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| **PLENARY MEETING** | **Document 24-E** |
|  | **September 2016** |
|  | **Original: English** |
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| **Director of TSB**  |
| Report of the Telecommunication Standardization Advisory Group to the World Telecommunication Standardization Assembly (WTSA-16), Part I: General  |
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| **Abstract:** | Pursuant to CV197H, the Director of TSB is submitting herewith the report of the Telecommunication Standardization Advisory Group (TSAG) of the Telecommunication Standardization Sector (ITU-T) to WTSA-16 for its consideration and appropriate action. The report of TSAG consists of four parts: Part I - General (WTSA16 Doc.24); Part II - Draft revised Resolutions (WTSA16 Doc.25); Part III - Draft revised Recommendations of the A-series (WTSA16 Doc.26); Part IV - TSAG report in respect of WTSA Resolution 22 (WTSA16 Doc.27). |

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# Introduction

The responsibilities of the Telecommunication Standardization Advisory Group (TSAG) are set forth in Article 14A of the ITU Convention, WTSA Resolutions 1, 22, 33, 40, 45, 57 and other relevant Resolutions.

WTSA-12 in Dubai appointed as Chairman of TSAG Mr Bruce Gracie (Industry Canada), and six Vice-Chairmen: Mr Fabio Bigi (Italy) Mr Mohammed Gheyath (United Arab Emirates), Mr Vladimir Markovich Minkin (Russian Federation), Ms Monique Morrow Cisco systems(USA), Mr Matano Ndaro (Kenya) and Ms Weiling Xu (China).

TSAG met on five occasions (22 meetings days in Geneva in the course of the study period, see Table 1). In the previous study period, there were also five meetings with a total of 17.5 meetings days.

TABLE 1

Meetings of TSAG

|  |  |
| --- | --- |
| Dates | Reports(available in the six UN languages) |
| 04-07 June 2013 | [TSAG-R 1](http://www.itu.int/md/T13-TSAG-R-0001/en) |
| 17-20 June 2014 | [TSAG-R 3](http://www.itu.int/md/meetingdoc.asp?lang=en&parent=T13-TSAG-R-0003) |
| 2-5 June 2015 | [TSAG-R 4](http://www.itu.int/md/meetingdoc.asp?lang=en&parent=T13-TSAG-R-0004) |
| 1-5 February 2016 | [TSAG-R 7](http://www.itu.int/md/meetingdoc.asp?lang=en&parent=T13-TSAG-R-0007) |
| 18-22 July 2016 | [TSAG-R 8](http://www.itu.int/md/meetingdoc.asp?lang=en&parent=T13-TSAG-R-0008) |

All TSAG meetings offered full-fledged remote participation services:

− webcasting (passive listening);

− a trial of remote participation (listening/watching and active interventions) in the six UN languages;

− captioning (a transcription of the audio as it occurred).

Prior to each meeting of TSAG, management meetings were held with the chairman, vice-chairmen and counsellor and other staff members of TSB. Newbie sessions and guided tours to newcomers were offered by TSB.

During the study period 2013-2016, TSAG considered 122 Contributions (123 Contributions in the study period 2009-2012; 146 Contributions in the study period 2005-2008) and 622 TDs (463 TDs in 2009-2012; 685 TDs in 2005-2008).

Under its responsibilities to review the work programme of ITU-T and authority granted under WTSA Resolutions 22 and 45, TSAG during this period:

− created ITU-T Study Group 20 (see 3.1 below);

− created five TSAG [Rapporteur Groups](http://www.itu.int/en/ITU-T/tsag/2013-2016/Pages/ifa-structure.aspx) (one with a sub-group, and one, the Rapporteur Group on Standardization Strategy, which will become operational in the next study period);

− created/endorsed the creation of two JCAs, and terminated/endorsed the termination of two JCAs and one GSI (see 3.4 below); and,

− created/endorsed the creation of five focus groups, and terminated/endorsed the termination of ten FGs (see 3.5 below).

TSAG has sent numerous liaisons to the ITU-T study groups with advice and guidelines on working methods, external coordination and inter-study group matters. TSAG has also communicated with ITU-R, ITU-D and ISO/IEC JTC1.

