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| ITU logo | INTERNATIONAL TELECOMMUNICATION UNION  **TELECOMMUNICATION STANDARDIZATION SECTOR**  STUDY PERIOD 2017-2020 | | | | TSAG-TD881 |
| **TSAG** |
| **Original: English** |
| **Question(s):** | | N/A | | | E-Meeting, 21-25 September 2020 |
| **TD (Ref.:** [SG2-LS166](http://handle.itu.int/11.1002/ls/sp16-sg2-oLS-00166.docx)) | | | | | |
| **Source:** | | ITU-T Study Group 2 | | | |
| **Title:** | | LS/r on hot topics (reply to TSAG-LS32) [from ITU-T SG2] | | | |
| **Purpose:** | | Information | | | |
| **LIAISON STATEMENT** | | | | | |
| **For action to:** | | | - | | |
| **For comment to:** | | | - | | |
| **For information to:** | | | TSAG | | |
| **Approval:** | | | ITU-T SG2 management (17 July 2020, by correspondence) | | |
| **Deadline:** | | | - | | |
| **Contact:** | | | Phil Rushton  SG2 Chairman | E-mail: [philrushton@rcc-uk.uk](mailto:philrushton@rcc-uk.uk) | |
| **Contact:** | | | Einar Bohlin WP1/2 Chairman | E-mail: [einarb@arin.net](mailto:einarb@arin.net) | |
| **Contact:** | | | WANG Zhili WP1/2 Chairman | Tel: +86 10 61198090 ext. 8726 Fax: +86 10 6228 3412 Email: [zlwang@bupt.edu.cn](mailto:zlwang@bupt.edu.cn) | |

A new liaison statement has been received from SG2.

This liaison statement follows and the original file can be downloaded from the ITU ftp server at <http://handle.itu.int/11.1002/ls/sp16-sg2-oLS-00166.docx>.

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| ITU logo | INTERNATIONAL TELECOMMUNICATION UNION  **TELECOMMUNICATION STANDARDIZATION SECTOR**  STUDY PERIOD 2017-2020 | | | SG2-LS166 | |
| **STUDY GROUP 2** | |
| **Original: English** | |
| **Question(s):** | | All/2 | |  | |
| **Ref.: SG2-TD1158** | | | | | |
| **Source:** | | ITU-T Study Group 2 | | | |
| **Title:** | | LS/r on hot topics (reply to TSAG-LS32) | | | |
| **Purpose:** | | Information | | | |
| **LIAISON STATEMENT** | | | | | |
| **For action to:** | | | - | | |
| **For comment to:** | | | - | | |
| **For information to:** | | | TSAG | | |
| **Approval:** | | | ITU-T SG2 management (17 July 2020, by correspondence) | | |
| **Deadline:** | | | - | | |
| **Contact:** | | | Phil Rushton  SG2 Chairman | | E-mail: [philrushton@rcc-uk.uk](mailto:philrushton@rcc-uk.uk) |
| **Contact:** | | | Einar Bohlin WP1/2 Chairman | | E-mail: [einarb@arin.net](mailto:einarb@arin.net) |
| **Contact:** | | | WANG Zhili  WP1/2 Chairman | | Tel: +86 10 61198090 ext. 8726  Fax: +86 10 6228 3412  Email: [zlwang@bupt.edu.cn](mailto:zlwang@bupt.edu.cn) |

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| --- | --- |
| **Keywords:** | Standardization strategy; hot topics; status; CTO meeting; CxO meeting. |
| **Abstract:** | This liaison responds to TSAG regarding the requested review of the hot topics repository. |

ITU-T Study Group 2 (SG2) thanks TSAG for its liaison statement [TSAG-LS32](https://www.itu.int/ifa/t/2017/ls/tsag/sp16-tsag-oLS-00032.zip) ([SG2-TD1001](https://www.itu.int/md/T17-SG02-200527-TD-GEN-1001/en)) regarding the hot topics repository.

