50-03: SGs

Action Item 50-04: SGs

Work is underway in Q8/17 and Q10/17 on cloud computing security and in Q6/17 on smart grid security and ITS security. Q11/17 has work underway on deployment of PKI in new areas, e.g. smart grid.

Action Item 50-05: SG17

SG17 initiated a call for contributions on this subject. Q4/17 has developed key terms and definitions related to building confidence and security, including vulnerability, weakness and assurance, in the ITU-T X.1500 Recommendation series.

Action Item 50-06: SG17

Q4/17 has developed a number of Recommendations that facilitate global, consistent and interoperable process for sharing incident-response related information in X.1500 series: e.g., ITU-T X.1520, X.1521 and X.1544.

Action Item 50-07: SG17

ICT Security Standards Roadmap and Security Compendium (including a list of ITU-T approved security definitions) are continuously updated.

The sixth edition of the Security manual was finished in September 2015 as a Technical Report - Security in telecommunications and information technology – An overview of issues and the deployment of existing ITU-T Recommendations for secure telecommunications.

Action Item 50-08: TSB

SG17 communicates continually with TSB Director on its cybersecurity initiatives.

Regular coordination meetings are taking place between TSB and BDT.

Action Item 50-09: TSB

The document to Council on “ITU activities on strengthening the role of ITU in building confidence and security in the use of ICTs” ([C13/23](#)) contains updates on ITU-T’s security work.

SG17 communicates with TSB Director on its actions regarding Resolution 50.

Action Item 50-10: TSB

Regular updates have been provided to the Council WG WSIS.

Action Item 50-11: TSB

IMPACT participated in the Expert Dialogue on aircraft flight tracking, 26-27 May 2014, Malaysia.

COM 17 – TD 2323 identifies interest of several SG17 Questions on certain WTDC-14 Resolutions.

Action Item 50-12: TSB

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23. Resolution 52 - Countering and combating spam

Resolution 52

resolves to instruct the relevant study groups

1 to continue to support ongoing work, in particular in Study Group 17, related to countering spam (e.g. e-mail) and to accelerate their work on spam in order to address existing and future threats within the remit and expertise of ITU-T, as appropriate;

2 to continue collaboration with the relevant organizations (e.g. the Internet Engineering Task Force (IETF)), in order to continue developing, as a matter of urgency, technical Recommendations with a view to exchanging best practices and disseminating information through joint workshops, training sessions, etc.,

further instructs ITU-T Study Group 17

to report regularly to the Telecommunication Standardization Advisory Group on progress under this resolution,

instructs the Director of the Telecommunication Standardization Bureau

1 to provide all necessary assistance with a view to expediting such efforts;

2 to initiate a study – including sending a questionnaire to the ITU membership –indicating the volume, types (e.g. e-mail spam, SMS spam, spam in IP-based multimedia applications) and features (e.g. different major routes and sources) of spam traffic, in order to help Member States and relevant operating agencies identify such routes, sources and volumes and estimate the amount of investment in facilities and other technical means to counter and combat such spam, taking into account work that has already been carried out;

3 to continue to cooperate with the Secretary-General's initiative on cybersecurity and with the Telecommunication Development Bureau in relation to any item concerning cybersecurity under Resolution 45 (Rev. Hyderabad, 2010) of the World Telecommunication Development Conference, and to ensure coordination among these different activities,

invites Member States, Sector Members and Associates

to contribute to this work,

further invites Member States

to take appropriate steps to ensure that appropriate and effective measures are taken within their national and legal frameworks to combat spam and its propagation.

Action Item	Action	Milestone	Periodic goals met	Completed
52-01	SGs, particular SG17, to accelerate their work on spam	Ongoing	√	
52-02	SGs to collaborate with other relevant organizations to develop Recommendations with a view to exchanging best practices; participate in workshops, training sessions, etc.	Ongoing	√	
52-03	SG17 to report on progress of Resolution 52 to each meeting of TSAG	Ongoing	√	
52-04	SG17 to initiate a study to survey ITU membership on spam	April 2013	√	

Action Item 52-01: SG17

The structure of countering spam by technical measures has been established, including 5 levels: technical strategy level, guideline level, framework level, technology level and supplement level. In this structure,

branches of this structure are mainly based on the type of spam: e-mail spam, IP-based multimedia spam, mobile messaging spam, instant messaging spam, etc.

SG17 has approved 8 Recs (listed below) and 4 Supplements on countering spam by technical means:

X.1231, *Technical strategies for countering spam*, X.1240, *Technologies involved in countering e-mail spam*; X.1241, *Technological framework for countering e-mail spam*; X.1242, *Short message service (SMS) spam filtering system based on user-specified rules*, X.1243, *Interactive gateway system for countering spam*; X.1244, *Overall aspects of countering spam in IP-based multimedia applications*; X.1245, *Framework for countering spam in IP-based multimedia applications*; and X.1246, *Technologies involved in countering voice spam in telecommunication organizations*..

Ongoing work in Q5/17 includes X.tfcmm, *Technical framework for countering mobile messaging spam*; X.ticvs, *Technologies involved in countering voice spam in telecommunication organizations*; and relevant practice ; and X.tfcma, *Technical framework for countering mobile in-application advertising spam*; two supplements, and relevant practices.

Collaboration continues with the relevant organizations, e.g., 3GPP, IETF, GSMA, M3AAWG, e.g., in order to find effective and efficient measures to countering potential spam.

Action Item 52-02: SGs

Q5/17, Countering spam by technical means, has exchanged best practices with ITU-T SG2, SG13, SG16, ITU-D Q22/1, M3AAWG, IETF STIR, GSMA SG and 3GPP SA3. Working liaison relationship has been established with those bodies. In addition, Q5/17 has reviewed all the relevant documents from the above bodies and from OECD, ENISA, and NIST.

Q5/17 presented slides about ITU-T Recommendations and activities on countering spam at the [ITU Workshop on "Countering and Combating Spam"](#), Durban, 8 July 2013 and the [Joint Internet Society, CITEL and ITU workshop on Combating SPAM](#), Mendoza, Argentina, 7 October 2013.

Action Item 52-03: SG17

SG17 submits a lead study group report on telecommunication security to each TSAG meeting.

Action Item 52-04: SG17

Q5/17 completed the draft of survey questionnaire and sent it to the TSB Director for finalization. This survey questionnaire will be sent to all member states, sector members and other relevant organizations for gathering information, future standardization and best practices.

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24. Resolution 54 - Creation of, and assistance to, regional groups

Resolution 54

resolves

- 1 to support, on a case-by-case basis, the coordinated creation of regional groups of ITU-T study groups, and to encourage cooperation and collaboration of these groups with regional standardization entities;
- 2 to invite the Council to consider providing support for the regional groups as appropriate,

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* 1 of this resolution, and to support their meetings and activities, as appropriate, in coordination with TSB;
- 2 to develop draft terms of reference and working methods for these regional groups, which are to be approved by the parent study group;

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,

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 reflecting the priorities of their respective regions;

2 to cooperate closely with the relevant respective regional organizations,

instructs study groups and the Telecommunication Standardization Advisory Group

to coordinate joint meetings 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;

2 to consider holding, whenever possible, workshops concurrently with meetings of the ITU-T regional groups;

3 to take all necessary measures to facilitate the organization of meetings and workshops of the regional groups,

calls upon the Director of the Telecommunication Standardization Bureau

to cooperate with the Director of the Telecommunication Development Bureau in order to:

i) continue to provide specific assistance to the current regional groups of Study Group 3 as well as other regional groups;

ii) encourage the continuing development of computerized application tools related to their cost methodology by the members of the regional groups of Study Group 3;

iii) take appropriate steps to facilitate meetings of the current and future regional groups of Study Group 3 and promote the necessary synergies between the two Sectors,

further invites the regional groups thus created

to cooperate closely with the relevant respective regional organizations, and to report on their work in their regions.

Action Item	Action	Milestone	Periodic goals met	Completed
54-01	TSB to support coordinated creation of regional groups of ITU-T study groups	Ongoing	√	
54-02	TSB Dir to invite Council to consider providing support for regional groups as appropriate	Council 2013		√
54-03 (44-25)	TSB to encourage the creation of regional standardization bodies as appropriate, and joint and coordinated meetings of such bodies with regional groups (see also Resolution 44).	Ongoing	√	
54-04 (44-14)	SGs and TSAG to coordinate joint meetings of regional groups	Ongoing	√	

Action Item	Action	Milestone	Periodic goals met	Completed
54-05 (44-21)	TSB to provide all necessary support for creation, organization of meeting and workshop of the regional groups to ensure their smooth functioning (see also Resolution 44).	Ongoing	√	
54-06 (44-24)	TSB to conduct BSG workshops and seminars for developing countries, concurrently with meetings of ITU-T regional groups if possible, in coordination/collaboration with ITU-D (see also Resolution 44).	Ongoing	√	
54-07	TSB Dir to cooperate with BDT Dir to continue provide specific assistance to ITU-T SG3 regional groups, encourage the continuing development of computerized application tools	Ongoing	√	

Action Item 54-01: TSB, Study Groups

The following regional groups have met since WTSA-12:

ITU-T Study Group 3

- Regional Group for Africa (4-7 February 2013, Cairo, Egypt)
- Regional Group for Africa (20-21 February 2014, Congo, Brazzaville)
- Regional Group for Africa (3-5 February 2015, Sao Tome and Principe)
- Regional Group for Latin America and the Caribbean (19-22 March 2013, Mexico City, Mexico)
- Regional group for Latin America and the Caribbean (13-14 March 2014, San Jose, Costa Rica)
- Regional group for Latin America and the Caribbean (22-24 April 2015, Nassau, Bahamas)
- Regional Group for Asia and Oceania (8-10 April 2013, Tokyo, Japan)
- Regional Group for Asia and Oceania (1-2 September 2014, Yangon, Myanmar)
- Regional Group for the Arab States (24-25 November 2014, Kuwait City, Kuwait)
- Regional Group for the Arab States (29-30 October 2013, Bahrain)

ITU-T Study Group 5

- Regional Group for Africa (29 January - 07 February 2013 Geneva, Switzerland).
- Regional Group for Africa (16 - 17 July 2013, Ouagadougou, Burkina Faso)
- Regional Group for Africa (25 (pm)- 26 June 2015, Kampala, Uganda)
- Regional Group for Arab Region (4-6 September 2013, Rabat, Morocco)
- Regional Group for the Americas (9 October 2013, Mendoza, Argentina)
- Regional Group for Africa (25 - 26 June 2014, Kampala, Uganda)
- Regional Group for the Americas (1 October 2014, Merida, Mexico)
- Regional Group for Arab Region (25 November 2014, Kuwait City, Kuwait)
- Regional Group for Asia and the Pacific (26 September 2014, Beijing, China)
- Regional Group for Africa (26 - 27 March 2015, Dakar, Senegal)

ITU-T Study Group 12

- Regional Group on QoS for the Africa region (preparatory meeting, Geneva, 19 - 28 March 2013)
- Regional Group on QoS for the Africa region (19 July 2013, Ouagadougou, Burkina Faso)
- Regional Group on QoS for the Africa region (26 June 2014, Kampala, Uganda)
- Regional Group on QoS for the Africa region (23 March 2015, Dakar, Senegal)
- Regional Group on QoS for the Africa region (18 March 2016, Livingstone, Zambia (confirmed))

ITU-T Study Group 13

- Regional Group for Africa (10 - 11 September 2013, Algiers, Algeria)
- Regional Group for Africa (29 – 30 April 2014, Tunis, Tunisia)
- Electronic activity of the SG13 Regional Group for Africa (21 May 2014)
- Electronic activity of the SG13 Regional Group for Africa (4 June 2014)
- Electronic activity of the SG13 Regional Group for Africa (18 June 2014)
- Regional Group for Africa (25 - 26 February 2015, Livingstone, Zambia)
- Regional Group for Africa (16 - 17 March 2016, Accra, Ghana, (confirmed))

Action Item 54-02: TSB

In his WTSA-12 report to Council 2013 ([C13/22](#)), the TSB Director invites Council to consider providing support for the regional groups as appropriate.

Action Item 54-03: TSB

See Action Item [44-25](#).

Action Item 54-04: TSAG and SGs

See Action Item [44-14](#).

Action Item 54-05: TSB

See Action Item [44-21](#).

Action Item 54-06: TSB

See Action Item [44-24](#).

Action Item 54-07: TSB

SG3 Regional Group meetings have all been organized during the study period in cooperation with BDT and its forums on regional and economic issues. See 54-01 for dates of meetings in 2013, 2014 and 2015.

An online tool for NRAs on international mobile roaming was developed in 2015 and available for use here: <http://www.itu.int/net4/roamingtool/>

See the ITU-T SG3 home page at <http://itu.int/en/ITU-T/studygroups/2013-2016/03> for an updated status.

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25. Resolution 55 - Mainstreaming a gender perspective in ITU Telecommunication Standardization Sector activities

Resolution 55

resolves

- 1 that ITU-T should continue to encourage the inclusion of a gender perspective, including the use of gender-neutral language, in the work of all ITU-T activities and groups, including TSAG and the ITU-T study groups;
- 2 that inclusion of the gender perspective should be ensured in the implementation of all relevant outcomes of this assembly;
- 3 that a high priority be accorded to gender mainstreaming in the management, staffing and operation of ITU-T;
- 4 to invite TSAG, the Radiocommunication Advisory Group (RAG) and the Telecommunication Development Advisory Group (TDAG) to assist in the identification of subjects and mechanisms to foster the mainstreaming of a gender perspective, as well as matters of mutual interest in that regard,

instructs the Director of the Telecommunication Standardization Bureau

- 1 to undertake the integration of a gender perspective in the work of TSB in accordance with the principles already applied in ITU;
- 2 to organize gender-mainstreaming training for TSB staff;
- 3 to encourage Member States and Sector Members to contribute to meeting gender-equality objectives through the equal participation of qualified women and men in standardization activities as well as in leadership positions;
- 4 to encourage the participation, contribution and leadership of women in all aspects of ITU-T activities;
- 5 to conduct research to identify women in standardization, with a goal of creating an ITU-T Women in Standardization Group;
- 6 to conduct an annual review on progress made in the Sector in advancing gender mainstreaming, and to share findings with TSAG and the next WTSA,

invites the Secretary-General

- 1 to comply with the reporting obligations, as required by the UNSWAP, on the ITU-T activities aimed at promoting gender equality and the empowerment of women;
- 2 to encourage ITU staff to take account of the gender-neutral guidelines of 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 to chairman/vice-chairman posts to support the active involvement of women experts 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 Women in Standardization Group and to promote the use of ICTs for the economic and social empowerment of women and girls;
- 3 to encourage ICT education for girls and women, and prepare them for a career in ICT standardization.

Action Item	Action	Milestone	Periodic goals met	Completed
55-01	TSAG, RAG and TDAG to assist in identifying subjects and mechanisms to foster mainstreaming of a gender perspective	Ongoing	√	
55-02	TSB Dir to organize gender-mainstreaming training for TSB staff	Ongoing	√	

Action Item	Action	Milestone	Periodic goals met	Completed
55-03	TSB Dir to encourage MS and SM to include qualified women and men in their delegations and administrations, and solicit candidature of women experts for chairman/VC posts (see also Resolution 35)	Ongoing	√	
55-04	TSB Dir to conduct research to identify women in standardization, to create an ITU-T Women in Standardization Group	Ongoing	√	
55-05	TSB Dir to conduct an annual review on progress made in ITU-T in advancing gender mainstreaming, and to share findings with TSAG and the next WTSA	Ongoing	√	
55-06	Sec-Gen to comply with the UNSWAP reporting obligations on the ITU-T activities aimed at promoting gender equality and the empowerment of women, and encourage ITU staff to avoid as much as possible gender-specific language	Ongoing	√	

Action Item 55-01: TSAG

The Gender Task Force of the ITU Secretariat is working on ways to further foster gender equality in ITU and to collaborate with all ITU's stakeholders to incorporate a gender perspective in all of ITU's work.

Action Item 55-02: TSB

TSB continues to collaborate with the other Bureaux and the General Secretariat to build a framework to move the gender agenda forward, under the umbrella of the ITU Gender Taskforce.

In 2014, a training on leadership skills for women was delivered to all women in the professional staff category. Further, TSB took the lead in implementing the web based training, 'I know Gender' in fulfilment of the ITU Gender and Mainstreaming Policy (GEM) and the UNSWAP. The training was carried out successfully, with a 98% completion rate.

