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| **TSAG** | |
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| **TD** | | | | | |
| **Source:** | | | TSB | | |
| **Title:** | | | Analysis of the operational parts (resolves, instructs etc) of WTSA/PP/WTDC/RA/Council Resolutions in terms of giving specific mandates and tasks to ITU-T study groups and TSAG and their potential for streamlining | | |
| **Purpose:** | | | Information, Discussion | | |
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| **Keywords:** | Resolutions; streamlining; study group mandates; WTSA Resolution 2. |
| **Abstract:** | This TD analyses the operational parts (resolves, instructs etc) of WTSA/PP/WTDC/RA/Council Resolutions in terms of giving specific mandates and tasks to   * dedicated ITU-T study groups; * unspecified ITU-T study groups having various tasks and; * TSAG.   and identifies various opportunities for streamlining-by-restructuring resolutions. |
| **Action** | TSAG RG-ResReview (and if so necessary also TSAG-RG-WP, and TSAG-RG-WM) to discuss and to take into account for the further work. |

**Introduction**

In preparation of WTSA-20, and the objective to define clear mandates of ITU-T study groups in WTSA-20 Resolution 2 (in Annex A Part I of Res.2), including definition of lead study group roles (in Annex A Part 2 of Res.2), and the points of guidance for the study groups (in Annex B of Res.2), this document identifies specific mandates given to the ITU-T study groups and to TSAG through various operational elements found throughout the WTSA/PP/WTDC/RA/Council Resolutions.

This exercise is to help members to sharpen the demarcation lines between the mandates of the ITU-T study groups, to reduce the risk of potential overlap; and to enable better coordination on areas of common interest.

It is also observed that it can be deemed confusing not only to ITU-T members but also to non-members outside ITU-T to find the study group mandates and Question tasks in one place, but at the same time related and very specific mandates and tasks are scattered across various WTSA Resolutions; yielding a fairly complex picture and resulting in difficulties to obtain a concise and transparent overview of what each of the Study Groups are or will be doing.

This TD analyses the operational parts (resolves, instructs etc) of WTSA/PP/WTDC/RA/Council Resolutions in terms of giving specific mandates and tasks to

* dedicated ITU-T study groups;
* unspecified ITU-T study groups having various tasks and;
* TSAG.

The results of the analysis are presented in 13 tables:

* Table 1: *resolves, instructs* in operational parts of WTSA Resolutions assigned to ITU-T study groups;
* Table 2: *resolves, instructs* in operational parts of WTSA Resolutions assigned to unspecified ITU-T study groups; i.e. study groups concerned; relevant study groups;
* Table 3: *resolves, instructs* in operational parts of WTSA Resolutions assigned to TSAG.
* Table 4: *resolves* in operational parts of Plenipotentiary Conference Resolutions assigned to ITU-T study groups;
* Table 5: *requests*, *resolves, instructs* in operational parts of Plenipotentiary Conference Resolutions assigned to unspecified ITU-T study groups;
* Table 6: *resolves, invites* in operational parts of Plenipotentiary Conference Resolutions assigned to TSAG;
* Table 7: *resolves* in operational parts of WTDC Resolutions assigned to ITU-T study groups;
* Table 8: *resolves, instructs* in operational parts of WTDC Resolutions assigned to unspecified ITU-T study groups;
* Table 9: **–** *resolves, invites* in operational parts of RA Resolutions assigned to unspecified ITU-T study groups;
* Table 10: *resolves* in operational parts of RA Resolutions assigned to TSAG;
* Table 11: Operational parts of Council Resolutions assigned to ITU-T study groups;
* Table 12: *resolves* in operational parts of Council Resolutions assigned to unspecified ITU-T study groups;
* Table 13: Operational parts of Council Decision assigned to TSAG.

**Conclusions**

This TD has analysed the WTSA/PP/WTDC/RA/Council Resolutions and their potential for streamlining-by-restructuring mandates and tasks found in the operational parts, with the opportunity to consider streamlining those operational elements assigned to ITU-T study groups into WTSA Resolution 2 (or into the Question texts). When so done, mandates of the study groups could become more concise and better structured; with the additional opportunity to streamline-by-shortening the operational provisions in the WTSA Resolutions.

This document also identified opportunities for the various mandates in the operational parts assigned to unspecified study groups, and to make them specific (if so feasible) to certain study groups, i.e. by trying to define which study groups are relevant or concerned or applicable, and thereby, yielding more clarity. Additionally, streamlining those elements into Resolution 2 (or into the Question texts) could be considered.

