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| ITU logo | INTERNATIONAL TELECOMMUNICATION UNION**TELECOMMUNICATIONSTANDARDIZATION SECTOR**STUDY PERIOD 2017-2020 | **TD 246** |
| **TSAG** |
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| **TD** |
| **Source:** | Rapporteur, RG-StdsStrat |
| **Title:** | Proposed actions for RG-StdsStrat |
| **Purpose:** | Action |
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| **Keywords:** | TSAG Rapporteur Group, Standardization Strategy |
| **Abstract:** | This TD proposes some actions based on the results of the Rapporteur Group interim meetings after the first TSAG meeting held in May 2017 and the analysis of the outcomes from the past CTO/CxO group meetings to identify the standardization strategic topics to accelerate the works in TSAG. |

**Action**: TSAG-RG-StdsStrat is invited to take into account the proposals for its discussions and its further work for RG-StdsStrat.

**1 Structure and Terms of Reference of the RG-StdsStrat**

In the first TSAG meeting, [TD99](https://www.itu.int/md/T17-TSAG-170501-TD-GEN-0099)/TSAG proposed the TSAG Rapporteurs Groups with terms of references and appointed Rapporteurs. The TSAG meeting discussed a common understanding of terms of references of RG-StdsStrat. The meeting abandoned the concept of a panel for RG-StdsStrat and agreed to use just the notion of a Rapporteur and of Associate Rapporteurs as endorsed by the closing TSAG meeting as in [TD122/TSAG](https://www.itu.int/md/T17-TSAG-170501-TD-GEN-0122/en). The terms of reference of RG-StdsStrat were provided in [Annex A](#_Annex_A_TSAG).1 of TD122/TSAG.

The appointed management team, Rapporteur and Associate Rapporteurs, of RG-StdsStrat includes the following members:

Rapporteur:

Mr Yoichi Maeda, Japan

Associate Rapporteurs:

Ms Judy Zhu, Alibaba Group, China (P.R)

Mr Didier Berthoumieux, Nokia Bell Labs, France

Ms Rim Belhassine-Cherif, Tunisie Telecom, Tunisia

Mr Vasily Dolmatov, Russian Federation

Mr Stephen Hayes, Ericsson, USA

Mr David Ward, Cisco, USA

Latin America (TBD)

In the first TSAG meeting, the Rapporteur of RG-StdsStrat, Mr Yoichi Maeda (Japan), presented the results and meeting report in [TD83](https://www.itu.int/md/T17-TSAG-170501-TD-GEN-0083)R2. The results of discussion made in the TSAG closing plenary were posted in [TD83R4](https://www.itu.int/md/T17-TSAG-170501-TD-GEN-0083) with some corrections after the meeting.

The meeting understood the necessity for RG-StdsStrat to respect the principle of openness and transparency; and for this, the meeting authorized the TSAG Chairman to regularly inform the membership and the study groups as to the progress of the work in the Rapporteur Group. It was also agreed that contributions to RG-StdsStrat from the membership would be welcome within the framework of the terms of reference of the group. The roles of the RG were discussed in the RG interim meetings and the RG e-meeting held in October 2017 concluded on the clarification of the role of this Rapporteur Group:

* This Rapporteur Group should not cause any duplication of work or activities with those of ITU-T lead study group activities in the respective study groups. The Rapporteur Group should collect the strategic standardization views in ITU-T and show a holistic view of the strategic topics in ITU-T.
* The role of this Rapporteur Group should be to identify the strategic topics, and then to help to find the relevant lead study group in ITU-T, in close consultation with the appropriate study group chair. The identified lead study group then would lead the study on the standardization landscape, and develop a work plan for each hot topic in their scope and mandate. In case no relevant ITU-T lead study group could be identified for a particular new topic, the Rapporteur Group will nominate a champion from the associate Rapporteurs or nominate an expert or experts to lead the strategic study within TSAG.

As the results of the consultation with TSAG chairman, the revised Terms of References are proposed in ANNEX 1 to this TD.

**2 Proposed study issues identified in the CTO meetings**

The management team of RG-StdsStrat reviewed the communiques of the CTO meetings as in [TD101/TSAG](https://www.itu.int/md/T17-TSAG-170501-TD-GEN-0101/en) and proposes TSAG to encourage the relevant ITU-T SGs to proceed with the identified topics while considering the coordination with the relevant SDOs, with a clear vision on the standardization roadmap and standardization landscape for each specific hot topic.