Action Item 55-03: TSB, ITU-T Membership

TSB continues to encourage Member States and Sector Members to support the active involvement of women experts in standardization groups and activities.

Action Item 55-04: TSB

TSB is currently collaborating with key partners to create a Women in Standardization Group, whose goal will be to support ITU-T move the gender agenda forward and encourage more and active participation of women in standardization work.

Action Item 55-05: TSB

Currently, 56% of all TSB staff are women. The number of women in the professional category has more than tripled over the last eight years; from 3 in 2006 to 14 in 2014, i.e. 41% of the staff in this category. Gender equality and the empowerment of women continue to be among TSB's top priorities.

With regard to meeting participation, the percentage of women attending ITU-T meeting remains at approximately 15%.

Action Item 55-06: Secretary-General of ITU

In January 2015, ITU conducted its second UNSWAP reporting on activities undertaken to gender equality and the empowerment of women.

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26. Resolution 57 - Strengthening coordination and cooperation among the three ITU Sectors on matters of mutual interest

Resolution 57

resolves

1 to invite the Radiocommunication (RAG), Telecommunication Standardization (TSAG) and Telecommunication Development (TDAG) advisory groups to assist in the identification of subjects common to the three Sectors and mechanisms to enhance cooperation and collaboration in all Sectors on matters of mutual interest;

2 to invite the Directors of the Radiocommunication (BR), Telecommunication Standardization (TSB) and Telecommunication Development (BDT) Bureaux to collaborate and report to the respective Sector advisory bodies on options for improving cooperation at the secretariat level to ensure that close coordination is maximized.

Action Item	Action	Milestone	Periodic goals met	Completed
57-01	Each TSAG meeting to identify if there are new subjects potentially of common interest with the other Sectors and obtain a response on the other Sectors' interest during that same TSAG meeting	Ongoing	√	
57-02	Regular meetings of the management of the three Bureaux will discuss coordination and cooperation improvements at the Secretariat level and Director of TSB to report results to TSAG	Ongoing		
57-03	TSB to discuss with other Bureaux joint meeting of SG Chairmen of ITU-T, ITU-R and ITU-D	Ongoing		

Action Item 57-01: TSAG

Review performed on a regular basis based on information received.

Action Item 57-02: TSB

Action Item 57-03: TSB

Now that WTDC 2014 has concluded and ITU-D Chairmen have been appointed, joint meetings of SG Chairmen across Sectors could be planned.

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27. Resolution 58 - Encourage the creation of national computer incident response teams, particularly for developing countries

Resolution 58

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;

- 2 to identify where CIRTs are needed;
- 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,

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.

Action Item	Action	Milestone	Periodic goals met	Completed
58-01	Director, in collaboration with BDT Director and SG17, to identify best practices to establish CIRTs and identify where CIRTs are needed	Ongoing	√	
58-02	Director, in collaboration with BDT Director, to facilitate capacity building and information exchange between national CIRTs	Ongoing	√	
58-03	Q3/17 to continue study the issue of CIRTs creation and possibility to provide a guideline in line with X.1056 (Security incident management for telecommunication organizations), in collaboration with Q4/17 and other relevant Questions and Recommendations (e.g., ITU-T E.409)	Ongoing	√	
58-04	Q4/17 to continue work in its correspondence group established for this item	Ongoing	√	

Action Items 58-01, 58-02: SG17

Q3/17 “Telecommunications information security management” and Q4/17 “Cybersecurity” prepared a global directory of cybersecurity organizations, including CIRTs, which is currently hosted and maintained by the TSB on its website at: <http://www.itu.int/ITU-T/studygroups/com17/nfvo>. This fosters global collaboration among organizations.

Q3/17 and Q4/17 joint meeting agreed to enhance collaboration among Q3/17 and Q4/17 and ITU-D Q22/1, e.g., sharing Directory with ITU-D and producing guidelines with collaboration among Questions.

FIRST (Forum for Incident Response and Security Teams), representing more than 300 CIRT teams around the world, is actively involved in the work of Q4/17.

Action Item 58-03: SG17

Q3/17 started work in collaboration with Q4/17 and Q22/ITU-D and FIRST to study CIRT creation and envision developing a guideline in line with Rec. ITU-T X.1056 for the purpose of providing useful technical information to developing countries.

Q2/17 “Security architecture and framework” has finished studying X.Suppl.15, Supplement on guidance for creating national IP-based public network security centre for developing countries.

Action Item 58-04: SG17

The Cybersecurity Information Exchange (CYBEX) initiative provides a suite of techniques to facilitate CIRTs information exchange worldwide (See X.1500).

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28. Resolution 59 - Enhancing participation of telecommunication operators from developing countries

Resolution 59

resolves to invite the Director of the Telecommunication Standardization Bureau

- 1 to encourage Sector Members from the developed countries to promote the participation in ITU-T activities of their subsidiaries installed in developing countries;
- 2 to develop mechanisms to support the effective participation by telecommunication operators from developing countries in standardization activities;
- 3 to raise the awareness of the developing countries regarding the benefits of participation and of becoming an ITU-T Sector Member and/or Associate,

invites Member States

to encourage their Sector Members to participate in ITU-T activities.

Action Item	Action	Milestone	Periodic goals met	Completed
59-01	TSB to raise awareness of developing countries regarding the benefits of ITU-T membership	Ongoing	√	
59-02	Director to encourage SMs from developing countries to promote their subsidiaries to participate in ITU-T activities, and to contribute to the CTO meetings	Ongoing	√	
59-03	Director to grant fellowships for network operators from developing countries	Ongoing	√	

Action Item 59-01: TSB

Action Item 59-02: TSB

The involvement of Sector members from developing countries in CTO meetings is being actively promoted.

Action Item 59-03: TSB

Fellowships are being made available to attend ITU-T meetings, including study group meetings and regional study group meetings, workshops and seminars. These are allocated according to the following criteria: available TSB budget; contributions by the applicant to the meeting; equitable distribution among countries; and gender balance. Priority is being given to applicants from LDCs. The current policy is to allocate partial fellowships only.

All Collective Letters issued include information on fellowships and the necessary application form. TSB provides the fellowships in coordination with BDT.

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29. Resolution 60 - Responding to the challenges of the evolution of the identification/numbering system and its convergence with IP-based systems / networks

Resolution 60

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 identification/numbering resources in relation to the deployment of IP-based networks and the transition to NGN and FN;
- 2 to ensure the development of the administrative requirements for identification/numbering resource management systems in NGN and FN;
- 3 to continue developing guidelines, as well as a framework, for the evolution of the international telecommunication numbering system and its convergence with IP-based systems, 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, and to help investigate their impact on the numbering/identification system,

instructs the Director of the Telecommunication Standardization Bureau

to take appropriate action to facilitate the foregoing work regarding the evolution of the numbering/identification system or its converged applications,

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.

Action Item	Action	Milestone	Periodic goals met	Completed
60-01	SG2, supported particularly by SG13, to study necessary requirements and related resource management systems regarding telecommunication identification/numbering resources in relation to the deployment of IP-based networks and the transition to NGN and FN, and to develop guidelines for evolution of the international telecommunication numbering system and its convergence with IP-based systems	Ongoing	√	

Action Item 60-01: SG2

There was a draft document named “the future of numbering” which studies and analyses the existing numbering, naming, addressing and identification plans and identifies gaps, interworking needs and mechanisms between these plans. The latest version of this document is contained in TD 156/WP1 (2009-2012).

Service Provider Network Identifier (SPN) issue was discussed in the ITU-T SG2 meeting (22-31 January 2013) and the basic text for the draft Recommendation for the management and assignment of Global SPNs is contained in TD 73/WP1 (2009-2012) and TD 75Rev1/WP1 (2009-2012).

The revised PDTR text of ISO/IEC 29181-2, Future Network: Problem Statement and Requirements – Part 2: Naming and Addressing was reviewed at the SG2 meeting (17-26 September 2013) and a response was sent to ISO/IEC JTC1/SC6/WG7.

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30. Resolution 61 - Countering and combating misappropriation and misuse of international telecommunication numbering resources

Resolution 61

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, in accordance with national law;
- 3 to encourage administrations and national regulators to collaborate and share information on fraudulent activities related to 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 and combat fraudulent activities due to number misappropriation and misuse, which would help 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 the misuse of international numbering resources, in accordance with Recommendation ITU-T E.164, through relevant ITU-T resources (e.g. the ITU-T Operational Bulletin);
- 4 to request Study Group 2 to study all aspects and forms of misappropriation and misuse of numbering resources, in particular of international country codes, with a view to amending Recommendation ITU-T E.156 and its supplements and guidelines 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 study the economic effects resulting from misappropriation and misuse of numbering resources, including call blocking.

Action Item	Action	Milestone	Periodic goals met	Completed
61-01	SG2 to study all aspects and forms of misappropriation and misuse of numbering resources, particular international country codes, with a view to amending Recommendation ITU-T E.156 and its supplements and guidelines	Ongoing	√	
61-02	SG3 to develop definitions for inappropriate activities related to misappropriation and misuse of international numbering resources specified in ITU-T Recommendations	Ongoing	√	
61-03	SG3 to study the economic effects of misappropriation and misuse of numbering resources, including call blocking	Ongoing	√	

Action Item 61-01: SG2

Summary of replies to the Circular 296 (2009-2012) on countering misuse was discussed in the ITU-T Study Group 2 meeting (22-31 January, 2013). WTSA Resolution 61 was noted as providing new inputs to this work on misuse. Given the scale of the problem, the meeting concurred that the procedure defined in E.156 could be improved or complemented by other procedures to prevent such practice. And future work on this aspect was agreed.

It was agreed in principle to send a circular on number misuse and misappropriation at the SG2 meeting (17-26 September 2013).

Action Item 61-02: SG3

A Correspondence Group to study the economic Impact of call-back, refiling and inappropriate hubbing and other forms of alternative calling procedures, as well as origin non-identification or spoofing, was set up at the May 2013 meeting of Study Group 3.

Action Item 61-03: SG3

Work in the regions on defining, inter alia, inappropriate hubbing is ongoing. A Correspondence Group to study the economic Impact of call-back, refiling and inappropriate hubbing and other forms of alternative calling procedures, as well as origin non-identification or spoofing, was set up at the May 2013 meeting of Study Group 3. Contributions on the topic have been received in the regions.

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31. Resolution 62 - Dispute settlement

Resolution 62

resolves to instruct ITU-T Study Group 3

1 to expedite its work on international connectivity, in order to facilitate the implementation of relevant resolutions;

2 to collect data with respect to the implementation and practical effects of the implementation of relevant resolutions and ITU-T D-series Recommendations,

invites Member States

1 to encourage each party to include in a negotiation or agreement related to, or arising out of, international connectivity matters a dispute settlement clause in such agreements;

2 to encourage all operating agencies domiciled within their territories to implement relevant ITU-T Recommendations;

3 to contribute to ITU-T's further work in the areas mentioned in this resolution,

instructs the Director of the Telecommunication Standardization Bureau

1 to report annually to the ITU Council with respect to the implementation of this resolution;

2 to provide all necessary support, within the existing budget, to Study Group 3 for its further work on this matter.

Action Item	Action	Milestone	Periodic goals met	Completed
62-01	SG3 to collect data with respect to implementation and practical effects of implementation of relevant resolutions and E-series Recommendations.	Ongoing	√	
62-02	SG3 to decide if an additional questionnaire is required at its 2nd meeting in 2013	Ongoing		
62-03	Director to prepare report to Council annually	Ongoing, 3 months before Council		

Action Item 62-01: SG3

The rapporteur on dispute resolution is moving work forward and has been allocated to Working Party 2/3.

Action Item 62-02: SG3

The Rapporteur on dispute resolution will be moving forward on work on a new questionnaire on D-series recommendations relating to dispute settlement.

Action Item 62-03: TSB

In the ITU Activity report to Council 2013 ([C13/35](#)), the TSB Director reports that at its meeting in September 2012, ITU-T SG3 agreed to progress four Contributions from the Global Settlements Carrier Group (GSC) Group as Supplements: Credit Management Guidelines; Day Sales Outstanding (DSO) Management Guidelines; Prepayment Guidelines; Guidelines for Fraud Mitigation.

These supplements were approved at the 2013 meeting of ITU-T SG3.

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32. Resolution 64 - IP address allocation and facilitating the transition to and deployment of IPv6

Resolution 64

resolves

1 to instruct ITU-T Study Groups 2 and 3, each according to its mandate, to continue to study the allocation and economic aspects of IP addresses, and to monitor and evaluate the allocation of IPv4 addresses which may be still available, returned or unused, in the interests of the developing countries;

2 to instruct Study Groups 2 and 3, each according to its mandate, to study IPv6 address allocation and registration for interested members and, especially, developing countries;

3 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 to ensure that feedback exists to enrich ITU efforts to support the transition to 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, especially through capacity-building programmes through BDT Programmes 2 and 4;

2 to 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, to facilitate joint training activities, involving appropriate experts from the relevant entities, to provide information, including roadmaps and guidelines, and to assist in the establishment of IPv6 test-bed laboratories in developing countries in collaboration with appropriate relevant organizations,

further instructs the Director of the Telecommunication Standardization Bureau

to take appropriate action to facilitate the activities of Study Groups 2 and 3 in the area of IP addresses, and to report annually to the ITU Council and also to the 2016 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 *resolves* 3, 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 communication and computer equipment has IPv6 capability, as appropriate, taking into consideration a necessary period for the transition from IPv4 to IPv6,

invites Member States

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.

Action Item	Action	Milestone	Periodic goals met	Completed
64-01	SG17 to continue study security aspects of IPv6 deployment	Ongoing	√	
64-02	SG2 (and SG3) to study allocation and economic aspects of IP addresses, and to monitor and evaluate IPv4 allocation for interested members and, especially, developing countries	Ongoing		
64-03	(SG2 and) SG3 to study allocation and economic aspects of IP addresses, and to monitor and evaluate IPv4 allocation for developing countries	Ongoing		
64-04	SG2 (and SG3) to study IPv6 address allocation and registration for interested members and, especially, developing countries	Ongoing		

Action Item	Action	Milestone	Periodic goals met	Completed
64-05	(SG2 and) SG3 to study IPv6 address allocation and registration for interested members and, especially, developing countries	Ongoing		
64-06	Director, in collaboration with BDT Director, to continue project to assist developing countries with IPv6 migration and deployment.	Ongoing	√	
64-07	Director, in collaboration with BDT Director, to maintain the IPv6 portal website that provides information on global activities related to IPv6 and to training events of ITU and relevant orgs.	Ongoing	√	
64-08	Director, in collaboration with BDT Director, to provide information, including roadmaps and guidelines to assist establishment of IPv6 test-bed labs in developing countries in collaboration with other orgs.	Ongoing	√	
64-09	Director to report to Council annually and to WTSA-16	Ongoing	√	

Action Item 64-01: SG17

Studies on security aspects of IPv6 deployment are developed by a group of experts in SG17, in close collaboration with IETF and other SDOs. SG17 approved Rec. ITU-T X.1037, *Technical security guideline on deploying IPv6*, and X.Suppl.23, *Security management guideline for implementation of IPv6 environment in telecommunication organizations*.

Action Item 64-02: SG2

An ad hoc group (AHG) of Study Group 2 on WTSA resolution 64 and an associated Correspondence Group have been created at the ITU-T SG2 meeting (22-31 January 2013) in order to propose the methodology and work items needed to pursue the implementation of the parts of this resolution relevant to Study Group 2. The AHG met during the ITU-T SG2 meeting held in September 2013, but did not meet during the SG2 meeting (28 May – 6 June 2014) since no contribution was received. The SG2 acting Co-Chairman called for contributions for this Ad hoc group for the next meeting and encouraged work via correspondence.

A joint ITU-T SG3 and SG2 Rapporteur Group was proposed by SG3 in its meeting of May 2013 to study the allocation and the Economic aspects of deploying IP addresses. The Terms of Reference of this JRG was developed by SG3 and exchanged between SG3 and SG2. At its meeting of 18-27 March 2015, SG2 accepted changes to the Terms of Reference proposed by SG3. A correspondence group for this JRG (jrg-AE-IPaddress@lists.itu.int) was also created at that SG2 meeting. See also [29-02](#)

Action Item 64-03: SG3

At its May 2014 meeting, Study Group 3 decided to move forward its work through the use of an agreed questionnaire to gather data to inform the members' consideration of these issues.