This TD also identified various operational provisions in WTSA/PP/WTDC/RA/Council Resolutions assigned to TSAG. Opportunities could be considered to streamline them into WTSA Resolution 1 Section 4 (Telecommunication Standardization Advisory Group), or into WTSA Resolution 22; so as to consolidate the mandates and tasks of TSAG in fewer places.

Finally, the document identified in PP, WTDC, RA and Council Resolutions operational elements that reference work of ITU-T study groups, the ITU-T Sector, or TSAG.

TSAG RG-ResReview is invited to consider this analysis for its work; and to invite further contributions with proposals on streamlining of Resolutions.

**Reference:**

* PROCEEDINGS OF THE WORLD TELECOMMUNICATION STANDARDIZATION ASSEMBLY; Hammamet, Tunisia, 25 October – 3 November 2016.
* FINAL ACTS OF THE PLENIPOTENTIARY CONFERENCE (Dubai, 2018).
* Final Report World Telecommunication Development Conference (WTDC-17), Buenos Aires, Argentina, 9-20 October 2017.
* ITU-R Resolutions.
* Resolutions and Decisions of the Council (2019).

**Table 1 – *resolves, instructs* in operational parts of WTSA Resolutions assigned to ITU-T study groups**

| **ITU-T Study Group** | **WTSA Resolution**  **WTSA Resolution Title** | ***resolves, instructs* in operational part of WTSA Resolution** |
| --- | --- | --- |
| ITU-T SG2 | RESOLUTION 20 (Rev. Hammamet, 2016)  Procedures for allocation and management of international telecommunication numbering, naming, addressing and identification resources | resolves to instruct  2 Study Group 2, in liaison with 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;  5 Study Group 2 to continue to study necessary action to ensure that the sovereignty of ITU Member States with regard to country-code NNAI plans is fully maintained, including ENUM, as enshrined in Recommendation ITU‑T E.164 and other relevant Recommendations and procedures; this shall cover ways and means to address and counter any misuse of any international telecommunication NNAI resources. |
| RESOLUTION 29 (Rev. Hammamet, 2016)  Alternative calling procedures on international telecommunication networks | resolves  4 to instruct ITU-T Study Group 2 to study other aspects and forms of alternative calling procedures, including those associated with the interworking of legacy and IP-based infrastructures, and the consequent instances of hindrance, obscuring or spoofing of OI or CLI information, and the evolution of alternative calling procedures, including the use of over-the-top telephone applications that use telephone numbers, that may give rise to instances of fraudulent practices, and to develop appropriate Recommendations and guidelines; |
| ATTACHMENT  (to Resolution 29 (Rev. Hammamet, 2016))  Suggested guidelines for administrations and international telecommunication operators or operating agencies authorized by Member States for consultation on alternative calling procedures | NOTE 2 – All forms of ACP should be defined by ITU‑T Study Group 2 and documented in the appropriate ITU‑T Recommendation (e.g. call-back, over-the-top, refiling, etc.). |
| RESOLUTION 47 (Rev. Dubai, 2012)  Country code top-level domain names | 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, |
| RESOLUTION 49 (Rev. Hammamet, 2016)  ENUM | resolves to instruct Study Group 2 of the ITU Telecommunication Standardization Sector  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, |
| RESOLUTION 60 (Rev. Dubai, 2012)  Responding to the challenges of the evolution of the identification/numbering system and its convergence with IP-based systems/networks | 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, |
| RESOLUTION 61 (Rev. Dubai, 2012)  Countering and combating misappropriation and misuse of international telecommunication numbering resources | resolves further  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; |
| RESOLUTION 64 (Rev. Hammamet, 2016)  Internet protocol address allocation and facilitating the transition to and deployment of IPv6 | resolves  1 to instruct ITU‑T Study Groups 2 and 3, each according to its mandate, to continue to study the allocation 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 analyse statistics for the purpose of assessing the pace and geography of IPv6 address allocation and registration for interested members and, especially, developing countries, in collaboration with all relevant stakeholders; |
| RESOLUTION 65 (Rev. Hammamet, 2016)  Calling party number delivery, calling line identification and origin identification information | instructs  1 ITU‑T Study Group 2, ITU‑T Study Group 3 and, where required, ITU‑T Study Group 11 and ITU‑T Study Group 17 to further study the emerging issues of CPN delivery, CLI and OI information, in particular for a heterogeneous networking environment, including security methods and possible validation techniques;  2 the study groups concerned to expedite work on Recommendations that would provide additional detail and guidance for the implementation of this resolution; |
| RESOLUTION 84 (Hammamet, 2016)  Studies concerning the protection of users of telecommunication/information and communication technology services | resolves  3 that ITU‑T Study Group 3, where appropriate with ITU‑T Study Groups 2, 12 and 17, within their mandates, should carry out studies, including on standards for the protection of consumers and users of telecommunication/ICT services, |