This document provides some key issues extracted from the CTO Communiques and their relevant groups in ITU-T, and provides an initial list of hot standardization issues to identify industry needs and requirements for the ITU-T standardization. It is proposed to TSAG to develop the standardization strategies on the specific topics with the relevant lead SGs and to encourage all ITU-T members to invite Contributions to address the interested topics with priorities for the future study on the standardization strategy in ITU-T.

The hot topics with underlines were added to reflect the outcomes of the CTO/CxO meetings held after the first TSAG meeting.

* **Realizing 5G/IMT-2020 vision** >> **SG13** in corporation with SG2, 5, 11, 12, 15 and 20
	+ Unified access-independent network management
	+ Standardization roadmap on IMT-2020
	+ ICN (Information Centric Networks) with scalability, mobility and security
	+ Open-source software and standards for 5G
	+ Software-based networking functions to optimize a per-session based performance
	+ Emerging fronthaul and midhaul technologies to support the 5G deployment
	+ Large-bandwidth backhaul and fronthaul solutions
	+ Concrete strategies for the migration from 4G to 5G systems.
	+ End-to-end network orchestration, control and management
	+ Service-based network architecture
	+ Open service management APIs for the Internet of Things
	+ Electromagnetic field (EMF) studies around 5G beam-forming capabilities
	+ Interoperability of services supporting public safety.
* **Gigabit-speed broadband access services and networks** >> **SG15**
	+ Support the delivery of high-definition video services
	+ Broadband access networks; G.fast, G.hn, VDSL2, NG-PON2
	+ True fixed-mobile convergence, hybrid fixed wireless
	+ Short-distance, large-bandwidth and low-cost data center interconnection
* **Security, Privacy and Trust** >> **SG17**
	+ Principles of transparency and technological integrity
	+ Mitigation of the risks posed by IoT botnets
	+ Assessment of the impact of quantum computing
	+ Potential of blockchain and its implications for security
	+ Data-centric security
	+ Security and privacy by design, considering security and privacy from the outset of ICT services’ development through to the proactive monitoring and protection of live services
	+ Identity and authorization, providing for the reliable identification essential to secure, efficient service provision
* **OTT services and the economic impacts, Cross-industry collaboration** >> **SG3**
	+ The interplay of OTT service providers and operators, particularly in developing countries
	+ The economic impact of OTT services and operators
	+ International standards, frameworks, best practices and guidelines on OTT services.
* **Augmented reality & Virtual reality, Video services** >> **SG16**
	+ Applications with high network requirements in throughput and latency
	+ A range of innovative technologies in transport, IP and access networking, media coding and cloud and edge computing.
	+ NG video codec standardization with emphasis on 5G and vertical industries
	+ Future Content Delivery Network (CDN) technologies and standards
* **Intelligence for network automation, augmentation and amplification** >> **SG13**
	+ Identify the standardization needs for intelligence in 5G systems and the telecommunications sector.
	+ Automatic detection and resolution of anomalies and other incidents of inefficiency, as well as predictive maintenance will reduce the operational expenditure of network operators and service providers
	+ Address the architecture, interfaces, functional entities, service scenarios and protocols required for intelligence retrieval and actuation, and the performance benchmarking and certification of AI techniques
* **Open APIs, enabling third parties to access and build on network capabilities to develop innovative, reusable services** >> **SG13**
* **Analytics, supporting the development of evidence-based, data driven services** >> **SG20**
* **Accessibility by design, mainstreaming the consideration of needs of the elderly and persons with disabilities to build inclusive ICT solutions** >> **SG16**.
* **VoLTE/ViLTE interconnection and adoption of ENUM for IMS interconnection** >> **SG11** in corporation with SG2
* **Member States’ national plans and other SDOs’ plans in existence** >> **TSAG**
	+ e.g. Society 5.0 in Japan

**3 Proposed actions by the RG-StdsStrat**

The following actions are proposed by the RG-StdsStrat management team to promote the strategic standardization issues based on the industry needs and the requirements toward the future TSAG meetings. Any comments to the expected actions are invited for the RG-StdsStrat.