Action Item 64-04: SG2

See 64-02 above.

Action Item 64-05: SG3

See 64-03 above.

Action Item 64-06: TSB

Action Item 64-07: TSB

Action Item 64-08: TSB

An ITU IPv6 IPTV Global Testbed ([I3GT](#)) project initiated in Feb 2012 among ITU members with the support of ITU secretariat connected 10 sites worldwide using IPv6 by 16 May 2014 to test interoperability of IPTV equipment/services as well as other IPv6-based technologies, and to also promote IPv6 capability deployment in developing countries. The preparation for the University of Rwanda, College of Science and Technology (an ITU Academia member) to join I3GT is ongoing as of May 2015.

Action Item 64-09: TSB

The TSB Director provides updates regarding IPv6 activities annually in the Council document on “ITU Internet activities: Resolutions 101, 102 and 133”.

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33. Resolution 65 - Calling party number delivery, calling line identification and origin identification

Resolution 65

resolves

- 1 that international CLI, CPND and OI shall be provided based on the relevant ITU-T Recommendations where technically possible;
- 2 that the delivered calling party numbers (CPN) shall at least, where technically possible, be prefixed with country codes so that a terminating country can identify in which country the calls are originated before they are delivered from an originating country to that terminating country;
- 3 that, in addition to the country code if delivered, the delivered CPN and CLI shall include the national destination code, or sufficient information to allow proper billing and accounting, for each call;
- 4 that the CPN, CLI and OI information shall be transmitted transparently by transit networks (including hubs),

instructs

- 1 ITU-T Study Group 2, ITU-T Study Group 3 and, where required, ITU-T Study Group 17 to further study the emerging issues of CPND, CLI and OI;
- 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 the 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,

invites Member States

to contribute to this work and to cooperate in the implementation of this resolution.

Action Item	Action	Milestone	Periodic goals met	Completed
65-01	SG2, SG3 and SG17 to further study emerging issues of CPND, CLI and OI	Ongoing	√	
65-02	SGs to expedite work on Recommendations that would provide additional detail and guidance for the implementation of this resolution	Ongoing	√	

Action Item	Action	Milestone	Periodic goals met	Completed
65-03	Director to report [to WTSA-16] on progress achieved by study groups in implementing Resolution 65	Ongoing		

Action Item 65-01: SG2, SG3 and SG17

A conference call was held between the TSB, the SG2 and SG3 Chairmen on 30 April 2013. A TD sourced by the SG2 and SG3 Chairmen with the title of Areas for cooperation between SG2 and SG3 following WTSA-12 Resolutions has been agreed. Areas, breakdown of areas and modalities of cooperation for SG2 and SG3 as to WTSA-12 Resolutions 29, 61, 64 and 65 were proposed.

A contribution from KDDI was received in the SG2 meeting (17-26 September 2013) which proposed to start to study assignment rules of caller IDs relating voice services provided by application providers in order to prevent malicious issues caused by caller ID spoofing. Information on the creation of the IETF STIR Working Group (Secure Telephony Identity Revisited) was also noted by SG2 at that meeting.

An ITU workshop on Caller ID Spoofing was held on 2 June 2014 during the SG2 meeting (28 May-6 June 2014). The SG2 Chairman encouraged SG2 participants to consider the presentations made in the workshop and submit contributions to the subsequent SG2 meetings.

A presentation ([TD619/GEN2](#)) on number spoofing was made by the US Federal Trade Commission during the SG2 meeting of 18-27 March 2015.

CPND, CLI and OI fall within the scope of the alternative calling procedures joint rapporteur group between SG2 and SG3. A revised Terms of Reference was exchanged between the groups to facilitate the work going forward.

Action Item 65-02: SGs

A contribution from Ghana was received in the SG2 meeting (17-26 September 2013) which proposed to revise ITU-T Recommendation E.157 based on the updated WTSA-12 Resolution 65 and article 3.6 of the International Telecommunications Regulations (ITRs). In addition, the correspondence group on calling party number delivery, calling line identification and origination identification has restarted with the goal to clarify the issue and produce a problem statement (e.g. list the problematic use cases) including terminology and identify the potential impacts on E.157 or other potential deliverables pertinent to this work including the potential actions that could be taken to address these issues.

Mr Kazuo Nakamura from KDDI and Mr Yaw Boamah Baafi from Ghana are co-convenors of the correspondence group.

A contribution from Egypt (COM2-[C.67](#)) on CPND, CLI and OI and Number Spoofing, a contribution from China (COM2-[C.53](#)) on analysis of Caller ID delivery in China and a proposal from WP1/2 Chairman ([TD 374/GEN2](#)) to amend Recommendation ITU-T E.157 were received in the SG2 meeting (28 May-6 June 2014). The meeting agreed to continue the work on a revision of ITU-T E.157 and calling party number delivery. The meeting welcomed Mr Philip Rushton from UK and Mr Joakim Stralmark from Sweden as editors of ITU-T E.157.

A proposal from Editors ([TD520/GEN2](#)) of ITU-T E.157 and contributions from Egypt (COM2-[C.97](#)), UK (COM2-[C.86](#)) and Telecom Italia (COM2-[C.75](#)) were discussed in the SG2 meeting of 18-27 March 2015. It was agreed that future work will proceed in the correspondence group to produce a revised text for Recommendation ITU-T E.157 based on the text contained in [TD 520/GEN2](#).

Action Item 65-03: TSB

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34. Resolution 66 - Technology Watch in the Telecommunication Standardization Bureau

Resolution 66

resolves to instruct the Director of the Telecommunication Standardization Bureau

- 1 to ensure that Technology Watch activities are performed within the Bureau and to submit the findings for contributing to the development of relevant ITU-T Recommendations;
- 2 to continue to provide the output of Technology Watch, with relevant findings and analysis, as soon as possible to the relevant study groups and the Telecommunication Standardization Advisory Group for their consideration and action in accordance with their mandates;
- 3 to continue to publish the main results of Technology Watch as brief summaries,

encourages Member States and Sector Members

to contribute actively to Technology Watch, by submitting topic proposals and abstracts for future activities and by reviewing and discussing the Technology Watch findings.

Action Item	Action	Milestone	Periodic goals met	Completed
66-01	Director to continue the Technology Watch Function in TSB	Ongoing	√	
66-02	TSB to provide outputs of TWF to SGs and TSAG for their consideration and action	Ongoing	√	

Action Items 66-01 and 66-02: TSB

Mobile money (May 2013, <http://www.itu.int/en/ITU-T/techwatch/Pages/mobile-money-standards.aspx>):

Mobile money refers to financial transactions and services that can be carried out using a mobile device such as a mobile phone or tablet. These services may or may not be linked directly to a bank account. Previously, recharging your mobile meant adding more airtime but now increasingly you will be able to add money to it, keep all your credit cards and loyalty coupons, access your bank account and use it like your ordinary wallet for payments. Innovations in mobile money could lead to a drastic change in the way people pay for goods and services in the near future.

[Part 1](#) of the report focuses on innovations in the mobile payments landscape, and in particular on NFC contactless mobile payments and the likely impact on future standardization activities. [The second part](#) highlights mobile money transfer and mobile banking services and their link to enabling financial inclusion. Mobile payments have grown as an alternative route of channelling economic activity, in particular in areas where banking infrastructure is poor or non-existent. Several issues described in the reports are yet to be addressed, including the interoperability aspect.

Mobile money and mobile payments are cross-cutting issues with implications for the work of various Study Groups, including SG2, SG13, SG16 and SG17. A Focus Group on Digital Financial Services was established in June 2014.

Location matters: Spatial standards for the Internet of Things (September 2013, <http://www.itu.int/en/ITU-T/techwatch/Pages/spatial-standards.aspx>):

Precise and accurate location (spatial) information enhance our association with our natural and built environments. Written by the secretariats of the Open Geospatial Consortium (OGC) and the TSB, this report looks at the global effort to weave different sources and formats of spatial information together so that they can be useful to people wherever they are and whatever they are doing.

Many emerging applications and services acquire, store, process, exchange, retrieve and transmit location information. This has significant implications in various areas of study, including security and privacy implications.

Big data - big today, normal tomorrow (November 2013, <http://itu.int/en/ITU-T/techwatch/Pages/big-data-standards.aspx>):

Big data – a composite term describing emerging technological capabilities in solving complex tasks – has been hailed by industry analysts, business strategists and marketing pros as a new frontier for innovation, competition and productivity. This report looks at different examples and applications associated with the big data paradigm, identifies commonalities among them and highlights some of the technologies enabling the upsurge of big data. The report identifies challenges which need to be addressed to facilitate the adoption of big data solutions in a wider range of scenarios. Global standardization can contribute to addressing such challenges and will help companies enter new markets, reduce costs and increase efficiency. Big data standardization activities related to the ITU-T work programme, including the work initiated by Q17/13, are described in the final section of this report.

The report characterizes data protection, privacy and cybersecurity as key challenges associated with big data, and identifies issues related to aggregated datasets and anonymization as areas for further investigation and standardization.

The 2013 meeting of the Chief Technology Officers' Group [called for ITU](#) to “initiate an investigation into the areas of big data in need of accelerated standardization”. The CTO meeting also proposed “the initiation of a project to encourage ITU-T Study Groups to study the implications and possibilities for big data in their specialist areas and to coordinate the work with other SDOs working on big data.”

In response, a workshop was held during the TSAG meeting in June 2014, to review recent developments and consider the best approach for ITU-T to take into account big data. The first ITU-T Recommendation on this topic, Y.3600 “Big data – Cloud computing based requirements and capabilities” was approved in November, 2015.

The Tactile Internet (August 2014, <http://itu.int/en/ITU-T/techwatch/Pages/tactile-internet.aspx>):

This Technology Watch report outlines the potential of the Tactile Internet, exploring its promise in application fields ranging from industry automation and transport systems to healthcare, education and gaming. It goes on to describe the Tactical Internet's demands on future digital infrastructure and its expected impact on society, concluding with a brief discussion of the role to be played by the ITU framework.

The Tactile Internet is emerging as one of the use case scenarios for future 5G networks, studied by the ITU-T Focus Group on IMT-2020.

A full list of all Technology Watch Reports is available on the ITU-T [Technology Watch website](#).

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35. Resolution 67 – Use in the ITU Telecommunication Standardization Sector of the languages of the Union on an equal footing

Resolution 67

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 on standardization 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 five official languages as proposed by the General Secretariat, and that this shall be ensured by SCV;

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 the Telecommunication Standardization Bureau (TSB) should collect all new terms and definitions, which are proposed by the ITU-T study groups in consultation with SCV, and enter them in the online ITU Terms and Definitions database;

7 that SCV should work in close collaboration with the Coordination Committee on Vocabulary (CCV) of the ITU Radiocommunication Sector,

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 languages of the Union;

2 to translate all Telecommunication Standardization Advisory Group (TSAG) reports in all the languages of the Union;

3 to include in the circular that announces the approval of a Recommendation an indication of whether it will be translated,

invites the Council

to take appropriate measures to ensure that information on the ITU websites is made available in all the official languages of the Union on an equal footing within budgetary limits;

instructs the Telecommunication Standardization Advisory Group

to consider the best mechanism for deciding which Recommendations approved under the alternative approval process (AAP) shall be translated, in light of the relevant Council decisions.

Action Item	Action	Milestone	Periodic goals met	Completed
67-01	SGs to follow the guidelines on the use of language and coordination on terms and definitions in this Resolution.	Ongoing	√	
67-02	TSB to enter all new terms and definitions in the online ITU Terms and Definitions database	Ongoing	√	
67-03	Director to continue translate TAP Recs, TSAG reports in all languages of the Union, indicate in approval announcement whether a Rec will be translated	Ongoing	√	
67-04	Director to invite Council to ensure ITU websites in all languages of the Union on an equal footing within budgetary limits	Ongoing	√	
67-05	TSAG to consider best mechanism to decide which AAP Rec shall be translated, in light of relevant Council decisions	Ongoing	√	

Action Item 67-01: SGs

Action Item 67-02: TSB

TSB continues to systematically enter new terms and abbreviations into the online ITU Terms and Definitions database. As of 21 January 2016, 2 826 terms and 12 355 abbreviations have been entered into the database since WTSA-12.

Action Item 67-03: TSB

All TAP Recommendations continue to be translated into all the languages of the Union on an equal footing. In accordance with Action Item 67-05, TSB will include in the circular that announces the approval of AAP Recommendations an indication of whether they will be translated, once the mechanism for selecting the candidate AAP Recommendations has been established by TSAG and if the funds are available in the budget.

Action Item 67-04: TSB

In the WTSA-12 report to Council 2013 ([C13/22](#)), the TSB Director invites Council to take appropriate measures to ensure that information on the ITU websites is made available in all the official languages of the Union on an equal footing within budgetary limits.

Action Item 67-05: TSAG

While all Recommendations approved through the traditional approval (TAP) process continue to be translated into the six official languages, TSB is looking for ways to increase the translation of Recommendations approved under the alternative approval process (AAP) and which were identified by the language groups and the study groups as priorities. As requested by TSAG at its 2013 and 2014 meetings, TSB has received from the ITU-T study groups and from the Russian and Chinese linguistic groups prioritized lists of AAP Recommendations candidate for translation and has, since June 2013, translated 31 of these high-priority AAP Recommendations.

The pilot project on the translation of AAP Recommendations at lower rates provided by specialized telecommunication institutions has concluded, and TSB thanks the participating linguistic groups, the specialized institutions and study group experts for their support, commitment and work. Although the translations received convey the intended meaning with unambiguous language expression, further actions are necessary to improve the quality in order to meet the required ITU translation standards for ITU-T Recommendations by better aligning the terminology and language of the translated texts to the terminology and language currently in use in ITU-T. It is also important to take into account all related costs and explore ways of further reducing the overall costs.

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36. Resolution 68 - Implementation of Resolution 122 (Rev. Guadalajara, 2010) of the Plenipotentiary Conference on the evolving role of the World Telecommunication Standardization Assembly

Resolution 68

resolves to instruct the Director of the Telecommunication Standardization Bureau

- 1 to organize meetings for high-level industry executives, e.g. chief technology officer (CTO) meetings, in order to assist in identifying and coordinating standardization priorities and subjects to minimize the number of forums and consortia;
- 2 to bring the needs of developing countries to those meetings by consulting them prior to the meetings using questionnaires;
- 3 to develop effective mechanisms to attract an increased number of high-level technology executives to participate in those meetings, with a view to enhancing cooperation, collaboration and coordination with their organizations, and encouraging those organizations to join ITU-T as a Sector Member, or as Sector Members, as appropriate;

4 to report on progress on this resolution to the Telecommunication Standardization Advisory Group and to the next WTSA, with lessons learned.

Action Item	Action	Milestone	Periodic goals met	Completed
68-01	Director to organize Chief Technical Officer (CTO) meetings	Ongoing	√	
68-02	Director to develop effective mechanisms to attract high-level participation and promote ITU-T membership	Ongoing	√	
68-03	TSB to develop questionnaire to survey developing countries for their standardization needs prior to CTO meetings	Ongoing		
68-04	Director to report on progress and lessons learned to TSAG and WTSA-16	Ongoing		

Action Item 68-01 and 68-02: TSB

CTO Group meetings are held in conjunction with major industry events to facilitate participation. The fifth meeting took place on Monday, 18 November 2013 in Bangkok, Thailand during ITU TELECOM World 2013. The sixth meeting was convened at ITU TELECOM World 2014, Doha, Qatar.

A China-Japan-Korea CTO meeting was organized in Seoul, Korea, 14 April 2015. A communique can be found [here](#). The seventh CTO Meeting took place on 11 October 2015 at ITU TELECOM WORLD 2015, Budapest, Hungary. The meeting was held in conjunction with a meeting of the CTO group and Study Group Chairmen, and the first ever Study Group Leadership Assembly. The Communiqué is available [here](#).

All CTO Meeting documentation including lists of participants, agendas, and communiqués is available [here](#).