| RESOLUTION 89 (Hammamet, 2016)  Promoting the use of information and communication technologies to bridge the financial inclusion gap | resolves  1 to continue and further develop the ITU‑T work programme, including the ongoing work in Study Groups 2 and 3, in order to contribute to the wider global efforts to enhance financial inclusion, as part of the United Nations processes; |
| RESOLUTION 91 (Hammamet, 2016)  Enhancing access to an electronic repository of information on numbering plans published by the ITU Telecommunication Standardization Sector | resolves to instruct Study Group 2 of the ITU Telecommunication Standardization Sector  to study this matter on the basis of contributions received and information from TSB and to organize the necessary work in order to determine the requirements for electronic access to a repository of numbering resources reserved, assigned or allocated to each operator/service provider (to the extent available) within every country, including presentation of E.164 national numbering plans on the basis of Recommendation ITU‑T E.129, and international numbering resources assigned by the Director of TSB, |
| RESOLUTION 93 (Hammamet, 2016)  Interconnection of 4G, IMT-2020 networks and beyond | further instructs Study Group 2  to develop ITU‑T Recommendations which specify the ENUM architecture to be used for interconnection of 4G, IMT-2020 networks and beyond, including administrative control that could relate to the international telecommunication resources (including naming, numbering, addressing and routing), |
| ITU-T SG3 | RESOLUTION 29 (Rev. Hammamet, 2016)  Alternative calling procedures on international telecommunication networks | resolves  5 to instruct ITU‑T Study Group 3 to study the economic effects of alternative calling procedures, origin non-identification or spoofing and over-the-top telephone applications, on the efforts of developing countries for sound development of their local telecommunication networks and services, and to develop appropriate Recommendations and guidelines; |
| RESOLUTION 61 (Rev. Dubai, 2012)  Countering and combating misappropriation and misuse of international telecommunication numbering resources | resolves further  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. |
| RESOLUTION 62 (Rev. Dubai, 2012)  Dispute settlement | 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, |
| RESOLUTION 64 (Rev. Hammamet, 2016)  Internet protocol address allocation and facilitating the transition to and deployment of IPv6 | resolves  1 to instruct ITU‑T Study Groups 2 and 3, each according to its mandate, to continue to study the allocation 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 analyse statistics for the purpose of assessing the pace and geography of IPv6 address allocation and registration for interested members and, especially, developing countries, in collaboration with all relevant stakeholders; |
| RESOLUTION 65 (Rev. Hammamet, 2016)  Calling party number delivery, calling line identification and origin identification information | instructs  1 ITU‑T Study Group 2, ITU‑T Study Group 3 and, where required, ITU‑T Study Group 11 and ITU‑T Study Group 17 to further study the emerging issues of CPN delivery, CLI and OI information, in particular for a heterogeneous networking environment, including security methods and possible validation techniques; |
| RESOLUTION 84 (Hammamet, 2016)  Studies concerning the protection of users of telecommunication/information and communication technology services | resolves  3 that ITU‑T Study Group 3, where appropriate with ITU‑T Study Groups 2, 12 and 17, within their mandates, should carry out studies, including on standards for the protection of consumers and users of telecommunication/ICT services, |
| RESOLUTION 88 (Hammamet, 2016)  International mobile roaming | resolves  that ITU‑T Study Group 3 must continue to study the economic effects of IMR rates, |
| RESOLUTION 89 (Hammamet, 2016)  Promoting the use of information and communication technologies to bridge the financial inclusion gap | resolves  1 to continue and further develop the ITU‑T work programme, including the ongoing work in Study Groups 2 and 3, in order to contribute to the wider global efforts to enhance financial inclusion, as part of the United Nations processes; |
| ITU-T SG5 | RESOLUTION 72 (Rev. Hammamet, 2016)  Measurement and assessment concerns related to human exposure to electromagnetic fields | 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) publishing and disseminating its technical reports, as well as developing ITU‑T Recommendations to address these issues;  ii) developing, promoting and disseminating information and training resources related to this topic through the organization of training programmes, workshops, forums and seminars for regulators, operators and any interested stakeholders from developing countries;  iii) 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 installations and terminals;  iv) cooperating on these issues with ITU‑R Study Groups 1 and 6, and with Study Group 2 of the ITU Telecommunication Development Sector (ITU‑D) in the framework of ITU‑D Question 7/2;  v) strengthening coordination and cooperation with WHO in the EMF project so that any publications relating to human exposure to EMF are circulated to Member States as soon as they are issued, |