TSAG agreed that Mr. Paul Najarian (USA), vice-chariman of the Standardization Committee for Vocabulary (SCV) to act as chairman of SCV after the death of Ms Marie-Thérèse Alajouanine until a new appointment would be made at WTSA-16. The other vice-chairmen are Ms Xianqiong HUANG (China), Mr Ángel LEON-ALCADE (Spain), Mr Oleg Viktorovich Mironnikov (Russian Federation) and Mr Sami Hassan Omer SALIH (Sudan). TSAG noted the reports of the SCV at each TSAG meeting.

TSAG has been called upon by Resolutions of the Plenipotentiary Conference and Decisions of Council to provide advice on a wide range of subjects. Such advice was prepared and transmitted in the appropriate manner on subjects such as the strategic and operational plans, linkage of strategic, financial and operational planning, electronic working methods, issues regarding bridging the standardization gap, and ITU-T Sector priorities.

# Working methods

## 2.1 TSAG Rapporteur Group on working methods

In June 2014, TSAG established a TSAG Rapporteur Group on working methods (TSAG RG WM) to examine existing ITU-T working methods described in WTSA-12 Resolution 1 and in the relevant ITU-T A-series Recommendations (Organization of the work of ITU-T), especially Recommendation ITU-T A.1, A.7, A.8 and A.13, and to propose to TSAG any changes (excluding collaboration and cooperation with other standards organizations) for the improvement toward WTSA-16.

TSAG RG WM revised Annex A of Recommendation ITU-T A.23, developed a new Appendix I to ITU-T A.7 *Guidelines for the efficient transfer of focus group deliverables to its parent group* which was proposed by RevCom, and a new Supplement 4 to the ITU-T A-series Recommendations *Guidelines for remote participation*.

TSAG endorsed that the *keywords* field in ITU-T Recommendations be mandatory and that the corresponding changes in the Author's Guide for Drafting ITU-T Recommendations and relevant templates be made.

TSAG agreed to the new title of Y-series Recommendations: "*Global information infrastructure, Internet protocol aspects, next-generation networks, Internet of Things and smart cities*."

TSAG agreed in February 2016 that Recommendations would be published in integral (consolidated) format when an Amendment or Corrigendum is issued, instead of using delta versions, as it has been the current practice.

TSAG agreed that all IoT-related Recommendations currently enlisted on a number of series (e.g. F, H and Y series) be double-numbered under the Y.4000 sub-series in order to ensure greater visibility of the responsibility of ITU-T SG20. It was noted that the double-numbered Recommendations in the Y.4000 subseries would not be republished, the number would only be inserted. It was strongly recommended to keep dual numbering when a new version of a Recommendation is published.

TSAG agreed in July 2016 to revise Recommendation ITU-T A.1 by deleting clauses related to Global Standards Initiative(GSI), i.e., clauses 2.2.11 and 2.2.12.

## 2.2 Electronic working methods

TSB publishes a regular document for TSAG with an update on electronic working methods.

TSAG agreed in June 2013 that the procedures outlined in Recommendation ITU-T A.1 should normally also be applied to electronic rapporteur meetings, i.e. meetings with remote participation.

At the TSAG July 2016 meeting, TSB confirmed that ITU-T working method applications are now designed to work first on mobile devices; for example, the ITU Newsletter was designed with “mobile devices first” in mind. TSB would develop a Linux-compatible version of the Meeting Documents Sync Application.

Regarding a direct uploading tool for TDs, the Rapporteur meeting platform based on SharePoint for a direct document upload would be used.

## 2.3 Guideline for organizing Rapporteur Group meetings

At the TSAG June 2014 meeting, ITU-T SG16 informed that it published guidelines for organizing Rapporteur group meetings. ITU-T SG17 provided comments to those guidelines ([TD237](http://www.itu.int/md/meetingdoc.asp?lang=en&parent=T13-TSAG-150602-TD-GEN-0237)). The TSAG Rapporteur Group on Working Methods has included these guidelines in its living list as outlined in [TD321Rev1](http://www.itu.int/md/T13-TSAG-150602-TD-GEN-0321/en). ITU-T SG16 is invited to take into consideration the feedback from SG17.

For TSAG Rapporteur meetings (whether face-to-face or virtual), TSAG agreed that TSB would make the convening letter (see ITU-T A.1, clauses 2.3.3.10 and 2.3.3.11) available electronically at least two months in advance to all members (June 2014).