Action Item 68-03: TSB

Action Item 68-04: TSB

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37. Resolution 69 - Non discriminatory access and use of Internet resources

Resolution 69

resolves to invite Member States

1 to refrain from taking any unilateral and/or discriminatory actions that could impede another Member State from accessing public Internet sites and using resources, within the spirit of Article 1 of the Constitution and the WSIS principles;

2 to report to the Director of the Telecommunication Standardization Bureau (TSB) on any incident of this kind referred to in *resolves 1* above,

instructs the Director of the Telecommunication Standardization Bureau

1 to integrate and analyse the information on incidents reported from Member States;

2 to report this information to Member States, through an appropriate mechanism;

3 to report to the Telecommunication Standardization Advisory Group (TSAG) on progress on this resolution, in order for TSAG to evaluate the effectiveness of its implementation;

4 to report on progress on this resolution to the next world telecommunication standardization assembly,

instructs the Secretary-General

to report annually to the ITU Council on progress on this resolution,

invites Member States and Sector Members

to submit contributions to the ITU-T study groups that contribute to the prevention and avoidance of such practices.

Action Item	Action	Milestone	Periodic goals met	Completed
69-01	Director to integrate and analyse incident reports from Member States.	Ongoing	√	
69-02	TSB to provide Member States with access to incident reports received on the website set up for this resolution	Ongoing	√	
69-03	Director to submit progress report to TSAG, for TSAG to evaluate the effectiveness of its implementation.	TSAG 2014	√	
69-04	Director to report on progress on this resolution to WTSA-16	TSAG 2016		
69-05	Sec-Gen to report annually to Council	Council annually	√	

Action Item 69-01: TSB

TSB has not received any new incident reports nor feedback to reported incidents by 8 May 2015.

Action Item 69-02: TSB

Action Item 69-03: TSB and TSAG

This document.

Action Item 69-04: TSB

Action Item 69-05: TSB

The TSB Director reports annually in the Council document on "ITU Internet activities: Resolutions 101, 102 and 133" about updates regarding WTSA Resolution 69.

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38. Resolution 70 - Telecommunication/ information and communication technology accessibility for persons with disabilities

Resolution 70

resolves

1 that Study Group 2, Study Group 16 and JCA-AHF shall continue giving high priority to work on the relevant Questions, in accordance with the accessibility guidelines, as shown in the guide for ITU-T study groups: "Considering End-User Needs in developing Recommendations" – facilitating the implementation of new software, services and proposals that enable all persons with disabilities, including persons with age-related disabilities, to effectively use telecommunication/ICT services; the "ITU-T Technical Paper, Telecommunications Accessibility Checklist" for standards writers; and Recommendation ITU-T F.790 on telecommunication accessibility guidelines for older persons and persons with disabilities;

2 that ITU study groups draft proposals to achieve greater accessibility to telecommunications/ICTs, combining the drafting of non-discriminatory standards, service regulations and measures for all persons with disabilities, including older persons with age-related disabilities, with cross-cutting user-protection actions;

3 to ask all ITU-T study groups to utilize the Telecommunications Accessibility Checklist, which makes it possible to incorporate the principles of universal design and accessibility;

4 that an ITU workshop 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,

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 consider introducing telecommunication relay services² 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-T, ITU-R 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 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;

5 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 mental disabilities;

6 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,

instructs the Director of the Telecommunication Standardization Bureau

to report to the ITU Council on the implementation of this resolution,

invites the Director of the Telecommunication Standardization Bureau

1 to identify and document examples of best practice for accessibility in the field of telecommunication/ICT for dissemination among ITU Member States and Sector Members;

2 to review the accessibility of ITU-T services and facilities and consider making changes, where appropriate, pursuant to United Nations General Assembly Resolution 61/106, and to report to the Council on these matters;

3 to work collaboratively on accessibility-related activities with the Directors of the Radiocommunication Bureau (BR) and the Telecommunication Development Bureau (BDT), in particular concerning awareness and mainstreaming of telecommunication/ICT accessibility standards, reporting findings to the Council as appropriate;

² 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.

- 4 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;
- 5 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;
- 6 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;
- 7 to contribute to the development of an ITU-wide internship programme for people with disabilities who have expertise in the field of ICTs, so as to build capacity among people with disabilities in the standards-making process and to raise awareness within ITU-T of the needs of persons with disabilities;
- 8 to continue the accessibility coordination 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;
- 9 to consider using accessibility resources in the meetings organized by ITU-T in order to encourage the participation of persons with disabilities in the standardization process,

instructs the Telecommunication Standardization Advisory Group

- 1 to revise the guide for ITU study groups – "Considering End-User Needs in developing Recommendations",
- 2 to request study groups to facilitate, in their respective work, the implementation of new software, services and proposals enabling all persons with disabilities, including persons with age-related disabilities, 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 to update this guide on a regular basis, based on contributions from Member States and Sector Members as well as the ITU-T study groups, as appropriate.

Action Item	Action	Milestone	Periodic goals met	Completed
70-01	SG2, SG16 and JCA-AHF (Human factors and accessibility) to continue work on accessibility with high priority	Ongoing	√	
70-02	TSB to hold an ITU workshop on progress and achievement of ITU-T SGs on ICT accessibility before WTSA-16	30/09/2016		
70-03	TSB Director to report to Council	Council 2016		
70-04	TSB to identify, document and disseminate best practices for telecommunication/ICT accessibility among ITU membership.	Ongoing	√	
70-05	Director to review and consider making changes to the accessibility of ITU-T services and facilities	Ongoing	√	
70-06	Director to work collaboratively with other Directors on accessibility activities on ITU wide awareness and mainstreaming of telecommunication/ICT Accessibility Standards, reporting findings to Council as appropriate	Ongoing	√	
70-07	Director, in collaboration with BDT Director, in developing programmes to enable developing countries to introduce services to enable persons with disabilities to use ICT services effectively	Ongoing	√	
70-08	TSB to work collaboratively and cooperatively with other SDOs to avoid duplication, and with disability orgs to ensure accessibility needs are taken into account in standardization	Ongoing	√	

Action Item	Action	Milestone	Periodic goals met	Completed
70-09	Director to contribute to the development of an ITU-wide internship programme to involve persons with disabilities and ICT expertise.	Ongoing	√	
70-10	Director to continue the disability coordination and advisory function within ITU-T.	Ongoing	√	
70-11	Director to consider using accessibility resource to encourage participation of persons with disabilities	Ongoing	√	
70-12	TSAG to revise the guide for ITU study groups – ‘considering end-user needs in developing Recommendations’, and request SGs to implement this guide	Ongoing	√	

Action Item 70-01: TSB

TSB has continued working in relevant study groups to advance the accessibility of ICT networks, services and applications.

The ITU-T Joint Coordination Activity on Accessibility and Human Factors ([JCA-AHF](#)) continues to be active, by increasing awareness and keeping accessibility to ICTs. TSAG (June 2015) decided that the JCA-AHF reports to TSAG (instead of ITU-T SG2).

In 2013 the Joint Coordination Activity on Accessibility and Human Factors met four times, contributing to the positive trend of increase awareness of standardization and accessibility to ICTs in the sector and overall ITU. The JCA-AHF met in conjunction with SG16, Question 26/16 and among the topics discussed were accessible remote participation, relay services requirements and the final deliverables of the Focus Group on Audiovisual Media Accessibility, which concluded its work in October 2013. The JCA-AHF also met during the ITU-D Rapporteurs Meetings (April 2013), in order to reach out to the participants of the Development sector, and in particular the ones attending Question 20-1 “Access to telecommunication/ICT services by persons with disabilities and with special needs”. The JCA-AHF also met in conjunction with the parent Group 2, to facilitate the attendance and the cooperation of the work with Question 4 of Study Group 2.

In 2014, JCA-AHF met on 30 May 2014 during ITU-T SG2. In 2015, JCA-AHF met on 18 Feb 2015 during ITU-T SG16, on 17 June 2015 during ITU-T SG2 and on 21 Oct 2015 during ITU-T SG16. In 2016, JCA-AHF met on 25 Jan 2016 during ITU-T SG2 and its next meeting will be on 4 March 2016 during IPTV-GSI.

The ITU-T Focus Group on Audio-visual Media Accessibility ([FG-AVA](#)) concluded its work on 24 October 2013. The eighteen deliverables are an additional resource around the theme of audiovisual media accessibility and are published as FG-AVA Technical Reports. They cover a large range of themes including, to name few, clean audio, guidelines for production of sign language services, requirements for closed signing, and a tool for decision-makers on audiovisual media accessibility. Also, all the new items and deliverables produced by FG-AVA fed in the work carried out by ITU-T [Study Group 16 “Multimedia”](#), and ITU-R [Study Group 5 “Terrestrial Services”](#) and [Study Group 6 “Broadcasting Service”](#).

Building on the recommendations from FG-AVA, ITU-T and ITU-R jointly established the ITU Intersector Rapporteur Group on Audio-visual Media Accessibility ([IRG-AVA](#)) in December 2013. IRG-AVA studies topics related to audio-visual media accessibility, “Access Systems” which can be used for all media delivery systems, including broadcast, cable, Internet, and IPTV, aiming at the development of Recommendations and other materials, within the current mandate of ITU-R Study Group 6 and of ITU-T [Study Groups 9 “Broadband cable and TV”](#) and 16. The IRG-AVA also addresses matters contributing to the coordination of standardization work involving ITU-T and ITU-R groups and collaborates with other organizations.

ITU-T H-Series Supplement 17 was approved by SG16 in December 2014, which is a transposition of ISO/IEC Guide 71 “Guide for addressing accessibility in standards”.

ITU-T SG16 completed two accessibility Recommendations in October 2015, one referring to accessibility terminology (ITU-T F.791) and two Technical Papers: one concerning accessible meetings (ITU-T

[FSTP-AM](#)) and another on accessible remote participation (ITU-T [FSTP-ACC-RemPart](#)). The latter complements A-Series Supplement 4 on remote participation produced by TSAG (June 2015).

Action Item 70-02: TSB

To advance the work and in view of the ITU workshop on progress and achievement of ITU-T SGs on ICT accessibility to be held before the next WTSA, a two day workshop was organized by the ITU-T Study Group 16 Focus Group on Audio Visual Accessibility (FG-AVA) 24 - 25 October 2013, ITU Headquarters, Geneva. The objective of the ITU workshop was to explain the options available for access services, the economics of providing them, and to offer successful financial case studies of their use. The workshop was of value to all those making content for, manufacturing equipment for, regulating, using, or contemplating using, access tools with media. This trend of work is expected to grow with the growing application of the United Nations Convention on the Rights of Persons with Disabilities, which will make such services an obligatory requirement.

A workshop on '[Innovation in Accessibility Technology and Policy](#)' was organized at 1100-1245, 29 May 2015, in Geneva, Switzerland during WSIS Forum 2015. Another workshop on 'Empowering the next billion by improving accessibility' will be organized in João Pessoa, Brazil, during IGF 2015 (10-13 November 2015).

Action Item 70-03: TSB

The Document "ITU's activities in promoting accessibility to ICTs for persons with disabilities" to Council 2014 ([C14/5](#)) includes updates with respect to Resolution 70.

A [report on 'Major ITU-T Activities on ICT Accessibility for PWD in 2014'](#) was submitted to JCA-AHF Feb 2015 meeting.

Action Item 70-04: TSB

TSB contributes to the activity of the Union in the field of Accessibility to ICTs, working in close cooperation with the ITU focal points on accessibility.

Action Item 70-05: TSB

TSB actively and continuously contributed to the completion of the forthcoming ITU policy on Accessibility, which was endorsed at Council-13.

TSB contributed greatly to the work of the ITU Accessibility Task Force in developing the [ITU Accessibility Plan for 2014](#) and 2015.

Action Item 70-06: TSB

The Joint Coordination Activity on Accessibility and Human Factors ([JCA-AHF](#)) serves as a useful coordination mechanism across ITU sectors and external SDOs and disability groups.

TSB participates and contributes actively to the ITU Accessibility Task Force.

Action Item 70-07: TSB

The JCA-AHF serves as a useful coordination mechanism across ITU sectors and external SDOs and disability groups.

Action Item 70-08: TSB

ITU-T SG16 approved [ITU-T H-Series 17](#) "Guide for addressing accessibility in standards" in November 2014, which is technically aligned with ISO/IEC Guide 71.

(See also Action Item 07-03).

Action Item 70-09: TSB

This item is included in the ITU policy on Accessibility, which was endorsed at Council-13, to which TSB contributed.

Action Item 70-10: TSB

The JCA-AHF serves as a useful coordination mechanism across ITU sectors and external SDOs and disability groups.

Action Item 70-11: TSB

TSB provides several services and tools that enabled remote participation and reasonable accommodation to persons with disabilities. TSB provides teleconference facilities, tools for remote sharing of documents (Adobe Connect), sign language interpretation (under request) and real time captioning, in order to allow a fully accessible meeting as well as accessible remote participation.

Action Item 70-12: TSAG

TSAG will consider updating the Revision of the Guide for ITU-T Study Groups: "Considering End-User Needs in developing Recommendations", now that ISO/IEC Guide 71/ITU-T Supplement 17, "Guide for addressing accessibility in standard" has been adopted.

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39. Resolution 71 - Admission of academia to participate in the work of the ITU Telecommunication Standardization Sector

Resolution 71

resolves

- 1 to assess the participation of academia since the approval of Resolution 169 (Guadalajara, 2010);
- 2 to allow the participation of academia in the various ITU-T study groups, workshops and working parties and the Telecommunication Standardization Advisory Group (TSAG), bearing in mind that academia should not have a role in decision-making;
- 3 that academia shall be granted access to ITU-T documents;
- 4 that a representative from academia may serve as rapporteur;
- 5 to allow the participation of academia in the Global Standards Symposium (GSS) and the World Telecommunication Standardization Assembly (WTSA), in a non-advisory capacity;
- 6 to allow the participation of academia in WTSA side events and exhibitions;
- 7 to assign to TSAG study of the need for any additional measures and/or arrangements to facilitate the participation of academia and to benefit from their technical and intellectual expertise, and to report the results, through the Director of the Telecommunication Standardization Bureau, to the Council and to the next WTSA in 2016;
- 8 that the amount of the annual financial contribution for the participation of academia should be a reduced amount, particularly for academia in developing countries²,

² These include the least developed countries, small island developing states, landlocked developing countries and countries with economies in transition.

instructs the Director of the Telecommunication Standardization Bureau

1 to continue his successful efforts to explore and recommend, based in part on advice from TSAG, various mechanisms, such as the use of voluntary financial and in-kind contributions, to encourage cooperation with, and facilitate the increased participation of, academia in all six regions³;

2 to continue to organize the Kaleidoscope event annually and on the basis of rotation between the six regions, to the greatest extent possible;

3 to cooperate with ITU-TELECOM in order to spread awareness of the value of academia membership in ITU-T,

invites the Council

to consider, in submitting its report to the next plenipotentiary conference (Busan, 2014), the positive contribution to ITU's various activities made by academia, and recommend that academia continue to be admitted to participate in the work of the three Sectors of ITU on a permanent basis,

invites the ITU membership

to inform academia of this resolution and to support and encourage academia to join ITU-T and participate in its activities.

Action Item	Action	Milestone	Periodic goals met	Completed
71-01	TSB Director to invite Council to assess the participation of academia according to PP-10 Res 169 and report and recommend to PP-14 that ITU admit participation from academia on a permanent basis	Council 2013	√	
71-02	TSB to continue to provide necessary support for the participation of academia	Ongoing		
71-03	TSAG to study need of any additional measures/ arrangement to facilitate academia, and report to Council and to WTSA-16	Ongoing		
71-04	TSB Director to continue to explore and recommend mechanisms to encourage cooperation between ITU-T and academia.	Ongoing	√	
71-05	TSB Dir to continue to organize Kaleidoscope event annually	Ongoing	√	
71-06	TSB to cooperate with ITU-Telecom to promote academia membership in ITU-T	Ongoing	√	

³ Taking into account Resolution 58 (Rev. Guadalajara, 2010) of the Plenipotentiary Conference in regard to the six 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).

Action Item 71-01: TSB

In the ITU Activity report to Council 2013 ([C13/35](#)), the TSB Director reports about the successful uptake of ITU-T Academia membership by universities. As of April 2014 there are now 45 universities with academia membership.

Council Working Group on Financial and Human Resources (CWG-FHR) is dealing with the matter of academia participation. As per document [CWG-FHR-3/13](#), the current proposal under consideration is to continue the trial period for Academia participation and revise conditions as required while maintaining the existing fee levels.

PP14 revised Res 169 to continue the Academia category of participation that was introduced “on a trial basis” by Resolution 169 (Guadalajara, 2010). PP14 further revised Res 169 to entitle Academia to participate in the three Sectors with a single financial contribution and added that Academia be invited to participate in various global and regional conferences, workshops and activities of the Union, with the exception of treaty-making conferences and Council.