| RESOLUTION 79 (Dubai, 2012)  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 | 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, |
| ITU-T SG9 |  |  |
| ITU-T SG11 | RESOLUTION 65 (Rev. Hammamet, 2016)  Calling party number delivery, calling line identification and origin identification information | instructs  1 ITU‑T Study Group 2, ITU‑T Study Group 3 and, where required, ITU‑T Study Group 11 and ITU‑T Study Group 17 to further study the emerging issues of CPN delivery, CLI and OI information, in particular for a heterogeneous networking environment, including security methods and possible validation techniques; |
| RESOLUTION 76 (Rev. Hammamet, 2016)  Studies related to conformance and interoperability testing, assistance to developing countries, and a possible future ITU Mark programme | resolves  1 to invite ITU‑T study groups to continue working on the pilot projects for conformity to ITU‑T Recommendations and continue developing the necessary C&I testing Recommendations for telecommunication equipment as quickly as possible;  2 that ITU‑T Study Group 11 coordinates the Sector's activities related to the ITU C&I programme across all study groups;  3 that ITU‑T Study Group 11 continues to undertake activities within the C&I programme, including pilot projects on conformance/interoperability testing;  instructs the ITU Telecommunication Standardization Sector Conformity Assessment Steering Committee  to study and define a procedure to recognize testing laboratories that are competent to test according to ITU‑T Recommendations, in collaboration with existing certification schemes such as that of IEC, |
| RESOLUTION 78 (Rev. Hammamet, 2016)  Information and communication technology applications and standards for improved access to e-health services | instructs Study Groups 16 and 20 of the ITU Telecommunication Standardization Sector, each according to its mandate, in collaboration with the relevant study groups, particularly Study Groups 11 and 17 of the ITU Telecommunication Standardization Sector  1 to identify and document examples of best practice for e-health in the field of telecommunications/ICT, for dissemination among ITU Member States and Sector Members;  2 to coordinate activities and studies relating to e-health among the relevant study groups, focus groups and other relevant groups in ITU‑T, the ITU Radiocommunication Sector (ITU‑R) and ITU‑D, in order in particular to foster awareness of telecommunication/ICT standards pertaining to e-health;  3 for ensuring the broad deployment of e-health services in diverse operating conditions, to study communication protocols relating to e-health, especially among heterogeneous networks;  4 within the current mandate of the ITU‑T study groups, to give priority to the study of security standards (e.g. for communications, services, network aspects and service scenarios for databases and record handling, identification, integrity and authentication) relating to e-health, taking into account recognizing d), |
| RESOLUTION 92 (Hammamet, 2016)  Enhancing the standardization activities in the ITU Telecommunication Standardization Sector related to non-radio aspects of international mobile telecommunications | instructs Study Group 11  to promote the studies on standardization activities related to the non-radio aspects of IMT signalling, protocol and testing, |
| RESOLUTION 93 (Hammamet, 2016)  Interconnection of 4G, IMT-2020 networks and beyond | further instructs Study Group 11  to develop ITU‑T Recommendations which specify the framework and signalling architectures to be used for establishing interconnection of 4G, IMT-2020 networks and beyond to achieve interoperability worldwide |
| RESOLUTION 96 (Hammamet, 2016)  ITU Telecommunication Standardization Sector studies for combating counterfeit telecommunication/information and communication technology devices | resolves  2 that Study Group 11 should be the lead study group in the area of combating counterfeit and tampered telecommunication/ICT devices,  instructs Study Group 11 of the ITU Telecommunication Standardization Sector, in collaboration with other study groups concerned  1 to continue developing Recommendations, technical reports and guidelines to address the problem of counterfeit and tampered ICT equipment and to support the Member States in anti-counterfeiting activities;  2 to collect, analyse and exchange information about counterfeiting and tampering practices in the ICT sector, and how ICTs could be used as a tool to combat them;  3 to study existing as well as new reliable, unique, persistent and secure identifiers, in collaboration with ITU‑T Study Groups 2, 17 and 20, that have the potential to be used in combating counterfeit and tampered products and telecommunication/ICT devices, including their scope of application and level of security in the context of their possible duplication/cloning;  4 to develop methods of assessing and verifying identifiers used for purposes of combating counterfeit production;  5 with the involvement of relevant standardization organizations, to develop mechanisms as appropriate for identifying counterfeit production, by means of unique identifiers that are resistant to duplication and respond to confidentiality/security requirements;  6 to study possible solutions, including frameworks to discover identity management information, that could support combating of counterfeit and tampered telecommunication/ICT devices;  7 to identify a list of technologies/products, used for testing conformance with ITU‑T Recommendations, in order to help in efforts to combat counterfeit ICT production, |