## 2.4 Intellectual Property Rights

TSAG endorsed the proposed amendment by unanimous agreement of the TSB Director’s ad hoc group on IPR issues to paragraph 7 of the current Patent Guidelines, as well as the addition of related text to the declaration form, to make it clear that RAND licensing commitments made to ITU are intended to bind both the current patent holder and subsequent purchasers of the patents (June 2014).

TSAG noted the report of the TSB Director’s ad hoc group on IPR issues and endorsed the proposed changes in clause 7 of the patent Guidelines regarding the situation where a patent holder who has submitted a Patent Statement and Licensing Declaration Form transfers the relevant Standards Essential Patent (SEP) to a third party (June 2015).

After a discussion on open source in Feburary 2016, a joint ITU-NGMN workshop on “Open Source and Standards for 5G” was held on 25 May 2016 prior to the the TSB Director’s Ad Hoc Group on Intellectual Property Rights from 26 to 27 May 2016. The TSAG July 2016 meeting received a further contribution on open source and, having reached agreement to invite the TSAG Rapporteur Group on Strengthening Collaboration to add the study of technical issues associated with the possible ITU-T engagement with the Open-Source community as part of its “Living List”, invited the membership to submit contributions on the guidelines for cooperation to the next meeting of TSAG.

## 2.5 Standardization Committee for Vocabulary (SCV)

TSAG endorsed that the ITU-T Standardization Committee for Vocabulary (SCV) and the ITU-R Coordination Committee for Vocabulary (CCV) meet jointly with extensive use of electronic methods.

TSAG agreed in June 2013 on the principle that an AAP ITU-T Recommendation must not necessarily be translated into all six languages but that different language groups may decide to translate different AAP ITU-T Recommendations.

## 2.6 Publication of non-normative texts

TSAG agreed with the proposals presented by the TSB Director in [TD41](http://www.itu.int/md/T13-TSAG-130604-TD-GEN-0041/en) “Non-normative ITU-T publications” as follows: Supplements, Implementers’ Guides, non-WTSA Proceedings (e.g. Kaleidoscope), Technical Papers or Reports, Tutorials, E-learning, web-based Guides. An update of the publication policy of non-normative ITU-T publications has been published.

## 2.7 Acknowledging membership involvement in developing ITU-T deliverables

TSAG tasked ITU-T SG9, in consultation with the other study groups, to explore various mechanisms to implement WTSA Resolution 80 *Acknowledging the Active Involvement of the Membership in the Development of ITU Telecommunication Standardization Sector Deliverables* on a trial basis from June 2013 to acknowledge the active involvement of the membership in the development of ITU-T deliverables. In June 2014 TSAG rolled out the trial to other ITU-T study groups who would then have the following options:

− to encourage the use of bibliography references to peer-reviewed publications that support technical decisions made in ITU-T Recommendations;

− to create a study group's web page for each study period that acknowledges, per meeting, all participants, see for example the pilot page developed by SG9
<http://www.itu.int/en/ITU-T/studygroups/2013-2016/09/Pages/acknowledgements.aspx>;

− on the publication page of a given ITU-T Recommendation, to add a link to a page that lists the contributors who submitted at least one contribution that helped progress the Recommendation.

# Work Programme

## 3.1 Study Groups

In June 2015, TSAG created a new study group, ITU-T Study Group 20 on “Internet of Things and its applications including smart cities and communities” after a long discussion. TSAG appointed Mr Nasser Al Marzouqi, United Arab Emirates, as the chairman of the new ITU-T Study Group 20. Eight vice-chairmen were appointed afterwards: Mr Fabio Bigi (Italy), Ms Silvia Guzmán Araña (Spain), Mr Takafumi Hashitani (Japan), Mr Hyoung Jun Kim (Korea), Mr Abdurahman M. Al Hassan (Saudi Arabia), Mr Ziqin Sang (China), Mr Sergio Trabuchi (Argentina) and Mr Sergey Zhdanov (Russia Federation).

In February 2016 TSAG endorsed the transfer of work items from SG5, 11 and 13 to SG20. A live version of Resolution 2 Annex C is kept up to date by TSB on the ITU website (<http://itu.int/en/ITU-T/about/Pages/res2-annexc-sp15.aspx>). TSAG also approved:

− the lead study group role for ITU-T SG20 on "Internet of Things (IoT) and its applications" and on "Smart Cities and Communities (SC&C)";

− the updated text of the six SG20 Questions;

− changes to the mandate and scope of the JCA-IoT and SC&C.