* Survey the standardization needs and the priorities on the innovative technologies;
* Develop reports (white papers) on standardization strategy including roadmap and landscape for specific topics based on consultations with the relevant SGs;
* Develop reports (white papers) on standardization strategy at high-level general aspects including SDGs (Sustainable Development Goals) in UN and Member State’s National plans and policies;
* Enhance collaboration between the ICT sectors and other industry sectors;
	+ Requirements of the automotive, healthcare, utilities, Finance and other vertical sectors.
	+ ISO/IEC JTC1 and ITU/ISO/IEC Collaboration Task Force: Specific collaborative issues should be identified and the representatives of the collaboration should be nominated.
* Encourage the establishment of Focus Groups on some strategic issues based on consultations with the relevant SGs, if deemed necessary, in order to accelerate related studies within ITU-T and allow more entities from the industry to collaborate and share expertise as Focus Groups are also open to non-ITU members;
* Coordinate CTO meetings in all regions with cross-industry sectors within this study period;
	+ A CTO meeting is scheduled for the 9th of September 2018 in Durban, South Africa, as part of ITU Telecom World 2018.
	+ A CxO meeting scheduled in Saudi Arabia to be hosted by Saudi Arabia’s Communications and Information Technology Commission  (CITC)  in  2018  (dates  and  location  to  be confirmed).
* Contribute to arrange workshops on the selected hot topics with the relevant SGs which could be co-located with other ITU-T meetings to increase participation;

## **ANNEX 1**

**Terms of references of TSAG RG-StdsStrat**

**General**

In order to address the need for a strategic coordination function under the ITU-T, a function of standardization strategy is established as follows:

a. The creation of a Rapporteur Group of TSAG, to be named the "Rapporteur Group on Standardization Strategy" (RG-StdsStrat).

b. The TSAG RG-StdsStrat should attract intensive industry participation in order to take account of latest technical trends and market needs.

c. CTO meetings could assist the RG in addressing strategic issues for the ITU-T Sector, and bring into the debates the views from the industry, as industry is the main component of ITU-T activities in the technical work. In practice, RG could analyse the industry and markets trends, identify future standardization directions and, accordingly, suggest new topics for ITU-T, bearing in mind the need for cooperation with other SDOs and the scarce resources of ITU-T and the prerogative of the ITU-T membership to propose new topics for study.

d. RG-SS could liaise with relevant groups in other SDOs, as appropriate, *inter alia* to identify their relevant work.

e. RG-SS should meet frequently enough to address the rapid technological and market developments.

f. Discussions in RG-SS on procedural matters should be minimized.

g. RG-SS discussions should be focused on the substance of potential standardization topics.

h. This group should solicit and consider a wide range of inputs including, but not limited to, consultations, invited experts, etc., in order to address industry needs and emerging strategic topics.

**Terms of Reference**

The terms of reference for this Rapporteur Group are as follows, keeping in mind the objectives of the ITU-T Strategic Plan (Resolution 71, Busan, 2014):

a. Advise TSAG and SGs on standardisation strategies for the Sector by identifying the main technological trends, and market, economic and policy needs in the ITU-T's fields of activity. This may include, for example, conducting informal gap analysis, industry consultations and market enquiries, taking into account input and feedback from relevant groups and activities inside ITU-T (such as the CTO group and Technology Watch) and outside ITU-T.

b. Develop standardization strategies to take account of the main technical trends, and market, economic and policy needs.

c. Identify possible topics and issues for consideration in ITU-T from a strategic standardisation perspective.

d. To provide input via TSAG to relevant groups and assist, as appropriate, in the development of long-term strategic plans for the Sector.

e. In order to progress and facilitate discussion in the Rapporteur Group, “champions” may be selected from among the members of the Group to provide information on the substance of individual issues and topics.

f. The Rapporteur Group meeting is open to participation from all ITU-T members. At the discretion of the management team of the Rapporteur Group, individual experts may be invited to join the meetings.

g. The TSB Director is invited to play an active advisory role in the RG, and in particular to provide the output of Technology Watch as instructed by WTSA Res. 66 (rev. Dubai, 2012) and of the chief technology officer (CTO) meetings that he organises in accordance with WTSA Res. 68 (Rev. Dubai, 2012).

h. RG-SS shall use e-meetings and/or collocate with existing meetings as much as possible.

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