ITU PP-14 adopted new Resolution 187 ‘Review of the current methodologies and development of a future vision for the participation of Sector Members, Associates and Academia in the activities of ITU’. Related review and study is ongoing and led by ITU General Secretary with participation from all ITU Sectors.

Action Item 71-02: TSB

Action Item 71-03: TSAG

Action Item 71-04: TSB

Several initiatives have been put in place to encourage cooperation between ITU-T and academia. Among them: the annual flagship ‘Kaleidoscope’ conference for academia; visits of university students to the ITU headquarters and seminars on ITU-T activities; visits and presentations of TSB staff to universities, including academia members; promotional academic workshops in conjunction with ITU(-T) events; dissemination of ITU-T promotional materials during events targeting academia; invitations to academia to participate in ITU-T events, as attendees or speakers, and contribute to relevant Focus Groups meetings; remote participation in ITU-T major symposia, seminars, and workshops allowing academia to participate, avoiding the financial and environmental costs of travel.

Contributions of academia and research institutes have been very much encouraged in the ITU-T Technology Watch initiative and the TSB Challenges, such as the ICT Innovation Application Challenge, the ITU Green ICT Application Challenge, and the ITU IPTV Application Challenge.

TSB Director continues to explore and recommend mechanisms to strengthen cooperation with the academic world. The new Lecture Series initiative offers academia the opportunity for lectures delivered by ITU expert staff as contributions to their curricula. TSB is also keen to invite professors to the ITU to give a lecture on a topic of common interest, and as speakers at its events.

Workshops on standards education have been co-organized with academia and relevant institutions. Last workshop, jointly organized with the IEEE and the Institute of Electronics, Information and Communication Engineers of Japan (IEICE), took place in St Petersburg, in conjunction with Kaleidoscope 2014. ITU academia members and representatives from relevant institutions also joined.

TSB also collaborates with ISO and IEC in the organization of academic weeks and roundtables, under the umbrella of the World Standards Cooperation (WSC), and participates in the annual workshops organized by the International Cooperation for Education about Standardization (ICES). Last ICES Workshop and WSC Academic Day took place in Incheon, Korea, 24-26 August 2015. The organization of the next Roundtable will be coordinated by the ITU. It will take place in conjunction with the ITU Telecom World 2016 and Kaleidoscope. Last edition of the World Standards Cooperation Roundtable took place in Seattle, WA, 22-23 January 2015.

A consultation on ITU-Academia collaboration was co-organized by the ITU General-Secretariat and TSB, in conjunction with Kaleidoscope 2015. The event provided an opportunity to exchange views on what ITU can do to best meet the needs and expectations of Academia.

Action Item 71-05: TSB

Kaleidoscope is a forum for universities, industry and research institutions of different fields, promoting the sharing of knowledge and identification of emerging ICT developments. ITU Kaleidoscope 2015 “Trust in the Information Society” was the seventh in the series of Kaleidoscope conferences and took place in Barcelona, Spain, 9-11 December 2015.

The ITU academia membership category, launched in 2011, fortified the cause of the Kaleidoscope series, and the conference is increasing in importance as academia scales-up its engagement in ITU work.

The next Kaleidoscope event will be held in conjunction with the ITU Telecom World 2016, Bangkok, Thailand, November 2016.

Action Item 71-06: TSB

A 2-day Academia workshop took place during Telecom 2013, Bangkok, Thailand, to promote ITU Academia membership. The event was organized by Dr. Toshio Obi, ITU Special Envoy for Academia. It attracted about 20 universities and led to the recruitment of a new ITU-T academia member from Thailand (Thammasat University, College of Innovation).

Academia membership will be promoted at the next Telecom World edition, and in particular at the WSC academic Roundtable and Kaleidoscope conference that will take place in conjunction with Telecom.

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40. Resolution 72 - Measurement concerns related to human exposure to electromagnetic fields

Resolution 72

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) disseminating information related to this topic through organizing workshops and seminars for regulators, operators and any interested stakeholders from developing countries;
- ii) continuing to cooperate and collaborate with other organizations working on this topic and to leverage their work, 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 terminals;
- iii) cooperating on these issues with ITU-R Study Groups 1 and 6, and with Study Group 1 of the ITU Telecommunication Development Sector (ITU-D) in the framework of Question 23/1;
- iv) strengthening coordination with WHO so that any fact sheet relating to human exposure to electromagnetic fields is circulated to Member States as soon as it is issued,

instructs the Director of the Telecommunication Standardization Bureau, in close collaboration with the Directors of the other two Bureaux, and 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 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 hold workshops in developing countries with presentations and training on the use of equipment employed in assessing human exposure to RF energy;

3 to support developing countries while they establish their regional centres equipped with test benches for monitoring conformance of telecommunication terminal equipment and human exposure to electromagnetic waves using, among other things, the modalities listed in Resolutions 44 (Rev. Dubai, 2012) and 76 (Rev. Dubai, 2012) of this assembly, in the context of the development of the regional test centres and of Resolution 177 (Guadalajara, 2010) of the Plenipotentiary Conference,

invites Member States and Sector Members

to contribute actively to the work of Study Group 5 in providing relevant and timely information in order to assist developing countries in providing information and addressing measurement concerns related to RF exposure and electromagnetic fields,

further invites Member States

to adopt suitable measures in order to ensure compliance with relevant international recommendations to protect health against the adverse effect of EMF.

Action Item	Action	Milestone	Periodic goals met	Completed
72-01	TSB/SG5 to organize EMF workshops and seminars for regulators, operators etc from developing countries	Ongoing	√	
72-02	SG5 to coordinate with WHO so that fact sheets relating to human exposure to electromagnetic fields is circulated to Member States as soon as it is issued	Ongoing	√	
72-03	Director, in collaboration with other Dirs, to support the development of reports identifying needs of developing countries for consideration by ITU-T SG5	Ongoing	√	
72-04	Director, in collaboration with other Dirs, to support the developing countries to establish regional test centres (see also Resolution 76)	Ongoing		
72-05	TSB/SG5 to disseminate information on EMF	Ongoing	√	

Action Item 72-01: TSB/SG5

An ITU Workshop on human exposure to electromagnetic fields⁵ co-organized with the Italian Ministry of Economic Development and hosted by Telecom Italia took place in Turin on 9 May 2013.

It ended with a [Call to Action](#), which encourages ITU-T SG 5 to continue leading cooperation among standards development organizations (SDOs) in the interests of harmonized international EMF standards. In particular it calls on ITU-T to extend its work on human exposure to EMFs by developing and promoting EMF information and education resources accessible to all communities; establishing specialised EMF assessment and accreditation training programs for developing countries; and promoting open online compliance and reporting systems as well as the development of a standardized online system to demonstrate compliance with international EMF standards.

⁵ <http://itu.int/en/ITU-T/climatechange/emf-1305>.

ITU-T Study Group 5 Vice Chairman of Working Party 2 delivered a Training Session on ITU-T Recommendations (ITU-T K.52, K.61, K.62, K.70, K.83, K.90 and K.91) on EMF in India on 21-22 May 2013.

An ITU Workshop on human exposure to electromagnetic fields in Latin America, kindly hosted by Telefónica took place on 14 August in Quito, Ecuador. The event concluded with an Outcome Document which calls on Governments in Latin America and ICT industry to deep the work related to EMF, health and Environment to facilitate the deployment of wireless networks with the participation of the population protecting the environment, the urban patrimony, and the human health under the frame of ITU and WHO Recommendations.

A Workshop on "With ICT's everywhere - How safe is EMF in Latin America?" took place on 10 December 2013, in Lima, Peru.

A Forum on Human Exposure to Electromagnetic Fields (EMFs) in Latin America took place on 13 March 2014, Montevideo, Uruguay.

A Forum on "EMF - What does it really mean?" took place on 4 September 2014, Santo Domingo, Dominican Republic.

A Forum on "Using EMF to achieve the smartest sustainable city" took place on 26 September 2014 in Beijing, China, followed by the Regional meeting of ITU-T Study Group 5 Regional Group for Asia and the Pacific (SG5 RG-AP).

A Forum on "Human Exposure to Electromagnetic Fields in India" took place in Kochi, India on 15 December 2015.

Action Item 72-02: SG5

WHO representatives participate regularly in ITU-T SG5 related meetings and have circulated and presented information on latest WHO factsheets regularly.

Action Item 72-03: TSB

TSB developed a [mobile application on EMF issues](#) with the kind support of Telstra and in collaboration with WHO. The primary audience for the mobile application is the public, representatives from municipalities, government officials, policy makers and people needing a simple explanation of EMF including common questions and answers. The application will be made available in Spanish, Arabic, Russian, Chinese and French in November 2015.

Action Item 72-04: TSB

See [Resolution 76](#).

Action Item 72-05: TSB

A website providing information on ITU including ITU-T SG5 activities on human exposure to electromagnetic fields (EMFs) due to radio systems and mobile equipment has been created, is regularly updated and is available at: <http://www.itu.int/en/ITU-T/emf/Pages/default.aspx>

A flyer on ITU-T SG5 activities on human exposure to electromagnetic fields (EMFs) due to radio systems and mobile equipment is available at: <http://www.itu.int/en/ITU-T/emf/Documents/EMF-flyer.pdf>.

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41. Resolution 73 - Information and communications technologies, environment and climate change

Resolution 73

resolves

- 1 to continue and further develop the ITU-T work programme initially launched in December 2007 on ICTs and climate change, 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 and climate change, held in various parts of the world², by distributing their outcomes as widely as possible;
- 3 to continue to maintain and update the ITU-T Global Portal on ICTs, environment and climate change, 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 adoption of Recommendations for enhancing the use of ICTs to serve as a potent and cross-cutting tool to assess and reduce 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-efficient³ 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 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 ICT, the environment and climate change,

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 developing organizations (SDOs) and facilitate collaboration between ITU and those SDOs in order to avoid duplication of, or overlap in, international standards, through in particular the JCA on ICT and climate change;
- 2 to ensure that study groups carry out a review of both the appropriate existing ITU-T Recommendations and all future Recommendations to assess their implications and the application of best practices in the light of the protection of environment and climate change;
- 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.,

² 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; and Montreal, Canada, on 29-31 May 2012.

³ With respect to efficiency, promotion of efficient use of materials used in ICT devices and network elements should also be a consideration.

instructs all ITU-T study groups

- 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 liaise with the relevant ITU-R and ITU-D study groups and promote liaison with other standards development organizations 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 ITU Council and to the 2016 world telecommunication standardization assembly;
- 2 to keep up to date the calendar of events relevant to ICTs, the environment and climate change based on proposals by TSAG 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 and climate change, taking into consideration relevant studies, in particular the ongoing work of Study Group 5, including issues related to, *inter alia*, 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 workshops and seminars for developing countries, to raise awareness and identify their particular needs and challenges on environment and climate-change issues;
- 6 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;
- 7 to promote the ITU-T Global Portal on ICTs, environment and climate change and its use as an electronic forum for exchange and dissemination of ideas, experience and best practices on ICTs, the environment and climate change;
- 8 to report to TSAG on the progress regarding *invites the Secretary-General* below,

invites the Secretary-General

to continue to cooperate and collaborate with other entities within the United Nations in formulating future international efforts for the effective addressing of climate change,

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 and climate change;
- 2 to continue or initiate public and private programmes that include ICTs, the environment and climate change, 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 ITU Recommendations related to the matter;

4 to promote the integration of ICT, climate, environment and energy policies in order to improve environmental performance and enhance energy efficiency and resource management;

5 to integrate the use of ICT into national adaptation plans 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.

Action Item	Action	Milestone	Periodic goals met	Completed
73-01	Director to continue and develop the ITU-T ICT and Climate Change work programme	Ongoing	√	
73-02	TSB to continue maintain, update, develop and promote the ITU-T Global Portal on ICTs, environment and climate change	Ongoing	√	
73-03	TSB to promote the adoption of ITU-T Recs as a potent and cross-cutting tool to assess and reduce GHG emission, optimize energy and water consumption, minimize e-waste, etc., increase awareness on the role of ICTs in enhancing environmental sustainability	Ongoing	√	
73-04	TSB to provide technical assistance to develop national green ICT action plan, and develop a reporting mechanism to support countries in implementing their plans	Ongoing		
73-05	TSB to setup e-learning programmes on Recommendations related to ICT, environment and climate change	Ongoing		
73-06	TSAG to coordinate ITU-T SGs through JCA on ICT and climate change, and ensure study groups carry out review of existing and future Recommendations to assess implications and application of best practices in light of environment protection and climate change	Ongoing	√	
73-07	TSAG to consider revision of working methods to reduce climate change impact	Ongoing		
73-08	Study Groups, especially SG5, to develop Recommendations on ICTs, environment and climate change	Ongoing	√	
73-09	Director, in collaboration with other Dirs, to keep update the calendar of events relevant to ICTs, environment and climate change	Ongoing	√	
73-10	Director, in collaboration with other Dirs, to launch pilot BSG projects on environmental sustainability issues, particular for developing countries	Ongoing	√	
73-11	Director, in collaboration with other Dirs, to support development of reports on ICTs, environment and climate change, particularly relevant to Ongoing work of SG5	Ongoing	√	
73-12	Director, in collaboration with other Dirs, to organize workshops and seminars for developing countries to raise awareness and identify needs.	Ongoing	√	
73-13	Director to Report progress of ITU/WMO/UNESCO IOC Joint Task Force to investigate the potential of using submarine telecom cables for ocean and climate monitoring and disaster warning	Ongoing	√	

Action Item	Action	Milestone	Periodic goals met	Completed
73-14	Sec-Gen to continue cooperation and collaboration with other United Nations entities	Ongoing		
73-15	Director to report to TSAG on progress on cooperation with other UN entities, see 73-14	Ongoing	√	

Action Item 73-01: TSB

Action Item 73-02: TSB

TSB launched in February 2014 a Global portal on ICTs, Environment and Climate Change, which is available at: <http://itu.int/en/ITU-T/climatechange/resources>

Action Item 73-03: TSB

TSB is continuing to work with countries and ICT industry with the aim at implementing ITU-T Recommendations on environment.

The ITU-T L.1410 and L.1420 Recommendations to assess the environmental impacts of ICTs were among 10 international methodologies to have been pilot-tested in Europe's bid to establish and converge around a common international framework to assess the energy and emission footprint of the ICT sector.

In a study led by the European Commission, 27 leading ICT companies and associations engaged in a 10-month trial of measurement methodologies developed by entities including international standards development organizations (SDOs) such as (ITU-T, ISO, IEC, ETSI and the GHG Protocol).

The pilots recognized Recommendation ITU-T L.1420 as the only available international reporting methodology to assess ICT-related energy consumption and/or greenhouse gas (GHG) emissions in ICT organizations as well as ICT-related activities within non-ICT organizations.

ITU-T Study Group 5 and ETSI EE jointly developed a technically aligned standard to assess the direct environmental impact of ICT goods, networks and services, as well as their indirect impact on the greenhouse gas (GHG) emissions of non-ICT industry sectors (Recommendation ITU-T L.1410: Methodology for Environmental Life Cycle Assessment (LCA) of ICT goods, networks and services).

Additionally ETSI EE and ITU-T SG5 developed a new technically aligned standard to measure the energy efficiency of mobile radio access networks (RANs), the wireless networks that connect end-user equipment to the core network. ITU-T Recommendation L.1330 is the first to define energy-efficiency metrics and measurement methods for live RANs, providing a common reference to evaluate their performance. Its application will build uniformity in the methodologies employed by such evaluations, in parallel establishing a common basis for the interpretation of the results.

Action Item 73-04: TSB

Action Item 73-05: TSB

Action Item 73-06: TSAG

Action Item 73-07: TSAG

Action Item 73-08: SG5

In addition to ITU-T SG5, many Questions in various study groups (e.g. SG16 and SG17) have a study point on climate change.

Action Item 73-09: TSB

TSB maintains up to date the calendar of events which is available at: <http://www.itu.int/en/ITU-T/climatechange/resources/Pages/default.aspx>

Action Item 73-10: TSB

Action Item 73-11: TSB

A new report on ‘smart’ water management provides insight into the potential of ICTs to enhance the sustainability, accessibility and efficiency of our use of water resources.

The free-of-charge report, “Partnering for solutions: ICTs in Smart Water Management (SWM)”, is the product of collaboration between ITU and the United Nations Educational, Scientific and Cultural Organization (UNESCO).