## 3.2 Establish/revise/terminate Questions

TSAG has reviewed, proposed amendments as necessary, and endorsed new and revised Questions at every TSAG meeting. In summary, in this study period TSAG endorsed:

− creation of new Question 20/5 on “Smart Sustainable Cities and Communities” before part of Q20/5 was moved to the newly created ITU-T SG20,

− revisions to:

• Q12/5 “Guides and terminology on environment and climate change”,

• Q9/9 “Requirements for advanced service capabilities over broadband cable home networks”,

• Q2/11 “Signalling requirements and protocols for service and application in emerging telecommunication environments” ,

• Q8/11 “Guidelines for implementations of signalling requirements and protocols, and for addressing counterfeited ICT”,

• Q11/11 to add work on C&I testing methodologies and framework.

• Q2/13 “Requirements for NGN evolution (NGN-e) and its capabilities including support of IoT and use of software-defined networking”,

• Q3/13 “Functional architecture for NGN evolution (NGN-e) including support of IoT and use of software-defined networking”,

• Q5/13 “Applying IMS ~~and~~, IMT and other new technologies in developing country mobile telecom networks”,

• Q6/13 “Requirements and mechanisms for network QoS enablement (including support for software-defined networking)”,

• Q8/13 “Security and identity management in evolving managed networks (including software-defined networking)”,

• Q9/13 “Mobility management (including support for software-defined networking)”,

• Q11/13 “Evolution of user-centric networking, services, and interworking with networks of the future including Software-Defined Networking”,

• Q14/13 “Software-defined networking and service-aware networking of future networks”,

• Q17/13 “Requirements, ecosystem, and general capabilities for could computing and big data”,

• Q6/17 “Security aspects of ubiquitous telecommunication services” related to security solutions of e.g. smart grid and intelligent transport systems,

• Q8/17 “Cloud computing security”,

• Q12/17 to remove work on conformance testing methodologies and framework and to add work on TTCN-3.

− integration of Q8/13 into Q19/13 and name Q19/13 as “End-to-end Cloud computing management and security”,

− integration of Q16/16 “Speech enhancement functions in signal processing network equipment” into Q18/16 “Implementation and Interaction aspects of signal processing network equipment/terminals” to form revised Q18/16 “Signal processing network functions and equipment”,

− transfer of Q.QMS from SG11 to SG12,

− the division of responsibilities indicated in Annex C of WTSA Resolution 2 (Rev. Dubai, 2012) to reflect that the ITU-T Z.160 and the ITU-T Z.170-series are under SG17, and that the ITU-T X.290-series (except ITU-T X.292), ITU-T Z.500 and Supplements 4 and 5 to the ITU-T X-series Recommendations are under SG11,

− transfer of maintenance of Recommendations:

• ITU-T G.851-G.854 *management of transport networks* from ITU-T SG2 to SG15;

• ITU-T X.160-X.171 *network management* from ITU-T SG2 to SG17;

• ITU-T E.104, E.115 and E.409 from ITU-T SG2 to SG17

− transfer of responsibility of the ITU-T software tool library in ITU-T G.191 from ITU-T SG16 to ITU-T SG12 (ITU-T G.190-series).

TSAG also agreed to the expansion of the title of the ITU-T L-series Recommendations as found in ITU-T A.12 to read:

L Environment and ICTs, climate change, e-waste, energy efficiency; ~~C~~construction, installation and protection of cables and other elements of outside plant

and noted new technical classification and numbering of ITU-T L-Series Recommendations by ITU-T SG15.

## 3.3 Regional Groups

WTSA Resolution 54 resolves to support the creation of regional groups in study groups, in addition to those already existing in Study Group 3. Regional Groups are proven effective mechanisms to assist in bridging the standardization gap by stimulating effective participation in ITU-T study groups and increasing the number and quality of contributions from various regions.

As of July 2016, ITU-T has 17 regional groups (13 groups are active and two groups of Study Group 11 haven been created in July 2016): seven for Africa (Study Groups 2, 3, 5, 11,12, 13, and 17), three for the Americas (Study Groups 2, 3 and 5), three for the Arab region (Study Groups 2, 3 and 5), two for Asia and the Pacific (Study Groups 3 and 5) and two for the Regional Commonwealth in the field of Communications/CIS (Study Group 3 and 11).