With respect to the requested review of this repository, SG2 has taken two positions. The work on NNAI (Naming, Numbering, Addressing, Identification and Service Provision) is relevant and timely, so it is not able to identify specific items that should be reported as “hot” (or “medium”, “cold”, or “dormant”) for TSAG’s attention.

For the work that includes telecommunication management and network and service operations, SG2 provides the attached updated table for your consideration.

SG2 will of course bring to TSAG’s attention any topics that would require TSAG action. TSAG may wish to consider such topics as “hot.”

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# Current summary list of Hot Topics with provisional RG-StdsStrat proposals

**Table 2 - Current summary list of Hot Topics**

| **#** | **Topic/Sub Topic** | **Source** | **ITU-T Topic Point of Contacts** | **Status** | **Temperature** |
| --- | --- | --- | --- | --- | --- |
| 1.00 | OTT Services and the economic impact, Cross-Industry (TSAG [TD101](https://www.itu.int/md/T17-TSAG-170501-TD-GEN-0101/en)) | CTO | **SG3 SG2 SG9 SG16 SG17** | No Change |  |
| 1.01 | The interplay of OTT service providers and operators particularly in developing countries |  |  |  |  |
| 1.02 | The economic impact of OTT services and operators |  |  |  |  |
| 1.03 | International standards frameworks, best practices and guidelines on OTT services |  |  |  |  |
| 2.00 | VoLTE/ViLTE interconnection and adoption of ENUM for IMS interconnection (TSAG [TD160](https://www.itu.int/md/T17-TSAG-180226-TD-GEN-0160/en)) | CxO | **SG11** in cooperation with SG2 | No Change |  |
| 3.00 | Intelligence for network automation, augmentation and amplification (TSAG [TD160](https://www.itu.int/md/T17-TSAG-180226-TD-GEN-0160/en)) | CxO | **SG13 SG9 SG20** | Updated |  |
| 3.01 | Identify the standardization needs for intelligence in 5G systems and the telecommunications sector |  |  |  |  |
| 3.03 | 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 |  |  |  |  |
| 3.04 | 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 |  |  |  |  |
| 3.05 | Usage of AI in security management solutions |  |  |  |  |
| 3.06 | Real-time network monitoring | CxO |  | Added |  |
| 3.07 | Automation informed by machine learning for network operation and maintenance | CxO |  | Added |  |
| 4.00 | Open APIs, enabling third parties to access and build on network capabilities to develop innovative, reusable services (TSAG [TD160](https://www.itu.int/md/T17-TSAG-180226-TD-GEN-0160/en)) | CxO | **SG13** **SG11** (Cooperating SG) **SG20** | Updated |  |
| 5.00 | Realizing 5G/IMT-2020 vision (TSAG [TD101](https://www.itu.int/md/T17-TSAG-170501-TD-GEN-0101/en), [TD160](https://www.itu.int/md/T17-TSAG-180226-TD-GEN-0160/en), [C27R2](https://www.itu.int/md/T17-TSAG-C-0027/en), [C29](https://www.itu.int/md/T17-TSAG-C-0029/en)) | CTO, CxO, Contributions | **SG13** in cooperation with SG2, 5, 11, 12, **15**, 16, 17, 20 | No Change |  |
| 5.01 | Unified access-independent network management |  |  |  |  |
| 5.02 | Standardization roadmap on IMT-2020 |  |  |  |  |
| 5.03 | ICN (Information Centric Networks) |  |  |  |  |
| 5.04 | Open-source software and standards for 5G |  |  |  |  |
| 5.05 | Software-based networking functions to optimize a per-session based performance |  |  |  |  |
| 5.06 | Emerging fronthaul and midhaul technologies to support the 5G deployment |  |  |  |  |
| 5.07 | Large-bandwidth backhaul and fronthaul solutions |  |  |  |  |
| 5.08 | Concrete strategies for the migration from 4G to 5G systems. |  |  |  |  |
| 5.09 | End-to-end network orchestration, control and management |  |  |  |  |
| 5.10 | Service-based network architecture |  |  |  |  |
| 5.11 | Open service management APIs for the Internet of Things |  |  |  |  |