The report was launched at a four-day series of ITU-UNESCO events on ‘Smart Sustainable Cities’ in Montevideo, Uruguay, 11-14 March 2014.

The report on “Resilient pathways: the adaptation of the ICT sector to climate change” explores the impacts of climate change on the ICT sector and the potential for adaptation, while emphasizing the need for resilient pathways of action, enabling environments and new standards to foster the sector’s approach to adaptation. It was jointly developed by ITU, UNESCO and UNFCCC in April 2014.

The ITU-T Focus Group on Smart Sustainable Cities (FG-SSC) agreed on the definition of smart sustainable city and concluded its work by finalizing 21 technical specifications and reports, *inter alia*, on climate change adaptation, EMF considerations, key performance indicators on smart sustainable cities, cybersecurity, and smart water management. Dubai will be the first city to use the KPIs developed by the FG-SSC to measure its progress and inform urban-development policies and assess the efficiency and sustainability of its operations.

Action Item 73-12: TSB and SGs

TSB in response to Resolution 73 has organized 17 events including workshops and forums since the last TSAG meeting. A full list of climate change events can be found at: <http://www.itu.int/en/ITU-T/climatechange/Pages/events.aspx>

Thematic Workshop on Internet of Things (IoT): The Way to Smart Sustainable Cities, 25 May 2015, Geneva, Switzerland

5th ITU Green Standards Week, to be held in December 2015 in the Bahamas.

The Green Standards Week acts as global platform for discussion and knowledge-sharing in order to raise awareness of the importance and opportunities of using ICT to build smart sustainable cities and ensure a sustainable future.

The Green Standards Week will bring together leading specialists in the field, from top policy-makers to engineers, designers, smart city planners, government officials, regulators, standards experts and others.

Upcoming events include:

[update needed]

Action Item 73-13: TSB

Action Item 73-14: ITU Secretary-General

Action Item 73-15: TSB

TSB and ITU SG5 are collaborating closely with ECLAC, UNIDO, Basel Convention, UNEP, UNU, UNESCO, UNFCCC, Un-Habitat, WMO and WHO.

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42. Resolution 74 - Admission of Sector Members* from developing countries in the work of the ITU Telecommunication Standardization Sector

Resolution 74

resolves

to encourage the adoption of the necessary measures to enable new 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, taking into consideration levels of financial contributions equal to those applied for developing countries for admission to the study groups in the ITU Telecommunication Development Sector (ITU-D).

* 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.

Action Item	Action	Milestone	Periodic goals met	Completed
74-01	Director to bring the addition of 'landlocked developing countries' in Resolution 74 to the attention of Council	Council 2013		√

Action Item 74-01: TSB

The needs of Sector Members from developing countries (including the least developed countries, small island developing states, landlocked developing countries and countries with economies in transition) have been brought to the attention of the Council Working Group on Financial and Human Resources (CWG-FHR).

As of 31 December 2015, 4 members have taken advantage of the reduced fee established by PP-10 for new ITU-T Sector Members from developing countries.

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43. Resolution 75 - The ITU Telecommunication Standardization Sector's contribution in implementing the outcomes of the World Summit on the Information Society

Resolution 75

resolves

- 1 to continue ITU-T's work on WSIS implementation and follow-up activities within its mandate;
- 2 that ITU-T should carry out those activities that come within its mandate and participate with other stakeholders, as appropriate, in the implementation of all relevant action lines and other WSIS outcomes,
- 3 that the relevant ITU-T study groups should consider in their studies the output of the Council Working Group on international Internet-related public policy issues,

instructs the Director of the Telecommunication Standardization Bureau

- 1 to provide WG-WSIS with a comprehensive summary of ITU-T activities on implementation of the WSIS outcomes;

- 2 to ensure that concrete objectives and deadlines for WSIS activities are developed and reflected in the operational plans of ITU-T in accordance with Resolution 140 (Rev. Guadalajara, 2010);
- 3 to provide information on emerging trends based on ITU-T activities;
- 4 to take appropriate action to facilitate the activities for implementation of this resolution,

invites Member States and Sector Members

- 1 to submit contributions to relevant ITU-T study groups and to the Telecommunication Standardization Advisory Group, where appropriate, and contribute to WG-WSIS on implementing WSIS outcomes within the ITU mandate;
- 2 to support and collaborate with the Director of TSB in implementing relevant WSIS outcomes in ITU-T,

invites Member States

to submit contributions to the Council Working Group on international Internet-related public policy issues.

Action Item	Action	Milestone	Periodic goals met	Completed
75-01	Study Groups carry out activities to implement WSIS outcome and consider in their studies the output of CWG-Internet	Ongoing	√	
75-02	Director to provide CWG-WSIS a comprehensive summary of ITU-T activities on implementation of the WSIS outcome	Ongoing	√	
75-03	Director to ensure concrete objectives and deadlines for WSIS activities in ITU-T operational plan.	Ongoing	√	

Action Item 75-01: SGs

ITU-T's work contributes to the implementation of these ITU mandates, and in particular to Action Lines C2, C5 and C7 (e-environment).

Action Item 75-02: TSB

The WSIS Forum 2013 was held 13-17 May 2013 in Geneva. ITU-T has played a leading collaborating role in the preparation of WSIS+10 visioning interactive session, WSIS Action Line C2 Facilitation Meeting and thematic workshops on Infrastructure Broadband Backbone Connectivity, Climate Change, ICT innovation, and Accessibility.

Among the Accessibility events of WSIS Forum 2013, TSB led two out of the three thematic workshops:

- Wednesday 15 May 2013, *ICT Apps for Persons with Disabilities* (ITU / Informatici Senza Frontiere/Computer Scientists with no Borders)
- "ERICA: Electroencephalographic-based Resuscitaio Index Computer Aided (University of Padua, Italy/Daccapo / Faber Libertas)".

Moreover, TSB contributed to the planning and the organization of the ITU panel of *Towards a Disability Inclusive Development Agenda with ICTs (ITU)* Wednesday 15 May 2013,

In 2014, a WSIS+10 High-Level Event will be an extended version of the annual WSIS Forum. It will review the WSIS Outcomes (2003 and 2005) related to the WSIS Action Lines with the view of developing proposals on a new vision beyond 2015, potentially including new targets. The WSIS+10 High-Level Event will be held on 10-13 June 2014 to endorse two important outcome documents: a "WSIS+10 Statement on Implementation of WSIS Outcomes"; and a "WSIS+10 Vision for WSIS Beyond 2015". Preparation of this

event has been through the WSIS+10 Multistakeholder Preparatory Platform (MPP) since July 2013 where ITU-T has participated actively.

ITU-T organized, sometimes with partners, the following events during WSIS Forum 2015:

- Thematic workshop on ‘Building Trust – the technical challenges’, 28 May
- Thematic Workshop on ‘Digital Financial Services and Financial Inclusion’, 29 May 2015
- Thematic Workshop on ‘Gender Dimensions of e-Waste Management’, 25 May 2015
- Thematic workshop on ‘Internet of Things (IoT): The Way to Smart Sustainable Cities’, 25 May 2015
- Thematic workshop on ‘Innovation in Accessibility Technology and Policy’, 29 May 2015

Action Item 75-03: TSB

The ITU-T operational plan contains a chapter on WSIS.

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44. Resolution 76 - Studies related to conformance and interoperability testing, assistance to developing countries, and a possible future ITU mark programme

Resolution 76

resolves

- 1 that ITU-T study groups develop the necessary conformance testing Recommendations for telecommunication equipment as soon as possible;
- 2 that ITU-T Study Group 11 coordinate the Sector’s activities related to the ITU C&I programme across all study groups and review the recommendations in the Conformance and Interoperability Business Plan for the long-term implementation of the C&I programme;
- 3 that ITU-T Recommendations to address interoperability testing shall be progressed as quickly as possible;
- 4 that ITU-T, in collaboration with the other Sectors as appropriate, shall develop a programme to:
 - i) assist developing countries in identifying human and institutional capacity-building and training opportunities in conformance and interoperability testing;
 - ii) assist developing countries in establishing regional or subregional conformance and interoperability centres suitable to perform conformance and interoperability testing as appropriate encouraging cooperation with governmental and non-governmental, national and regional organizations and international accreditation and certification bodies;
- 5 that conformance and interoperability 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 ensure interoperability taking into account user needs and in consideration of the market demand, as appropriate,

instructs the Director of the Telecommunication Standardization Bureau

- 1 in cooperation with the Radiocommunication Bureau and the Telecommunication Development Bureau (BDT), to continue to conduct as necessary exploratory activities in each region in order to identify and prioritize the problems faced by developing countries related to achieving interoperability of telecommunication/ICT equipment and services;
- 2 in cooperation with the Director of BDT, based on results of *instructs the Director of the Telecommunication Standardization Bureau* 1 above, to implement the action plan agreed by the Council at

its 2012 session (Document C12/91) as referred to in the Report by the Secretary-General to the 2012 session of the Council (Document C12/48);

3 in cooperation with the Director of BDT to implement an ITU conformance and interoperability programme for possible introduction of an ITU Mark in alignment with the Council 2012 decision in C12/91;

4 to involve experts and external entities as appropriate;

5 to submit the results of these activities to the Council for its consideration and required actions,

instructs the study groups

1 to identify as soon as possible existing and future ITU-T Recommendations that would be candidates for conformance and interoperability testing, taking into account the needs of the membership (e.g. interoperability of next-generation network (NGN) and future network (FN) equipment, terminals, audio/video codecs, access and transport network, other key technologies), 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 conformance and interoperability tests as appropriate;

3 to cooperate, as appropriate, with interested stakeholders to optimize studies to prepare test specifications especially for those technologies in *instructs the study groups* 1 above, taking into account user needs and in consideration of the market demand for a conformity assessment programme,

invites the Council

to consider the Director's report referred to in *instructs the Director of the Telecommunication Standardization Bureau* 5 above,

invites Member States and Sector Members

1 to contribute to the implementation of this resolution;

2 to encourage national and regional testing entities to assist ITU-T in implementing this resolution.

Action Item	Action	Milestone	Periodic goals met	Completed
76-01	ITU T SGs to develop the necessary conformance testing Recommendations for telecommunication equipment as soon as possible	Ongoing	√	
76-02	Study groups to identify existing and future ITU-T Recommendations that would be candidates for conformity and interoperability testing	Ongoing	√	
76-03	Study groups, in cooperation with other entities as appropriate, to prepare test specifications for those key technologies identified by 76-02	Ongoing	√	
76-04	SG11 to coordinate the Sector's activities related to the ITU C&I programme across all SGs and review the recommendations in the Conformance and Interoperability Business Plan for the long-term implementation of the C&I programme	Ongoing	√	

Action Item	Action	Milestone	Periodic goals met	Completed
76-05	Director, in cooperation with BR and BDT Dirs, to continue to conduct exploratory activities in each region to identify and prioritize the problems faced by developing countries related to interoperability of telecommunication/ICT equipment and services	Ongoing	√	
76-06	Director, in cooperation with BDT Dir, to implement the ITU C&I action plan	Ongoing	√	
76-07	Director, in cooperation with BDT Dir, to implement the ITU C&I programme for possible introduction of an ITU Mark in alignment with Council 2012 decision	Ongoing	√	
76-08	Director to identify and involve experts and external entities	Ongoing	√	
76-09	Director, in collaboration with other Sectors, develop a programme to assist developing countries in identifying capacity-building and training opportunities	Ongoing	√	
76-10	Director, in collaboration with other Sectors, develop a programme to assist developing countries in establishing conformity and interoperability centres	Ongoing	√	
76-11	Director to report C&I activities to Council	Ongoing	√	

Action Item 76-01: SGs

- ITU-T SG11 (December 2015):
 - established a collaboration agreement between ITU-T SG11 and ETSI TC INT (see action item 76-03);
 - continued development of the requirements and relevant test specifications for basic call and some supplementary services for SIP-IMS, according to the established standardization [work plan \(web page\)](#);
 - consented a new Recommendation ITU-T Q.3960 “Framework of Internet speed measurements for the fixed and mobile networks” which became a first part of series of ITU-T Recommendations devoted to Internet speed measurement. The framework is targeted at Regulators, aiming to set up guiding principles regarding the establishment of the global standardized architecture to be used for the assessment of the Internet speed connection at the national and international levels.
ITU-T SG11 continued to develop a testing methodology and encourages all interested SGs and SDOs to join this activity. The testing methodology specifies the requirements and test scripts to be used on the fixed and mobile networks for assessing the Internet resource speed test and Network Internet speed test according the concept specified in the framework.
These activities have been supported by OECD, and are jointly developed with ETSI TC INT. Next joint meeting between ETSI TC INT and Q15/11 is planned in ETSI Headquarters (21-24 March 2016) and ITU premises (June 2016). More details about this activity are available in the [web page](#);
 - following the results of the discussion on the ITU [Workshop "Voice and Video Services Interoperability Over Fixed-Mobile Hybrid Environments, Including IMT-Advanced \(LTE\)"](#) (1 December 2015), SG11 started a new work item [Q.30xx VoLTE Interconnection "Framework of interconnection of VoLTE/ViLTE-based networks"](#). The summary report of the Workshop is available [here](#);

- consented the Recommendation [ITU-T Q.3905](#) “Conformance test plan for Number Portability requirements defined by ITU-T Q.Suppl.4” which is a subject of the ongoing pilot project “Mobile network portability (ITU-T Q.Suppl.4)” ([web page](#));
 - The last Recommendation to be developed according to the agreed [work plan](#) on benchmarking of IMS platform (draft-Q.3932.4 “IMS/NGN Performance Benchmark - Part 4: Subsystem Reference Load network quality parameters”), is planned for consent during WP4/11 meeting (24 March 2016).
- SG2 started developing test specifications for Rec. ITU-T M.3170.
- SG16 has developed many specifications to assist developers in checking compliance to ITU-T Recommendations, in particular for IPTV systems, voice compression and video compression.
 - SG16 continues updating ITU Recommendations in the sub-series H.820-H.849 “Interoperability compliance testing of personal health systems (HRN, PAN, LAN and WAN)”, which are used in conformance testing of ITU-T H.810 “Interoperability design guidelines for personal health systems” devices (a.k.a. Continua Design Guidelines).
 - SG5 developed resistibility tests for telecommunication equipment (Rec. ITU-T K.44) and test specifications related to universal charge adapter (Rec. ITU-T L.1005). SG5 is working on some new Recommendations related to electromagnetic disturbance, etc. (Recs. ITU-T K.60, K.84).
 - SG12 developed test specifications for the universal wired headset (Rec. ITU-T P.381). SG12 is working on the conformance test specifications for voice over IP transmission quality (Rec. ITU-T P.564).
 - SG12 revised Recommendation ITU-T P.1100/P.1110 based on the testing results of the first [ITU-T test event](#) on performance assessment of mobile phones in conjunction with hands-free telephone systems in a car.
 - SG15 is working on conformance and interoperability test plans for OMCI-EPON (Rec. ITU-T G.9801 Impl. Guide) and started a new pilot project “Interoperability Test for Optical Access Network Devices” ([web page](#)).
 - SG17 provided extensive information to SGs, and Q12/17 offered assistance to other Questions or SGs on principles and methodologies for interoperability testing to assist in supporting Res. 76. This work was transferred to SG11.
 - TTCN-3 Recommendations are continually updated in Q12/17.

Action Item 76-02: SGs

The [Joint Coordination Activity on C&I testing \(JCA-CIT\)](#), under the leadership of SG11, will support the coordination of ITU’s C&I activities while also acting as the first point of contact for organizations interested in contributing to this work.

The JCA-CIT (25 April 2013) meeting agreed that taking into account the ICT market needs and that ITU Recommendations cover different areas, the scope of conformity assessment should be extended to include the conformity assessment of ICT equipment, services, benchmarking and QoS/QoE. JCA-CIT is encouraging the related SGs to start and develop new work items on the conformity assessment of ICT's equipment, Telecommunication Services, system/network/equipment performance and QoS/QoE.

SG11 maintains a living list of ITU-T Recommendations and related specifications within key technologies suitable for C&I testing. This list is revised by each SG11 meeting based on updates from SGs (<http://itu.int/go/key-technologies>).

Action Item 76-03: SGs

Some ITU-T SGs identified test specifications as indicated in the relevant living lists (see action item 76-02), some are aligned with test specifications of other SDOs/Forums/Consortia.