| RESOLUTION 97 (Hammamet, 2016)  Combating mobile telecommunication device theft | resolves  3 that ITU-Т Study Group 11 should be the lead study group at ITU‑T on activities relating to combating mobile telecommunication device theft,  instructs Study Groups 11 and 17 of the ITU Telecommunication Standardization Sector, within their mandates and in collaboration with other interested study groups  1 to develop Recommendations, technical reports and guidelines to address the problem of mobile telecommunication device theft and its negative effects;  2 to study any possible solutions to combat the use of stolen mobile telecommunication devices with tampered (changed without authorization) identities and to prevent them from accessing the mobile network;  3 to study any technologies that can be used as a tool for combating mobile telecommunication device theft;  4 to draw up a list of identifiers used in mobile telecommunication/ICT devices, |
| ITU-T SG12 | RESOLUTION 29 (Rev. Hammamet, 2016)  Alternative calling procedures on international telecommunication networks | resolves  6 to instruct ITU‑T Study Group 12 to develop guidelines regarding the minimum QoS and QoE threshold to be fulfilled during the use of alternative calling procedures, |
| RESOLUTION 84 (Hammamet, 2016)  Studies concerning the protection of users of telecommunication/information and communication technology services | resolves  3 that ITU‑T Study Group 3, where appropriate with ITU‑T Study Groups 2, 12 and 17, within their mandates, should carry out studies, including on standards for the protection of consumers and users of telecommunication/ICT services, |
| RESOLUTION 92 (Hammamet, 2016)  Enhancing the standardization activities in the ITU Telecommunication Standardization Sector related to non-radio aspects of international mobile telecommunications | instructs ITU‑T Study Group 12  to promote the studies on standardization activities related to the non-radio aspects of IMT service, QoS and quality of experience (QoE), |
| ITU-T SG13 | RESOLUTION 60 (Rev. Dubai, 2012)  Responding to the challenges of the evolution of the identification/numbering system and its convergence with IP-based systems/networks | 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, |
| RESOLUTION 77 (Rev. Hammamet, 2016)  Enhancing the standardization work in the ITU Telecommunication Standardization Sector for software-defined networking | instructs Study Group 13  to continue the JCA-SDN work, to coordinate and help plan the work so as to ensure that ITU‑T SDN standardization is progressed in a well-coordinated manner and more efficiently among relevant study groups, to study the SDN-related work programmes (including NFV, programmable networks and network as a service) in ITU‑T study groups, as well as in other SDOs, forums and consortia, for use in its coordination function, and to provide information on this work for use by the relevant study groups in planning their work, |
| RESOLUTION 92 (Hammamet, 2016)  Enhancing the standardization activities in the ITU Telecommunication Standardization Sector related to non-radio aspects of international mobile telecommunications | instructs Study Group 13  1 to maintain the roadmap of IMT standardization activities in ITU‑T, which should include work items to progress standardization work related to the non-radio side of IMT, and share this with relevant groups of ITU‑R and ITU‑D as the mission of the lead group for IMT (especially IMT-2020);  2 to promote the studies on network requirements and architecture, network softwarization, network slicing, network capability openness, network management and orchestration, fixed-mobile convergence and emerging network technology (such as ICN, etc.);  3 to establish the Joint Coordination Activity for IMT-2020 (JCA IMT-2020) and coordinate the standardization activities of IMT (especially IMT-2020) among all relevant study groups and focus groups and other SDOs, |
| RESOLUTION 94 (Hammamet, 2016)  Standardization work in the ITU Telecommunication Standardization Sector for cloud based event data technology | resolves to instruct Study Groups 13, 16, 17 and 20 of the ITU Telecommunication Standardization Sector  1 to evaluate existing, evolving and new Recommendations with respect to cloud-based event data technology;  2 to make recommendations to the Telecommunication Standardization Advisory Group on how to address the topics that are outside the mandate of the study groups, |
| ITU-T SG15 | RESOLUTION 92 (Hammamet, 2016)  Enhancing the standardization activities in the ITU Telecommunication Standardization Sector related to non-radio aspects of international mobile telecommunications | instructs Study Group 15  to promote the studies on IMT's fronthaul and backhaul network standardization activities, which should establish the necessary structure and work items to progress the standards work on fronthaul/backhaul network requirements, architecture, function and performance, management and control, synchronization, etc., for IMT-2020, |