## 3.4 Review of study group structure for WTSA-16

At the June 2015 meeting, a TSAG Rapporteur Group on Work Programme and Study Group Structure (TSAG RG WPR) was established to develop the detailed study group structure for the 2017-2020 study period to be submitted by TSAG to WTSA-16.

TSAG RG WRP also worked on the issue of how ITU-T work on IoT security and privary should be coordinated. The TSAG July 2016 meeting endorsed a collaboration agreement between ITU-T SG20 and SG17 on IoT security. IoT privacy will need to be further discussed.

TSAG in July 2016 created a correspondence group to study how to allocate benchmarking and Internet speed performance work between ITU-T SG11 and ITU-T SG12.

In February 2016, the TSB Director presented ideas on the ITU-T structure as well as the study group meeting schedule and duration in the next study period. In response to proposal from RevCom, TSAG adopted seven high-level principles for study group structure (see Annex A of [TSAG R7](http://www.itu.int/md/T13-TSAG-R-0007/en)), and established a new TSAG Rapporteur Group on standardization strategy (TSAG RG SS) to develop standardization strategies taking into account technical trends, and market, economic and policy needs, and to identify possible topics and issues for consideration in ITU-T. The TSAG Chairman at the TSAG July 2016 meeting recalled that it was agreed that the leadership of TSAG RG-SS should be from the private sector and that consultations on the leadership were continuing.

## 3.5 Joint Coordination Activities and Global Standardization Initiatives

TSAG regularly reviewed the JCAs and either created JCAs, endorsed the continuation of the following JCAs (with updated terms of reference as appropriate), and terminated JCAs/GSIs.

### 3.5.1 JCA-Res178

JCA-Res178 was created by WTSA-12. TSAG in June 2015 agreed to keep the JCA-Res178 *dormant* pending further contributions.

### 3.5.2 JCA-SDN

TSAG created JCA-SDN in June 2013 and agreed to the following work split for SG11, SG15 and SG17 for future ITU-T Recommendations (other study groups may also start work on SDN):

− ITU-T SG11: Signaling mechanism and relevant protocols including interworking protocol, Reference signaling architectures of SDN; conformance and interoperability testing of SDN;

− ITU-T SG15: Transport aspects of SDN;

− ITU-T SG17: Analysis security implication of SDN.

TSAG transferred the parent group role to ITU-T SG13 in June 2015.

### 3.5.3 JCA-IoT&SC&C and IoT-GSI

With the establishment of the new ITU-T SG20, TSAG agreed in June 2015 that the parent group of the JCA-IoT be transferred from TSAG to ITU-T SG20 and renamed as JCA-IoT and SC&C. Accordingly, TSAG agreed that IoT-GSI would be discontinued in due course (but not before the July 2015 meeting), since most of its current standardization activities would be carried out by the new ITU-T SG20.

### 3.5.4 JCA-ICT&CC, JCA-Cloud Computing and JCA-Smart Grid and Home Networking,

TSAG noted the termination of:

− JCA-ICT&CC by ITU-T SG5 in October 2015;

− JCA-Cloud by ITU-T SG13 in May 2015; and

− JCA-SG&HN by ITU-T SG15 in May 2013.

### 3.5.5 JCA-AHF, JCA-CIT, JCA-COP, JCA-IdM, JCA-IPTV

TSAG endorsed the continuation of these JCAs in this study period. In June 2015 TSAG agreed that the parent group of JCA-AHF be transferred from ITU-T SG2 to TSAG. In July 2016 TSAG approved modified terms of reference of JCA-AHF proposed by JCA-AHF.

## 3.6 Focus Groups

### 3.6.1 Focus Group on Aviation Applications of Cloud Computing for Flight Data Monitoring (FG AC)

ITU-T Focus Group on Aviation Applications of Cloud Computing for Flight Data Monitoring (FG AC) was created by TSAG in June 2014 and terminated after it concluded its work in December 2015. FG-AC produced five deliverables to ITU-T SG13, SG16, SG17; ITU-R SG4 and SG5; ICAO and other international aviation organizations:

− Deliverable 1 – Existing and Emerging Technologies of Cloud Computing and Data Analytics;

− Deliverable 2/3 – Use Cases and Requirements;

− Deliverable 4 – Avionics and Aviation Communications Systems;

− Deliverable 5 – Key findings, recommendations for next steps and future work.