ITU-T SG11 established a collaboration agreement with ETSI TC INT to facilitate the development of standards in the technical areas which are topics of their interest (e.g. SIP-IMS conformity testing, Internet speed measurement, Framework of an interconnection among VoLTE/ViLTE-based networks, requirements and test specifications for signalling protocols to be used for VoLTE/ViLTE interconnection);

Action Item 76-04: SG11

ITU-T SG 11 approved on 1 March 2013 an action plan to drive its C&I Programme and has revamped the [Joint Coordination Activity](#) which marshals C&I work undertaken across ITU's various expert groups.

SG11 developed and maintains:

- a reference table of ITU-T Recommendations and corresponding Test Specifications used for C&I testing (<http://itu.int/go/reference-table>).
- a living list of conformity assessment pilot projects against ITU-T Recommendations (<http://itu.int/go/pilot-projects>).

Also, an ITU “Combating Counterfeit and Substandard ICT devices” event was organized in Geneva, 17-18 November 2014, with 112 participants representing industry, government, regulatory authorities, international organizations and standards bodies. The event concluded by inviting ITU making a contribution “using standards and C&I programs as a means to combat counterfeit and substandard ICT devices”.

Following the event, ITU members approved a “Technical Report on Counterfeit ICT Equipment” developed by ITU-T Study Group 11 and tasked Q8/11 to continue to study this issue in close collaboration with ITU's Telecommunication Development Sector (ITU-D).

SG11 started developing a new ITU-T Recommendation on “*Framework for solution to combat counterfeit ICT Devices (Q.FW_CCF)*”. This Recommendation will contain the reference framework with the requirements that should be considered when deploying solutions to combat counterfeit ICT devices. In addition, three technical reports (two new, one revised) in related-fields are being developed:

- *New Technical Report on Methodologies and use cases for combating the substandard and unauthorized telecommunication/ICT devices (TR-Sub_Una)*.
- *New Technical Report on Guideline on Best Practices and Solutions in the Combating of Counterfeit ICT Devices (TR-CF_BP)*
- *Revised Technical Report on Counterfeit ICT Devices (TR-Counterfeit_R1)*.

Action Item 76-05: TSB

From 1 to 2 December 2015, ITU, IEC and ISO conducted a joint WSC Workshop on conformity assessment ([web page](#)).

Several testing laboratories from different regions (Austria, Italy, Kazakhstan, Ukraine, Sweden, Brasilia and Russia) showed interest to cooperate with TSB on C&I issues.

TSB participated in different workshops and training seminars, involving their participants to the C&I activities in ITU. For example, Austria, Russia, Belarus and China submitted the contributions on SIP-IMS testing, Mobile Number Portability testing, Internet speed measurements and testing of network management interface.

Action Item 76-06: TSB

In December 2014, ITU launched the “[ICT product conformity database](#)” to provide industry with a means to publicize the conformance of ICT products and services with ITU-T Recommendations. Information was provided on 95 e-health products for inclusion in the database at its launch, with the intention of assisting buyers in their efforts to select standards-compliant products. The e-health devices populating the database were tested for compliance with the specifications of Recommendation ITU-T H.810 “Interoperability design guidelines for personal health systems”. The testing procedures are specified in the ITU-T H.820-H.850 sub-series of Recommendations.

In March 2015, ITU published a “[whitelist](#)” of mobile phones that were found to be compatible with Bluetooth-enabled vehicle hands-free terminals by an [ITU testing event](#). The testing event conducted tests in accordance with the ‘Chapter 12 tests’ (“Verification of the transmission performance of short-range wireless (SRW) transmission enabled phones”) of Recommendations ITU-T P.1100 and ITU-T P.1110 (01/2015). Of the 35 phones tested, roughly 30 per cent passed the tests, with the remaining 70 per cent found to produce performance degradation that would be noticeable to drivers and conversational partners.

As a follow up to this activity, ITU selected a testing laboratory and announced the second testing event on performance assessment of mobile phones as gateways to car hands-free systems according to Recommendations ITU-T P.1100 and ITU-T P.1110 which will take place in Geneva from 23 to 27 May 2016 ([web page](#)). The phones which will pass the test successfully will be “[whitelisted](#)”.

Under Pillar 2 of the ITU-T C&I Programme, TSB conducts interoperability events at the request of ITU members:

- [IPTV testing event](#) (*Geneva, Switzerland, 14-15 October 2015*)
- IPTV and NGN E2E Service interoperability testing at the [3rd joint APT/ITU Conformance and Interoperability event](#) (*Bangkok, Thailand, 7-8 September 2015*)

The complete list of the past C&I test events is available [here](#).

TSB maintains the ITU [C&I portal](#), which is used as an instrument for publishing the latest result on ITU C&I Programme, especially the C&I related documents, events, Databases and the relevant Living lists.

Action Item 76-07: TSB

Following the discussion of procedures for the selection of testing laboratories competent in the testing and/or certification of ICT equipment against identified ITU-T Recommendations which started in 2013 ([newslog](#)), ITU-T SG11 approved a guideline on “ITU recognition procedure of testing laboratories”. This guideline specifies the criteria and the description of the appointment of ITU-T technical experts and procedure for registration of testing laboratories that are eligible to test ICT equipment against the ITU-T Recommendations in ITU list of recognized TLs.

Following the approval of the guideline, SG11 established the **Conformity Assessment Steering Committee (ITU-T CASC)**. The main objective of this group is to set up criteria, rules and procedures to recognize Test Laboratories (TL) with competence in ITU-T Recommendation(s) and register these in the ITU recognized TL list. The first meeting of the CASC was held on 3 December 2015 during ITU-T SG11 meeting (2-11 December 2015). The CASC started developing the procedures to implement the TL recognition procedure. They will be approved as SG11 guidelines. Report of the first ITU-T CASC meeting is available [here](#).

ITU-T CASC works in collaboration with established Conformity Assessment Systems and Schemes (e.g. IEC and ILAC accreditation bodies). Isaac BOATENG (National Communications Authority, Ghana) was appointed as the Chairman of the ITU-T CASC.

ITU-T CASC’s main objectives are:

- to provide the ITU-T view and position to the management organs of the established Conformity Assessment Systems and Schemes of the IEC and ILAC;
- to set up criteria, rules and procedures for the appointment of ITU-T technical experts by working with established Conformity Assessment Systems and Schemes of IEC, in collaboration with ILAC aiming for a common testing and conformity assessment;
- to process applications from candidate experts from ITU-T membership;
- to appoint the ITU-T technical expert(s);
- to recognize TL with a scope of ITU-T Recommendation(s) which is assessed by IEC or by ILAC accreditation bodies and register it in the ITU recognized TL list;

ITU-T CASC will mostly work electronically using electronic working methods and have face-to-face meetings that will normally occur concurrently with SG11 meetings. Meetings will follow the working rules and procedures which are applied to a Working Party.

The second meeting of ITU-T CASC is scheduled on 12 April 2016. More details about ITU-T CASC are available on the [web page](#)

Action Item 76-08: TSB

ITU signed a MoU with the International Accreditation Forum (IAF) and International Laboratory Accreditation Cooperation (ILAC) that will bring benefit to the C&I programme.

TSB had some consultations with IEC secretariat concerning usages of IEC conformity assessment approaches for the implementation of C&I Programme and is exploring the possibility of joint ITU-IEC conformity assessment programme to 'piggyback' ITU conformity assessment program to the related IECEE Scheme. Following the SG11 guideline on "ITU recognition procedure of testing laboratories", ITU-T is starting cooperation with IEC to conduct a trial of voluntary 3rd party CA of suitable ITU-T Recommendations (see also PP-14 [C63](#)).

As a way forward, IEC and ITU discuss a possibility to establish the joint IEC/ITU certification scheme to be used for testing ICT devices against ITU-T Recommendations. The relevant discussion took place at IEC Conformity Assessment Board WG (CAB AHG – ITU) during 79th IEC General meeting (Minsk, Belorussia, October 2015) and ITU-T CASC meeting (Geneva, 3rd December 2015).

TSB Director met with ILAC and IAF chairman (April 2013) The TSB Director visited ANSI in Dec 2013 and invited ANSI to consider increased collaboration with ITU as some ANSI accredited test centres have been accredited to test ITU-T standards, such as involving these test centres in the ITU C&I Programme, and providing training and capacity building.

The ITU Secretariat shared the progress report of ITU's C&I Programme with relevant international bodies in the field of conformity assessment such as IEC, ISO, ILAC and IAF.

As a follow-up to the call for action by the CTO meeting held on 11 October 2015 at Hungexpo in Budapest (Hungary), the International Telecommunication Union (ITU) organized a [Workshop](#) on "Voice and Video Services Interoperability Over Fixed-Mobile Hybrid Environments, Including IMT-Advanced (LTE)" on 1 December 2015 ([newslog](#)). The Workshop was attended by operators, regulators, vendors, testing laboratories and other interested companies which meet the challenges on the VoLTE/ViLTE implementations on the current telecom networks. Following the results of the discussion, among others, quality of voice/video and roaming remain the key issues of the emerging technologies such as VoLTE/ViLTE. It was highlighted that the joint work among all interested SDOs and organizations on this activity may facilitate improvement of the VoLTE interconnection through establishing unified standards for providing new types of telecom services such as VoLTE and ViLTE. The summary report of the Workshop is available [here](#).

Action Item 76-09: TSB

The TSB and BDT continue to collaborate with national and international organizations that can assist in capacity building in developing countries to train technical staff and policy makers on various aspects of interoperability testing, conformance testing and laboratory accreditation.

The TSB and BDT organized C&I training courses, workshops and forums possibly back to back with events of the regional organizations.

Action Item 76-10: TSB

The ITU Secretariat signed MoUs for collaboration for the implementations of the C&I programme with CERT (Research and Studies Telecommunication Center, Tunisia), CPqD (Brazil), Sintesio (Slovenia), Tilab (Telecom Italia), ZNIIS (Russia) And CTTL (China).

Action Item 76-11: TSB

Updates on conformance and interoperability are contained in Council document [C14/24Rev.1](#) and [C15/24](#).

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45. Resolution 77 - Standardization work in the ITU Telecommunication Standardization Sector for software-defined networking

Resolution 77

resolves to instruct ITU-T Study Group 13

- 1 to organize the necessary structures within Study Group 13 to expand and accelerate the work on SDN architecture and requirements, starting with its first meeting in the next study period;
- 2 to make recommendations to the Telecommunication Standardization Advisory Group on how to address the topics that are outside the mandate of Study Group 13,

instructs the Telecommunication Standardization Advisory Group

to examine the matter, consider the input of Study Group 13 and other relevant study groups and take the necessary actions, as appropriate, with a view to deciding on the necessary SDN standardization activities in ITU-T, with the following actions:

- identify the relevant study group(s) in which to follow up actions and establish a suitable organizational arrangement on SDN;
- coordinate the work on technical issues of SDN across the study groups according to their areas of expertise;
- promote collaboration with other SDN-related standards bodies and forums;
- define a clear strategic vision for SDN standardization and an important active role that ITU-T should play,

instructs the Director of the Telecommunication Standardization Bureau

- 1 to provide the necessary assistance with a view to expediting such efforts, in particular using any opportunity within the allocated budget to exchange opinions with the telecommunication/ICT industry including through the chief technology officer (CTO) meetings (under Resolution 68 (Rev. Dubai, 2012) of this assembly) and in particular to promote participation of the industry in SDN standardization work in ITU-T;
- 2 to organize a workshop on SDN in 2013 in order to promote SDN within ITU-T,

invites Member States, Sector Members, Associates and academia

to submit contributions for developing SDN standardization in ITU-T.

Action Item	Action	Milestone	Periodic goals met	Completed
77-01	SG13 to organize the necessary SG13 structure to expand and accelerate work on SDN architecture and requirements	March 2013		√
77-02	SG13 to recommend to TSAG on how to address SDN topics outside SG13 mandate	March 2013		√
77-03	TSAG to decide the SDN standardization activities in ITU-T	June 2013		√
77-04	Director to assist the exchange of opinions in CTO meetings and to promote SDN standardization work in ITU-T	Ongoing	√	

Action Item	Action	Milestone	Periodic goals met	Completed
77-05	TSB to organize a SDN workshop in 2013	4 June 2013		√

Action Item 77-01 to 77-03: SG13, SG 11 and TSAG

ITU's standardization work on SDN started in ITU-T Study Group 13 – Future networks including cloud computing, mobile and next-generation networks. SG13 standardizes SDN's functional requirements and architectures, spread in seven Questions dealing with SDN, and SG11 thus works closely and in parallel with SG13 for developing SDN's signalling requirements and protocols.

SG 11's recent meeting in Geneva received Contributions calling for new SDN work items, including:

- Scenarios and signalling requirements for software-defined BAN (SBAN)
- Framework of signalling for SDN
- Scenarios and signalling requirements of unified intelligent programmable interface for IPv6

A meeting of SG 11 was held in Uganda, 6-15 November 2013, in collocation with SG13, to strengthen the collaboration between these groups.

SG13 provided its views to the TSAG 2013 meeting on how the work on SND should be addressed in our SGs.

The TSAG 2013 meeting assigned SG13 as a lead SG on SDN and set up the JCA-SDN that has a number of meetings to date and started the roadmap collecting the SDN related outputs inside and outside ITU.

SG13 approved three Recommendations on SDN by February 2016 Y.3300 "Framework of software-defined networking", Y.3320 "Requirements for applying formal methods to software-defined networking" and Y.3321 "Requirements and capability framework for NICE implementation making usage of software-defined networking technologies (S-NICE)". More work on SDN is going on in Questions 2/13, 6/13 and 14/13. SND is one of the topics at most of the workshops SG13 organized in 2013 – 2016.

Action Item 77-04: TSB

The CTO meeting held in Thailand in November 2013 noted the work progressing on SDN and related technical topics. Opinions were exchanged and it was felt that the work is progressing steadily in a promising direction. SDN, NFV and other related principles remained dominating topics in subsequent CTO meetings in 2014 and 2015. The work of the Focus Group on IMT-2020 highlights the importance of network "softwarization" in future 5G networks.

Action Item 77-05: TSB

A [workshop session on SDN](#) and its standardization landscape took place on 4 June 2013 during TSAG.

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46. Resolution 78 - Information and communication technology applications and standards for improved access to e-health services

Resolution 78

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;
- 4 to study the possibility of organizing a global conference in 2013 or 2015 for the standardization of e-health applications and uses of e-health protocols, in collaboration with WHO and other interested parties;
- 5 to organize seminars and workshops on e-health for developing countries¹ and gauge the needs of the developing countries, which are the countries with the greatest need for e-health applications,

instructs ITU-T Study Group 16, in collaboration with the relevant study groups, particularly ITU-T Study Groups 11 and 17

- 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 to study communication protocols relating to e-health, especially among heterogeneous networks, for ensuring the broad deployment of e-health services in diverse operating conditions;
- 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 a*,

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, within the scope of Resolution 130 (Rev. Guadalajara, 2010) of the Plenipotentiary Conference,

encourages Member States, Sector Members and academia

to participate actively in ITU-T studies on e-health, through the submission of contributions and by other appropriate means.

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

Action Item	Action	Milestone	Periodic goals met	Completed
78-01	TSB Dir, in collaboration with BDT and BR Dirs, to develop ITU e-health activities	Ongoing	√	
78-02	TSB Dir, in collaboration with BDT and BR Dirs, to study the possibility of a global conference in 2013 or 2015 on e-health standardization, in collaboration with WHO, etc	Ongoing		
78-03	TSB Dir, in collaboration with BDT and BR Dirs, to organize e-health seminars and workshops for developing countries and gauge their needs for e-health	Ongoing	√	
78-04	SG16, in collaboration with relevant SGs, particular SG11 and SG17, to identify, document and disseminate e-health best practices for ITU membership	Ongoing	√	
78-05	SG16, in collaboration with relevant SGs, particular SG11 and SG17, to study communication protocols relating to e-health	Ongoing	√	
78-06	SG16, in collaboration with relevant SGs, particular SG11 and SG17, to give priority to study of security standards relating to e-health	Ongoing	√	

Action Item 78-01, 78-03: TSB

Organized ITU workshop in Tokyo, Japan, 4-5 February 2013 on "E-health services in low-resource settings: Requirements and ITU role"⁶.