| ITU-T SG16 | RESOLUTION 48 (Rev. Dubai, 2012)  Internationalized (multilingual) domain names | 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, |
| RESOLUTION 70 (Rev. Hammamet, 2016)  Telecommunication/information and communication technology accessibility for persons with disabilities and persons with specific needs | resolves  1 that ITU‑T Study Group 16 shall continue giving high priority to work on the relevant Questions, Recommendation ITU‑T F.790, the guide for ITU‑T study groups on telecommunication accessibility guidelines for older persons and persons with disabilities, and Recommendation ITU‑T F.791, on accessibility terms and definitions; |
| RESOLUTION 78 (Rev. Hammamet, 2016)  Information and communication technology applications and standards for improved access to e-health services | instructs Study Groups 16 and 20 of the ITU Telecommunication Standardization Sector, each according to its mandate, in collaboration with the relevant study groups, particularly Study Groups 11 and 17 of the ITU Telecommunication Standardization Sector  1 to identify and document examples of best practice for e-health in the field of telecommunications/ICT, for dissemination among ITU Member States and Sector Members;  2 to coordinate activities and studies relating to e-health among the relevant study groups, focus groups and other relevant groups in ITU‑T, the ITU Radiocommunication Sector (ITU‑R) and ITU‑D, in order in particular to foster awareness of telecommunication/ICT standards pertaining to e-health;  3 for ensuring the broad deployment of e-health services in diverse operating conditions, to study communication protocols relating to e-health, especially among heterogeneous networks;  4 within the current mandate of the ITU‑T study groups, to give priority to the study of security standards (e.g. for communications, services, network aspects and service scenarios for databases and record handling, identification, integrity and authentication) relating to e-health, taking into account *recognizing d),* |
| RESOLUTION 94 (Hammamet, 2016)  Standardization work in the ITU Telecommunication Standardization Sector for cloud based event data technology | resolves to instruct Study Groups 13, 16, 17 and 20 of the ITU Telecommunication Standardization Sector  1 to evaluate existing, evolving and new Recommendations with respect to cloud-based event data technology;  2 to make recommendations to the Telecommunication Standardization Advisory Group on how to address the topics that are outside the mandate of the study groups, |
| ITU-T SG17 | RESOLUTION 50 (Rev. Hammamet, 2016)  Cybersecurity | resolves  7 that Study Group 17, in close collaboration with all other ITU‑T study groups, establish an action plan to assess existing, evolving and new ITU‑T Recommendations to counter security vulnerabilities, and continue to provide regular reports on security of telecommunications/ICT to the Telecommunication Standardization Advisory Group (TSAG); |
| RESOLUTION 52 (Rev. Hammamet, 2016)  Countering and combating spam | further instructs Study Group 17 of the ITU Telecommunication Standardization Sector  1 to report regularly to the Telecommunication Standardization Advisory Group on progress under this resolution;  2 to support ITU‑D Study Group 2 on countering and combating spam in its work providing technical training sessions and workshop activities in different regions related to spam policy, regulatory and economic issues and their impact;  3 to continue its work on developing Recommendations, technical papers and other related publications, |
| RESOLUTION 65 (Rev. Hammamet, 2016)  Calling party number delivery, calling line identification and origin identification information | instructs  1 ITU‑T Study Group 2, ITU‑T Study Group 3 and, where required, ITU‑T Study Group 11 and ITU‑T Study Group 17 to further study the emerging issues of CPN delivery, CLI and OI information, in particular for a heterogeneous networking environment, including security methods and possible validation techniques; |
| RESOLUTION 78 (Rev. Hammamet, 2016)  Information and communication technology applications and standards for improved access to e-health services | instructs Study Groups 16 and 20 of the ITU Telecommunication Standardization Sector, each according to its mandate, in collaboration with the relevant study groups, particularly Study Groups 11 and 17 of the ITU Telecommunication Standardization Sector  1 to identify and document examples of best practice for e-health in the field of telecommunications/ICT, for dissemination among ITU Member States and Sector Members;  2 to coordinate activities and studies relating to e-health among the relevant study groups, focus groups and other relevant groups in ITU‑T, the ITU Radiocommunication Sector (ITU‑R) and ITU‑D, in order in particular to foster awareness of telecommunication/ICT standards pertaining to e-health;  3 for ensuring the broad deployment of e-health services in diverse operating conditions, to study communication protocols relating to e-health, especially among heterogeneous networks;  4 within the current mandate of the ITU‑T study groups, to give priority to the study of security standards (e.g. for communications, services, network aspects and service scenarios for databases and record handling, identification, integrity and authentication) relating to e-health, taking into account *recognizing d),* |