### 3.6.2 Focus Group on Digital Financial Services (FG DFS)

ITU-T Focus Group on Digital Financial Services (FG DFS) was created by TSAG in June 2014 and will finish its work in December 2016. At the TSAG July 2016 meeting, FG DFS mentioned in its report that it had concluded six deliverables.

After the closure of FG DFS, a collaboration on Digital Financial Inclusion is being considered to operationalize the recommendations in the reports of FG DFS in order to provide a roadmap for countries to achieve the goals of digital financial inclusion. The collaboration would bring together different stakeholders from the telecommunications and financial services sectors and also see the participation of the regulators from both sectors as well as international organizations such as ITU, Alliance for Financial Inclusion, Gates Foundation and World Bank, amongst others.

### 3.6.3 Focus Group on IMT-2020 (FG IMT-2020)

ITU-T Focus Group on IMT-2020 (FG IMT-2020) was created by TSAG in June 2015. The Focus Group on IMT-2020 will identify network standardization requirements for the '5G' development of International Mobile Telecommunications (IMT) for 2020 and beyond for future studies by ITU SG 13 in alignment with other important SDOs. Studies of the focus group will relate to the non‑radio part of IMT-2020 with close coordination with Working Party 5D of ITU-R.

### 3.6.4 Focus Group on Smart Sustainable Cities (FG SSC)

TSAG noted the creation of ITU-T Focus Group on Smart Sustainable Cities (FG SSC) by ITU-T SG5 in February 2013 and its terminiation in May 2015 after the focus group concluded its work with 21 approved technical specifications and reports.

### 3.6.5 Focus Group on Bridging the Gap: from Innovation to Standards (FG Innovation)

TSAG endorsed the continuation of FG Innovation in this study period to continue document and analyze successful cases of ICT innovations and identify relevant standardization gaps which can lead to new study items for ITU-T. FG Innovation completed its work in May 2015 and submitted its report to TSAG with two deliverables: “Successful ICT Innovations from Developing Countries” and “New standardization activities for ITU-T Study Groups and ICT Innovation Strategy”. ITU-T and ITU-D study groups are encouraged to examine the report of the Focus Group in order to identify areas already being undertaken by the study groups, or potential new areas of work, particularly in ITU-D.

### 3.6.6 FG on Smart Water Management (FG SWM)

ITU-T Focus Group on Smart Water Management (FG SWM) was established by TSAG meeting in June 2013 to provide a platform to share views, develop a series of deliverables and showcasing initiatives, projects, policies and standards activities that are taking place in the area of smart water management. The Focus Group completed its work on 2nd March 2015 and submitted the deliverables to ITU-T Study Group 5.

### 3.6.7 Focus Group on Disaster Relief Systems, Network Resilience and Recovery, Focus Group on Smart Cable Television , Focus Group on Machine-to-Machine Service Layer, Focus Group on Audiovisual Media Accessibility, Focus Group on Driver Distraction and Focus Group "From/In/To Cars Communication"

TSAG endorsed the continuation of these Focus Groups and noted their termination in this study period.

# ITU-T strategy

## 4.1 ITU-T part in the ITU Strategic and Financial Plan 2016-2019

A TSAG Rapporteur Group was established to gather input on ITU’s strategic plan. In June 2014, TSAG approved the changes regarding the outcomes and outputs of ITU-T in the ITU Strategic Plan 2016-2019 which the TSB Director forwarded to the Council Working Group on the elaboration of the draft Strategic and Financial Plan for PP-14.

## 4.2 WTSA action plan and operational plan

TSAG noted at every meeting TSB’s “WTSA-12 Action Plan” which is a monitoring and reporting tool to keep track of the implementation of WTSA-12 Resolutions. TSAG July 2016 meeting discussed twelve principles (see Annex of TSAG Report 8) proposed by TSB to help the ITU membership draft proposals for WTSA so that WTSA Resolutions are concise and ITU-T focused, implementable and effective. TSAG agreed that these principles would not have a formal status but would be seen as draft guidelines to assist the membership in drafting or revising Resolutions for WTSA-16. TSAG sent an outgoing liaison ([TD 613Rev1](http://www.itu.int/md/T13-TSAG-160718-TD-GEN-0613/en)) to APT, Arab region, ATU, CEPT, CITEL and RCC, containing the summary table of restructuring proposals and guidelines for drafting WTSA Resolutions.