Action Item 78-02: TSB

Action Item 78-04: SG16, SG11 and SG17

Q9/17 works in collaboration with SG16, ITU-D, ISO TC 12, IEC TC 25 and WHO to identify and to document examples of best practice for e-health in the field of telecommunication/ICT.

Q9/17 collaborates with relevant study groups, focus groups and other relevant groups in ITU-T, ITU-R and ITU-D, in order to foster awareness of telecommunication/ICT standards pertaining to e-health.

SG17 approved Rec. ITU-T X.1092, *Integrated framework for telebiometric data protection in e-health and telemedicine*.

Action Item 78-05: SG16, SG11 and SG17

Two new Recommendations were approved in ITU-T SG16 (2013-01), ITU-T H.860 (ex H.MEDX) "Multimedia e-health data exchange services: data schema and supporting services"⁷ and ITU-T H.810 (ex H.IDGPHS) "Interoperability design guidelines for personal health systems"⁸. The latter is the transposition of the Continua Design Guidelines. ITU-T SG16 also approved 32 ITU Recommendations H.820-H.849 "Interoperability compliance testing of personal health systems (HRN, PAN, LAN and WAN)"; these are also a transposition of the test suites developed and used by the Continua Health Alliance in its ITU-T H.810 interoperability testing programme and events. One related interop event was hosted by ITU-T in October

⁶ <http://itu.int/en/ITU-T/Workshops-and-Seminars/e-Health/201302>.

⁷ <http://www.itu.int/rec/T-REC-H.860>.

⁸ <http://www.itu.int/rec/T-REC-H.810>.

2013. A revision (and restructuring) of H.810 was completed by SG16 in October 2015, where H.810 was split into eight parts. Five new conformance testing specifications were also completed. The 3rd edition of the ITU-T H.810 series is expected for Consent in May 2016.

ITU-T SG13 approved ITU-T Y.2065 (2014-03) on IoT-centric service and capability requirements for e-health monitoring services⁹. A capability framework for e-health monitoring services is found in new [ITU-T Y.2075](#).

Q9/17 collaborates with SG11 to study communication protocols relating to e-health, especially among heterogeneous networks, to ensure the broad deployment of e-health services in diverse operating conditions.

SG17 approved Rec. ITU-T [X.1080.1](#), *e-Health and world-wide telemedicines - Generic telecommunication protocol*.

Action Item 78-06: SG16, SG11 and SG17

ITU-T H.810 "*Interoperability design guidelines for personal health systems*"⁸ contains security considerations on the use of personal health devices.

Q9/17 develops Recommendations related to security of e-health services, (e.g., for communications, services, network aspects and service scenarios of databases and record handling, identification, integrity and authentication) relating to e-health, taking into account the importance of safeguarding patients' rights and privacy.

SG17 approved X.1092 "*Integrated framework for telebiometric data protection in e-health and telemedicines*" in April 2013.

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47. Resolution 79 - The role of telecommunications/ information and communication technology in handling and controlling e-waste from telecommunication and information technology equipment and methods of treating it

Resolution 79

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 of e-waste;
- 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 of e-waste and the methods of treating it, 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,

⁹ <http://newslog.itu.int/archives/431>.

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 handling and controlling e-waste resulting from telecommunications/ICT and methods of treating it, within the relevant study groups, focus groups and other relevant groups in ITU, in order, in particular, to foster awareness of the environmental hazards of e-waste;
- 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 in their national ICT strategies,

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.

Action Item	Action	Milestone	Periodic goals met	Completed
79-01	TSB Dir, in collaboration with BDT Dir, to develop ITU activities to handle, control and treat e-waste of telecommunication and IT equipment	Ongoing	√	
79-02	TSB Dir, in collaboration with BDT Dir, to assist developing countries to undertake proper assessment of the size of e-waste	Ongoing		
79-03	TSB Dir, in collaboration with BDT Dir, to organize seminars and workshops for developing countries and gauge their needs for e-waste	Ongoing	√	
79-04	SG5, in collaboration with relevant SGs, to identify, document and disseminate e-waste best practices for ITU membership	Ongoing	√	
79-05	SG5, in collaboration with relevant SGs, to develop Recommendations, methodologies and other publications on e-waste	Ongoing	√	
79-06	SG5, in collaboration with relevant SGs, to study the impact of telecom/ICT e-waste to developing countries and give guidance to assist developing countries	Ongoing	√	

Action Item 79-01: TSB and SG5

Action Item 79-02: TSB and SG5

Action Item 79-03: TSB and SG5

At the kind invitation of the Department of Communications of South Africa, ITU organized a one-day workshop on “Environmentally Sound Management of E-waste” at the International Convention Centre in Durban, South Africa on 9 July 2013.

The key objective of the workshop was to provide an overview of best practices on policies, regulations and international standards for improving e-waste management. The workshop discussed how WEEE has a negative impact on the environment and human health, but provided opportunities to create green jobs, curb health problems, cut greenhouse gas emissions as well as economic incentives for recovering valuable metals from redundant, excessive or end-of-life ICTs.

ITU organized a workshop on Environmentally Sound Management of E-waste in Latin America that took place on 13-14 August 2013, in Quito, Ecuador.

The e-waste workshop kindly hosted by Telefónica, aimed at identifying major challenges and strategies associated with the management of e-waste in Latin America under the policy principle of Extended Producer Responsibility and the implementation of international standards. The workshop will facilitate discussion among original equipment manufacturer (OEM), recycling companies, producer responsibility organizations (PRO), government authorities and academia enabling analysis of existing experiences and identification of suitable approaches to deal with challenges, including exploring the potential of regional solutions and the role of public-private partnerships.

ITU, UNEP, UNU, CEDARE organized a Forum on “What Are the Next Steps on E-waste Resources ?” that took place on 16 September 2013 as part of the 3rd Green Standards Week.

There have been alarming reports of e-waste mismanagement in many countries, particularly in less developed nations and countries with economies in transition. E-waste is a significant contributor to the ICT industry’s impact on the environment, and urgent global action to address this issue is essential if the industry is to fulfil its commitment to a sustainable future.

This Forum provided a global platform to discuss possible next steps on e-waste.

A one-day workshop on “Environmentally Sound Management of E-waste”, jointly organized by the International Telecommunication Union (ITU) and CITEC took place in Mendoza, Argentina on 9 October 2013 followed by first meeting of the ITU-T Study Group 5 Regional Group for the Americas (SG5 RG-AMR) that took place on 9 October 2013. The workshop provided an overview of best practices on policies, regulations and international standards for improving e-waste management.

At the kind invitation from the government of Uruguay, ITU and the United Nation Education Scientific and Cultural Organization (UNESCO) jointly organized a series of events dedicated to the overarching theme of "Smart Sustainable Cities". These series of events took place in Montevideo, Uruguay, from 11-14 March with an agenda to further crucial themes including smart sustainable cities, e-waste management, human exposure to electromagnetic fields and the collaboration with Academia. These events brought together leading specialists in the field, from top policy-makers to engineers, designers, planners, government officials, regulators, academia, standards experts and others.

A Forum on "E-waste: the inconvenient truth" took place on 23 September 2014 as part of the 4th Green Standards Week.

A joint UNU-ITU- UNIDO-WIPO-ECLAC-Basel Convention Side Event on “1st Global E-waste Monitor and the Specific Situation in Latin America” was held on 11 May 2015, in Geneva, Switzerland during the Meetings of the conferences of the parties to the Basel, Rotterdam and Stockholm conventions (BC COP-12, RC COP-7, SC COP-7). These events were kindly hosted by the Secretariat of the Basel, Rotterdam and Stockholm Convention. The event provided a platform to discuss major strategies and challenges associated with e-waste management. It also provided the opportunity to present the report on “Sustainable Management of Waste Electrical and Electronic Equipment in Latin America” jointly developed by ITU

together with Basel Convention, Basel Convention Regional Center for Latin America. UNESCO, ECLAC, WIPO, UNIDO and WHO in May 2015. This report provides an overview of e-waste management in Latin America. It also suggests ten key steps and provides some guidance to countries how to handle e-waste.

Upcoming events: [update needed]

Action Item 79-04: SG5

SG5 developed also a series of best practices on e-waste management including a Supplement on Guidelines for developing a sustainable e-waste management system and a Supplement on Life-cycle management of ICT goods.

Action Item 79-05: SG5

SG5 developed several Recommendations aimed at reducing e-waste. These are namely:

- ITU-T L.1000: Universal power adapter and charger solution for mobile terminals and other hand-held ICT devices
- ITU-T L.1001: External universal power adapter solutions for stationary information and communication technology devices
- ITU-T L.1010: Green batteries solution for mobile phones and other hand-held information and communication technology devices
- ITU-T L.1100: Procedure for recycling rare metals in information and communication technology goods
- ITU-T L.1101: Measurement methods to characterize rare metals in information and communication technology goods

Action Item 79-06: SG5

A Toolkit on End of Life Management was developed by STB together with SG5 and other 50 partners. This toolkit is available at: http://www.itu.int/dms_pub/itu-t/oth/4B/04/T4B0400000B0013PDFE.pdf

TSB also developed a flyer on e-waste which is available at: <http://www.itu.int/oth/T0B04000052/en>

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48. Resolution 80 - Acknowledging the active involvement of the membership in the development of ITU Telecommunication Standardization Sector deliverables

Resolution 80

resolves

that it is important to acknowledge significant contributors to the work of ITU-T,

instructs the Director of the Telecommunication Standardization Bureau

to acknowledge the value of active participation of the membership, in particular academia, universities and their associated research establishments, in the standardization activities of ITU, by collaborating closely with Member States and their respective bodies that formulate public policies in areas such as education, science and technology and industry and commerce in order to highlight the importance of contribution to ITU-T study group deliverables,

instructs the Telecommunication Standardization Advisory Group

- 1 to study options on how to clearly acknowledge significant contributors to the development of study group deliverables;
- 2 to define, in consultation with the ITU membership, objective criteria that will guide study groups in identifying such significant contributors,

invites Member States

to consider, as appropriate, the participation of academia in the ITU-T contribution process and to provide visibility and acknowledgment of their contributions, editorships and other outputs so that they may be considered as eligible activities for research and development productivity evaluation.

Action Item	Action	Milestone	Periodic goals met	Completed
80-01	Director to collaborate with Member States to acknowledge the value of active membership participation and contribution to ITU-T SG deliverables	Ongoing		
80-02	TSAG to study options on how to clearly acknowledge significant contributor	TSAG June 2013	√	
80-03	TSAG to define objective criteria that will guide study groups in identifying significant contributors	Ongoing		

Action Item 80-01: TSB

Action Item 80-02: TSAG

After [TSAG-C.18](#), TSAG requested ITU-T SG9 to lead the discussion and coordinate across the various SGs. The first report from the SG9 chairman is found in [TD 134/TSAG](#) (2014-06).

SG9 was further requested to implement on a trial bases their findings. SG9 sent a liaison statement to TSAG and the other SGs, [TD 276 Rev.3/TSAG](#) (2015-06), suggesting a guideline for Res.80 implementation. The guideline has been reviewed by TSAG and TSB has been requested to study in collaboration with SG9 its item 2 “*List ITU-T Recommendations within e.g. IEEE Xplore, Web of Science (cost for both), Google Scholar (free)*”. The current version of the guideline is available at: <http://ifa.itu.int/t/2013/sg9/exchange/interim/Guidelines/SG9-Res80-guideline-final.pdf>.

Action Item 80-03: TSAG

TSAG is periodically updated on progress under the trial in ITU-T SG9, see [TD 276r3/TSAG](#) for the status as of June 2015. Further updates are expected for the TSAG meetings in 2016.

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49. Resolution 81 - Strengthening collaboration

Resolution 81

resolves

- 1 that an action plan be developed by TSAG, which will result in:
 - the identification of areas where improvement is required, taking into account CTO meeting outcomes and the results of GSS;
 - the development of a mechanism within ITU-T to achieve this objective; and

- documentation of the mechanism developed, defining specific steps on how to improve coordination with other relevant standards bodies regarding the development of new Questions that are intended to address new domains and new work items under such Questions;

2 that this mechanism, which could take the form of a working party or group of TSAG, and which may work additionally between TSAG meetings in order to ensure continuity of the discussions on this topic, should:

- work, as required, including the socialization of ITU-T's desire to work cooperatively with the relevant standards bodies to improve cooperation; and
- provide a report to TSAG, containing the outcome of the actions taken, which will be subsequently submitted to WTSA-16,

invites the Telecommunication Standardization Advisory Group

to establish and maintain a close relationship with the Review Committee in order to develop synergies for the development of Recommendations addressing the objective of strengthening collaboration between ITU-T and other standards bodies.

Action Item	Action	Milestone	Periodic goals met	Completed
81-01	TSAG to develop action plan and mechanism, to define steps to improve coordination with other SDOs on the development of new Questions to address new domains and new work items	Ongoing		
81-02	TSAG to set up a working party or working group to work on this subject and report to TSAG	Ongoing		
81-03	TSAG to report to WTSA-16	TSAG 2016		

Action Item 81-01 & 81-02: TSAG

TSAG June 2013 set up the “TSAG Rapporteur Group on Strengthening Collaboration”. The group has had the following meetings:

- E-meeting on 17 October 2013
- Face-to-face meeting on 14-15 January 2014
- E-meeting 17 April 2014
- Face-to-face meeting in June 2014 (TSAG)
- E-meeting on ...
- Face-to-face meeting in Tunis, 22-23 January 2015
- E-meeting 23 April 2015
- Face-to-face meeting in June 2015 (TSAG)

The Rapporteur Group has focused on revisiting ITU-T A.4, A.5 and A.6. Numerous contributions regarding ITU-T A.4, A.5 and A.6 have been submitted for the TSAG meeting June 2015.

Action Item 81-03: TSAG

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50. Resolution 82 - Strategic and structural review of the ITU Telecommunication Standardization Sector

Resolution 82

resolves

to establish, in accordance with Nos 191A and 191B of the Convention, a review committee functioning in accordance with the relevant provisions of Article 14A of the Convention and the procedures provided below, and with the terms of reference as described in Annex A to this resolution, taking account of today's standardization environment and of the continued evolution of ITU-T;

instructs the Review Committee

- 1 to report to TSAG on regular basis;
- 2 to consider the outcomes of the CTO meetings, in particular their reports;
- 3 to conduct its initial review in a timely manner so as to provide input to TSAG for the preparation of the ITU-T strategic plan;
- 4 to submit its report to the next WTSA through TSAG,

instructs the Telecommunication Standardization Advisory Group

- 1 to consider the Review Committee progress reports, and in conformity with Article 14A of the Convention, implement, as appropriate, any recommendations, pending consideration at the next WTSA,
- 2 to submit the final report of the Review Committee, without changes, to WTSA, together with its comments thereon,

instructs the Director of the Telecommunication Standardization Bureau

- 1 to support the Review Committee by facilitating the activities in implementing this resolution;
- 2 to provide fellowships to eligible developing countries.

Action Item	Action	Milestone	Periodic goals met	Completed
82-01	Review Committee to report to TSAG on regular basis	Ongoing	√	
82-02	Review Committee to conduct its initial review so as to input to TSAG for the preparation of the ITU-T strategic plan	Ongoing	√	
82-03	TSAG to consider the Review Committee progress reports, and submit its final report to WTSA-16	TSAG 2016		

Action Item 82-01: Review Committee

The review committee reports to TSAG regularly.

Action Item 82-02: Review Committee

The strategic plan was discussed at Review committee meetings.

Action Item 82-03: TSAG

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51. Opinion 1 - Practical application of network externality premium

Opinion 1

is of the opinion that

considering the progress achieved so far within Study Group 3 those Member States concerned may wish to review the respective positions at the WTSA 2008 and possibly withdraw the reservations about Recommendation ITU-T D.156,

invites Member States

to take all measures necessary for the effective implementation of Recommendation ITU-T D.156,

invites the Council

in its session of 2013, to report on this subject to the Plenipotentiary Conference 2014, in accordance with Plenipotentiary Resolution 22 (Rev. Antalya, 2006).

Action Item	Action	Milestone	Periodic goals met	Completed
Op-01	Member States to take all measures necessary for the effective implementation of Recommendation ITU-T D.156	Ongoing		
Op-02	Director to invite Council 2013 to consider WTSA-12 Opinion 1 and report on this subject to PP-14	June 2013		√

Action Item Op-02: TSB

Done. The TSB Director reported about Opinion 1 in his WTSA-12 report to Council 2013 (C13/22).

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