| RESOLUTION 84 (Hammamet, 2016)  Studies concerning the protection of users of telecommunication/information and communication technology services | resolves  3 that ITU‑T Study Group 3, where appropriate with ITU‑T Study Groups 2, 12 and 17, within their mandates, should carry out studies, including on standards for the protection of consumers and users of telecommunication/ICT services, |
| RESOLUTION 92 (Hammamet, 2016)  Enhancing the standardization activities in the ITU Telecommunication Standardization Sector related to non-radio aspects of international mobile telecommunications | instructs Study Group 17  to promote the studies on standardization activities related to IMT network and applications security, |
| RESOLUTION 94 (Hammamet, 2016)  Standardization work in the ITU Telecommunication Standardization Sector for cloud based event data technology | resolves to instruct Study Groups 13, 16, 17 and 20 of the ITU Telecommunication Standardization Sector  1 to evaluate existing, evolving and new Recommendations with respect to cloud-based event data technology;  2 to make recommendations to the Telecommunication Standardization Advisory Group on how to address the topics that are outside the mandate of the study groups, |
| RESOLUTION 97 (Hammamet, 2016)  Combating mobile telecommunication device theft | instructs Study Groups 11 and 17 of the ITU Telecommunication Standardization Sector, within their mandates and in collaboration with other interested study groups  1 to develop Recommendations, technical reports and guidelines to address the problem of mobile telecommunication device theft and its negative effects;  2 to study any possible solutions to combat the use of stolen mobile telecommunication devices with tampered (changed without authorization) identities and to prevent them from accessing the mobile network;  3 to study any technologies that can be used as a tool for combating mobile telecommunication device theft;  4 to draw up a list of identifiers used in mobile telecommunication/ICT devices, |
| ITU-T SG20 | RESOLUTION 78 (Rev. Hammamet, 2016)  Information and communication technology applications and standards for improved access to e-health services | instructs Study Groups 16 and 20 of the ITU Telecommunication Standardization Sector, each according to its mandate, in collaboration with the relevant study groups, particularly Study Groups 11 and 17 of the ITU Telecommunication Standardization Sector  1 to identify and document examples of best practice for e-health in the field of telecommunications/ICT, for dissemination among ITU Member States and Sector Members;  2 to coordinate activities and studies relating to e-health among the relevant study groups, focus groups and other relevant groups in ITU‑T, the ITU Radiocommunication Sector (ITU‑R) and ITU‑D, in order in particular to foster awareness of telecommunication/ICT standards pertaining to e-health;  3 for ensuring the broad deployment of e-health services in diverse operating conditions, to study communication protocols relating to e-health, especially among heterogeneous networks;  4 within the current mandate of the ITU‑T study groups, to give priority to the study of security standards (e.g. for communications, services, network aspects and service scenarios for databases and record handling, identification, integrity and authentication) relating to e-health, taking into account *recognizing d),* |
| RESOLUTION 94 (Hammamet, 2016)  Standardization work in the ITU Telecommunication Standardization Sector for cloud based event data technology | resolves to instruct Study Groups 13, 16, 17 and 20 of the ITU Telecommunication Standardization Sector  1 to evaluate existing, evolving and new Recommendations with respect to cloud-based event data technology;  2 to make recommendations to the Telecommunication Standardization Advisory Group on how to address the topics that are outside the mandate of the study groups, |
| RESOLUTION 98 (Hammamet, 2016)  Enhancing the standardization of Internet of things and smart cities and communities for global development | resolves to instruct Study Group 20 of the ITU Telecommunication Standardization Sector  1 to develop ITU‑T Recommendations aimed at implementing IoT and SC&C, including, but not limited to, on issues related to emerging technologies and vertical industries;  2 to continue, within its mandate, to work with a special focus on the design of a roadmap and harmonized and coordinated international telecommunication standards for the development of IoT, taking into account the needs of each region and fostering a competitive environment;  3 to collaborate with IoT‑related standards organizations and other stakeholders such as industry forums and associations, consortia and SDOs, as well as other relevant ITU‑T study groups, and to take into account relevant work;  4 to collate, evaluate, assess and share IoT use cases from the interoperability and standardization standpoints for data and information exchange, |