TSB presented at every meeting the updated draft four-year rolling operational plan for review.

## 4.3 CTO meetings

TSAG noted the reports from the annual CTO meetings and took action as appropriate, e.g. TSAG established ITU-T Study Group 20 (June 2015), organized specific workshop sessions on Big Data (June 2014), Open Source (Feb 2016), etc.

## 4.4 Conformance and Interoperability

Regarding combating counterfeit equipment, the ITU-T study groups (ITU-T SG11 et al.) are encouraged to support the TSB Director “to assist Member States in addressing their concerns with respect to counterfeit equipment” (PP Resolution 177).

A special session was organized by the TSAG in June 2013 to allow the IECEE Executive Secretary and IECEE Chairman to present the IECEE Conformity Assessment scheme. IECEE is the worldwide system for conformity testing and certification of electrotechnical equipment and components and has wide acclaim in the industry. IECEE offers ITU to use the IECEE platform, if the ITU membership so wishes. TSAG encouraged the TSB Director to explore this cooperation with IECEE.

ITU-T SG11 established a Conformity Assessment Steering Committee (ITU-T CASC) in April 2015 to elaborate detailed procedures for the implementation of a test laboratory recognition procedure in ITU-T, following a [ITU-T SG 11 Guideline on “Testing Laboratories recognition procedure”](https://www.itu.int/en/ITU-T/studygroups/2013-2016/11/Documents/Guideline-TL-rec-pro.pdf) in collaboration with existing conformity assessment programs (e.g., IEC, ILAC).

## 4.5 Bridging Standardization Gap and Sustainable Development Goals (SDGs)

At every meeting, TSAG noted the TSB reports on “Bridging the Standardization Gap – Achievements and Planned Activities”.

Following the adoption of SDGs by the UN in September 2015, TSB developed a mapping of the Sustainable Development Goals (SDGs) to ITU-T’s work programme ([TD419](http://www.itu.int/md/T13-TSAG-160201-TD-GEN-0419/en)). While ICTs are not a stand-alone goal, they are a key cross­cutting enabler for promoting and achieving each and every SDG. The document contains actions for ITU-T on how to contribute to achieving the SDGs. TSAG agreed that TD419 be forwarded to the Council Working Group on WSIS, RAG, TDAG, the ITU-T study groups, and the World Standards Collaboration (WSC, comprising ISO, IEC and ITU).

The status of regional preparations for WTSA-16 was presented at the TSAG July 2016 meeting.

## 4.6 Academia and Kaleidoscope

TSAG noted the reports from the annual ITU Kaleidoscope events and the TSB feasibility study to establish a scholarly and professional, peer-reviewed ITU Technical Journal ([TD418](http://www.itu.int/md/T13-TSAG-160201-TD-GEN-0418/en)) building on the experiences gained through ITU Kaleidoscope.

## 4.7 Membership

TSAG held a session on membership in its June 2015 meeting to prepare for discussion in the Council Working Group on Financial and Human Resources on potential changes to fees, categories and benefits for Sector Members, Associates and Academia ([TD298](http://www.itu.int/md/T13-TSAG-150602-TD-GEN-0298/en)). The TSB Director proposed ([TD317](http://www.itu.int/md/meetingdoc.asp?lang=en&parent=T13-TSAG-150602-TD-GEN-0317)) that a trial Membership could be offered for a period of one year following the conclusion of focus groups to non-members who participated in the work of the focus group. This would enable non-members to follow the deliverables of the Focus Group within the relevant study group(s). The trial membership fee could be about CHF 2'000. The proposal would be specific to ITU-T.

## 4.8 Meeting Plan

At each meeting, TSAG examined and endorsed the meeting calendar for study groups and working parties for the coming years. The TSAG July 2016 meeting noted that study groups wish to have flexibility in scheduling their meetings and that the dialogue between the study groups and TSB would continue.