| 5.12 | Electromagnetic field (EMF) studies around 5G beam-forming capabilities |  |  |  |  |
| 5.13 | Interoperability of services supporting public safety |  |  |  |  |
| 5.14 | Control and management protocols for IMT-2020 |  |  |  |  |
| 5.15 | Virtualized deployment of recommended methods for network performance, quality of service (QoS) and quality of experience assessment |  |  |  |  |
| 5.16 | End-to-end security and trust in 5G | CTO CxO |  | Added |  |
| 5.17 | Establish a 5G observatory to gain lessons from various technical developments and implementations of 5G technology, use cases and vertical experiments | CTO |  | Added |  |
| 5.18 | Develop guidance for operators on the business rationale for 5G deployment | CTO |  | Added |  |
| 5.19 | Standardization of open, interoperable RAN interfaces and RAN functional architecture” | CxO |  | Added |  |
| 6.00 | Gigabit-speed broadband access services and networks (TSAG [TD101](https://www.itu.int/md/T17-TSAG-170501-TD-GEN-0101/en)) | CTO | **SG15** SG9 | No Change |  |
| 6.01 | Support the delivery of high definition video services |  |  |  |  |
| 6.02 | Broadband access networks; G.fast, G.hn, VDSL2, NG-PON2 |  |  |  |  |
| 6.03 | True fixed-mobile convergence, hybrid fixed wireless |  |  |  |  |
| 7.00 | Data Center Interconnection for OTT and vertical industries (TSAG [C37](https://www.itu.int/md/T17-TSAG-C-0037/en)) | Contribution | **SG15 SG11** (Cooperating SG) SG9 | No Change |  |
| 7.01 | OTT’s business and services models in relation to telecom services |  |  |  |  |
| 7.02 | Requirements from OTT for DCI/metro network technologies (such as short distance, large bandwidth, low-cost optical (WDM) technology, fixed network), and standards |  |  |  |  |
| 8.00 | Augmented reality & virtual reality, video services (TSAG [C6](https://www.itu.int/md/T17-TSAG-C-0006/en), [TD101](https://www.itu.int/md/T17-TSAG-170501-TD-GEN-0101/en)) | Contribution, CTO | **SG16 SG12[[1]](#footnote-1) SG11** (Cooperating SG) | Updated |  |
| 8.01 | Applications with high network requirements in throughput and latency |  |  |  |  |
| 8.02 | A range of innovative technologies in transport, IP and access networking, media coding and cloud and edge computing |  |  |  |  |
| 8.03 | NG video codec standardization on 5G and vertical industries |  |  |  |  |
| 8.04 | Future Content Delivery Network (CDN) technologies standards. |  |  |  |  |
| 8.05 | Immersive live experience (ILE) |  |  |  |  |
| 8.06 | Digital signage |  |  |  |  |
| 9.00 | Accessibility by design mainstreaming the consideration of needs of persons with disabilities and other persons with specific needs to build inclusive ICT solutions (TSAG [TD160](https://www.itu.int/md/T17-TSAG-180226-TD-GEN-0160/en)) | CxO | **SG16 SG2 SG20** | Updated |  |
| 10.00 | Security and Trust (TSAG [TD101](https://www.itu.int/md/T17-TSAG-180226-TD-GEN-0101/en), [TD160](https://www.itu.int/md/T17-TSAG-180226-TD-GEN-0160/en)) | CTO, CxO | **SG2 SG17** | Updated |  |
| 10.01 | Principles of transparency and technological integrity |  |  |  |  |
| 10.02 | Mitigation of the risks posed by IoT botnets |  |  |  |  |
| 10.03 | Assessment of the impact of quantum computing |  |  |  |  |
| 10.04 | Potential of blockchain and its implications for security |  |  |  |  |
| 10.05 | Data-centric security |  |  |  |  |
| 10.06 | Security and privacy by design, considering security and privacy from the outset of ICT services’s development through the proactive monitoring and protection of live services |  |  |  |  |
| 10.07 | Security, privacy and trust in the presence of AI and ML |  |  |  |  |
| 10.08 | Application security and quantum-safe cryptography through an incubation process |  |  |  |  |
| 10.09 | Identity and authorization, providing for the reliable identification essential to secure, efficient service provision |  |  |  |  |
| 10.10 | Security and privacy of human factor (intersection of computer science and the humanities) |  |  | Updated |  |
| 10.11 | Security of Robotics/IoT |  |  |  |  |
| 10.12 | Cybersecurity Services |  |  |  |  |
| 10.13 | Technical aspects of Cybersecurity Insurance |  |  | Proposed New |  |
| 10.14 | Edge Cloud Security |  |  | Proposed New |  |
| 11.00 | Analytics, supporting the development of evidence-based, data driven services (TSAG [TD160](https://www.itu.int/md/T17-TSAG-180226-TD-GEN-0160/en)) | CxO | **SG20 SG17** | No Change |  |
| 11.01 | Data processing and management for IoT and SC&C |  |  |  |  |
| 11.02 | Common things description methodology |  |  |  |  |
| 11.03 | Interoperability framework and functional architecture for IoT and SC&C |  |  |  |  |
| 11.04 | Industry dependent data models and formats to support development of data driven IoT and SC&C services |  |  |  |  |
| 11.05 | Features, requirements, framework and functional architecture of IoT device, gateway, platform, network |  |  |  |  |
| 11.06 | Edge Computing to support evidence-based, data driven IoT and SC&C services |  |  |  |  |
| 11.07 | Distributed ledger technologies for IoT and SC&C |  |  |  |  |
| 11.08 | IoT identification to support evidence-based data driven IoT and SC&C services |  |  |  |  |
| 11.09 | AI enabled IoT and SC&C |  |  |  |  |
| 11.10 | Data driven IoT verticals |  |  |  |  |
| 11.11 | Data Security |  |  |  |  |
| 12.00 | Intelligent network management towards future networks (TSAG [TD344](https://www.itu.int/md/T17-TSAG-181210-TD-GEN-0344/en)) | SG2 | **SG2** | Added | Hot |
| 12.01 | Smart operation, management and maintenance. |  |  |  |  |
| 12.02 | Telecom anti-fraud management |  |  |  |  |
| 12.03 | REST-based network management framework |  |  |  |  |
| 12.04 | Block-chain system management |  |  |  |  |
| 13.00 | Environmental efficiency of emerging technologies (TSAG [TD374](https://www.itu.int/md/T17-TSAG-181210-TD-GEN-0374/en)) | SG5 | **SG5** | No Change |  |
| 13.01 | Assessment of the environmental impacts of deploying and implementing AI, Blockchain, and other emerging technologies |  |  |  |  |
| 14.00 | Digital health (TSAG [TD347](https://www.itu.int/md/T17-TSAG-181210-TD-GEN-0347/en)) | SG16 | **SG16 SG20** | Updated |  |
| 15.00 | Quantum based Security[[2]](#footnote-2) (TSAG [TD362](https://www.itu.int/md/T17-TSAG-181210-TD-GEN-0362/en)) | SG17 | **SG17 SG13** | Updated |  |
| 16.00 | Assessment and evaluation of smart city and IoT verticals (e.g. detailed mobility, detailed energy management, detailed water management, etc.) (TSAG [TD533](https://www.itu.int/md/T17-TSAG-190923-TD-GEN-0533/en)) | SG20 | **SG20** | Added |  |
| 17.00 | Solutions in smart sustainable cities using emerging technologies (e.g. IoT, AI, etc.) (TSAG [TD533](https://www.itu.int/md/T17-TSAG-190923-TD-GEN-0533/en)) | SG20 | **SG20** | Added |  |
| 18.00 | Smart villages and rural areas (TSAG [TD533](https://www.itu.int/md/T17-TSAG-190923-TD-GEN-0533/en)) | SG20 | **SG20** | Added |  |
| 19.00 | Identify scenarios and best practices for Network infrastructure sharing (TSAG [TD582](https://www.itu.int/md/T17-TSAG-190923-TD-GEN-0582/en), [TD661](https://www.itu.int/md/T17-TSAG-200210-TD-GEN-0661/en)) | CTO, CxO | **SG2, SG3, SG13, SG15** | Added |  |
| 20.00 | Performance, QoS and QoE assessment | CTO | **SG12, SG16, FG-AI4AD** | Added |  |
| 20.01 | Real-time monitoring of network performance | CTO | **SG12, SG16, FG-AI4AD** | Added |  |
| 20.02 | Network performance prediction | CTO | **SG12, SG16, FG-AI4AD** | Added |  |
| 20.03 | Compliance, conformance and quality testing for Intelligent Transport Systems | CxO | **SG12, SG16, FG-AI4AD** | Added |  |
| 20.04 | Measurement of user-perceived QoS | CxO | **SG12, SG16, FG-AI4AD** | Added |  |