# Cooperation and Collaboration

## 5.1 TSAG Rapporteur Group on Strengthening Collaboration

After WTSA-12 adopted a new Resolution 81 on ‘Strengthening Collaboration’, TSAG established in June 2013 a Rapporteur group on "Strengthening collaboration" (TSAG RG-SC). This Rapporteur Group revised ITU-T Recommendations A.5 *Generic procedures for including references to documents of other organizations in ITU-T Recommendations,* developed a new Recommendation ITU-T A.25 *Generic procedures for incorporating text between ITU-T and other organizations* and a new Supplement 5 to ITU-T A-series Recommendations (A.Sup5), *Guidelines for cooperation and exchange of information with other organizations*. A.Sup5 was revised and agreed by TSAG in July 2016.

TSAG RG-SC are soliciting contributions to consider guidelines for cooperation with open source communities (see section 2.4 above).

In June 2014, TSAG set up a subgroup “Intrasector coordination and collaboration” of TSAG RG SC. This subgroup exchanged liaison on ITU inter-sector coordination with the ITU Inter-Sector Coordination Team on issues of mutual interest, TDAG, ITU-D SGs, RAG, ITU-R SGs and ITU-T SGs. During the TSAG July 2016 meeting, the subgroup considered various WTSA Resolutions. The subgroup supports the idea to combine ITU-T’s Standardization Committee for Vocabulary (SCV) and ITU-R’s [Coordination Committee for Vocabulary](http://www.itu.int/en/ITU-R/study-groups/rccv/Pages/default.aspx) (CCV) into one group.

## 5.2 ITU-R

TSAG was invited to inform relevant study groups (ITU-T SG5, SG9, SG12, SG13, SG15) of the fact that WRC-12 changed the lower bound of frequency range allocated in the Radio Regulations from 9 kHz to 8.3 kHz.

RAG advised that on an interim basis Intersector Rapporteur Groups (IRG) could be established between ITU‑R SG 6 and ITU‑T SG 12 for joint studies on objective quality assessment. Other IRGs could be established, for example in the area of audiovisual metadata. RAG and TSAG invite other study groups to follow this example on an interim basis in consultation with the Director of BR and TSB.

## 5.3 ISO/IEC JTC 1

Mr Olivier Dubuisson continued as the liaison officer from ITU-T to ISO/IEC JTC1 in this study peroid. Mr Jim MacFie (Microsoft Canada, Canada) was appointed as liaison officer from ISO/IEC JTC1 to ITU-T in 2015.

TSAG at its June 2014 meeting approved revised “Annex A to Recommendation ITU-T A.23 - Guide for ITU-T and ISO/IEC JTC 1 Cooperation” .

## 5.4 World Standards Cooperation (WSC)

TSAG agreed in June 2014 to extend the resolution process between ISO and IEC to ITU-T (see [TD58](http://www.itu.int/md/T13-TSAG-130604-TD-GEN-0058/en)) omitting the 2nd level (“Secretaries of IEC SMB / ISO TMB / ITU-T TSAG Management”). Following further discussions at the World Standards Cooperation (WSC), and among the CEOs of ISO and IEC and the Director of the ITU Telecommunication Standardization Bureau in coordination with the Director of the ITU Radiocommunication Bureau, it was agreed that the principle of technical co-ordination between ISO and IEC would be extended to include ITU-T and ITU-R. The aim of the mechanism is to resolve problems at the earliest possible stage and to encourage communication among parties and to avoid duplication of work. The four coordination levels are found [here](http://www.itu.int/en/ITU-T/extcoop/Pages/WSC-coordination.aspx).

TSAG February 2016 meeting noted in particular the outcome of the JTC 1 Plenary held on 26-31 October 2015. This meeting created the JTC 1 Advisory Group (JAG), which inter alia will review relationships of JTC 1 with other SDOs, interact with their strategy development activities and maintain their part of Rec. ITU-T A.23, Annex A. This group is not open to ITU-T, except on a case-by-case invitation.

## 5.5 Global Standards Collaboration

TSAG noted that ITU hosted the 19th meeting of the Global Standards Collaboration on 15-16 July 2015 and the oneM2M Steering Committee meeting on 14 July 2015.

## 5.6 Collaboration on ITS Communication Standards

TSAG endorsed that the Collaboration on ITS Communication Standards be continued as a pilot. CITS may serve as a model for multi-lateral collaboration among ITU-T and other SDOs/forums.

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