# Hot Topics detailed updated list

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| --- | --- | --- | --- |
| **12.00** | **Intelligent network management towards future networks** | | **SG2** |
| **Description** | | | |
| 12.01 | Smart operation, management and maintenance. | | |
| 12.02 | Telecom anti-fraud management | | |
| 12.03 | REST-based network management framework | | |
| 12.04 | Blockchain system management | | |
| **Source Type** | SG2 | **Date of Entry** |  |
| **Source References** | TSAG [TD344](https://www.itu.int/md/T17-TSAG-181210-TD-GEN-0344/en) | **Date of Update** |  |
| **Status** | Active | **Global Measurement** |  |
| **Comments** | | | |

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| --- | --- | --- |
| **Transaction Update Table** | | |
| TSAG Meeting Date: December 2018, September 2019 | | |
| SG2 (TD344) ([TD515](https://www.itu.int/md/T17-TSAG-190923-TD-GEN-0515/en)) | Work Program | M.3041 (ex. M.somm): Framework of smart operation, management and maintenance.  M.3040 (ex. M.tsm): Principles for telecommunications smart maintenance.  M.3364 (ex. M.rtsmf): Requirements for telecommunications smart maintenance management functions  M.3164 (ex. M.tsm-gim): Generic information model for telecommunications smart maintenance  M. M.rdm: Requirements for Data Management in the TMN  M.3362 (M.rtafm): Requirements for Telecom anti-Fraud Management in the TMN.  X.785 (ex. X.rest): Guidelines for the definition of REST-based managed objects and management interface  Q.rest: REST-based management services  M.rcsnsm: Requirements for synergy management of cloud and SDN-based networks ([SG2-TD-673-R1](https://www.itu.int/md/T17-SG02-190219-TD-GEN-0673)).  [M.rrsp](http://www.itu.int/itu-t/workprog/wp_item.aspx?isn=16433" \o "See more details): Requirements for robot-based on-site smart patrol of telecommunication network  [M.AI-TOM](http://www.itu.int/itu-t/workprog/wp_item.aspx?isn=16432" \o "See more details): Framework of AI enhanced Telecom Operation and Management (AITOM)  [M.resm-AI](http://www.itu.int/itu-t/workprog/wp_item.aspx?isn=16435" \o "See more details): Requirements for energy saving management of 5G RAN system with AI  M.rwop-AI: Requirements for work orders processing in Telecom Management with AI  X.rest-ics: Guidelines for implementation conformance statement proformas associated with REST-based management systems  [M.rmbs](http://www.itu.int/itu-t/workprog/wp_item.aspx?isn=16434" \o "See more details): Requirements for management of blockchain system  [M.immbs](http://www.itu.int/itu-t/workprog/wp_item.aspx?isn=16442" \o "See more details): Information model for management of blockchain system |

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1. It is necessary to include SG12 as a cooperating group for AR/VR and Video topic [↑](#footnote-ref-1)
2. The long text in the initial TD606R1 is pushed in the detailed description of this Hot Topics [↑](#footnote-ref-2)