**Table 2 – *resolves, instructs* in operational parts of WTSA Resolutions assigned to unspecified ITU-T study groups**

| **WTSA Resolution**  **WTSA Resolution Title** | ***resolves, instructs* in operational part of WTSA Resolution** |
| --- | --- |
| RESOLUTION 11 (Rev. Hammamet, 2016)  Collaboration with the Postal Operations Council of the Universal Postal Union in the study of services concerning both the postal and the telecommunication sectors | resolves  that the relevant study groups of the ITU Telecommunication Standardization Sector (ITU-T) 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 (QoS), quality of experience (QoE), electronic services and security, digital financial services and transaction costs of mobile payment, |
| RESOLUTION 18 (Rev. Hammamet, 2016)  Principles and procedures for the allocation of work to, and strengthening coordination and cooperation among, the ITU Radiocommunication, ITU Telecommunication Standardization and ITU Telecommunication Development Sectors | instructs  1 the ITU‑T study groups to continue cooperation with the study groups of the other two Sectors so as to avoid duplication of effort and make use of the results of work done by the study groups of those two Sectors; |
| RESOLUTION 50 (Rev. Hammamet, 2016)  Cybersecurity | resolves  2 that all ITU‑T study groups continue to evaluate existing and evolving new Recommendations, with respect to their robustness of design and potential for exploitation by malicious parties, and take into account new services and emerging applications to be supported by the global telecommunication/ICT infrastructure (e.g. including, but not limited to, cloud computing and IoT, which are based on telecommunication/ICT networks), according to their mandates in Resolution 2 (Rev. Hammamet, 2016) of this assembly;  8 that ITU‑T study groups continue to liaise with standards organizations and other bodies active in this field; |
| RESOLUTION 52 (Rev. Hammamet, 2016)  Countering and combating spam | 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 ITU Telecommunication Development Sector (ITU‑D) and with the relevant organizations, including other relevant standards 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., |
| RESOLUTION 60 (Rev. Dubai, 2012)  Responding to the challenges of the evolution of the identification/numbering system and its convergence with IP-based systems/networks | 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, |
| RESOLUTION 65 (Rev. Hammamet, 2016)  Calling party number delivery, calling line identification and origin identification information | instructs  2 the study groups concerned to expedite work on Recommendations that would provide additional detail and guidance for the implementation of this resolution; |
| RESOLUTION 70 (Rev. Hammamet, 2016)  Telecommunication/information and communication technology accessibility for persons with disabilities and persons with specific needs | resolves  2 that ITU‑T study groups should consider aspects of universal design in their work, including the drafting of non-discriminatory standards, service regulations and measures for all persons, including persons with disabilities and older persons, with cross-cutting user-protection actions; |
| RESOLUTION 73 (Rev. Hammamet, 2016)  Information and communication technologies, environment and climate change | instructs all study groups of the ITU Telecommunication Standardization Sector  1 to cooperate with Study Group 5 to develop appropriate Recommendations on ICTs, the environment and climate‑change issues within the mandate and competency of ITU‑T, including telecommunication networks used for monitoring and adapting to climate change, for example, disaster preparedness, signalling and quality of service issues, taking into account any economic impact on all countries and in particular on developing countries;  2 to identify best practices and opportunities for new applications using ICTs to foster environmental sustainability, and to identify appropriate actions;  3 to identify and promote best practices towards implementing environmentally-friendly policies and practices, and to share use cases and key success factors;  4 to identify initiatives which support consistently successful and sustainable approaches that will result in cost‑effective application;  5 to identify and promote successful new energy-efficient technologies using renewable energy or alternative energy sources that are proven to work for both urban and rural telecommunication sites;  6 to liaise with the relevant ITU‑R and ITU‑D study groups and promote liaison with other SDOs and forums in order to avoid duplication of work, optimize the use of resources and accelerate the availability of global standards, |
| RESOLUTION 75 (Rev. Hammamet, 2016)  The ITU Telecommunication Standardization Sector's contribution in implementing the outcomes of the World Summit on the Information Society, taking into account the 2030 Agenda for Sustainable Development | resolves  4 that the relevant ITU T study groups should consider in their studies the output of WG WSIS and CWG Internet, |
| RESOLUTION 76 (Rev. Hammamet, 2016)  Studies related to conformance and interoperability testing, assistance to developing countries, and a possible future ITU Mark programme | resolves  1 to invite ITU‑T study groups to continue working on the pilot projects for conformity to ITU‑T Recommendations and continue developing the necessary C&I testing Recommendations for telecommunication equipment as quickly as possible;  instructs the study groups  1 to accelerate accomplishing the pilot projects started by ITU‑T study groups and identify existing ITU‑T Recommendations that would be candidates for C&I testing, taking into account the needs of the membership, and that are capable of providing end-to-end interoperable services on a global scale, adding to their content, if necessary, specific requirements within their scope;  2 to prepare the ITU‑T Recommendations identified in *instructs the study groups* 1 above, with a view to conducting C&I tests as appropriate;  3 to continue and enhance cooperation, as appropriate, with interested stakeholders, including other SDOs, forums and consortia, in order to optimize studies to prepare test specifications, especially for those technologies in *instructs the study groups* 1 and 2 above, taking into account user needs and in consideration of the market demand for a conformity assessment programme;  4 to submit to CASC a list of ITU‑T Recommendations which could be candidates for the joint IEC/ITU certification scheme, taking into account market needs, |
| RESOLUTION 77 (Rev. Hammamet, 2016)  Enhancing the standardization work in the ITU Telecommunication Standardization Sector for software-defined networking | resolves to instruct study groups of the ITU Telecommunication Standardization Sector  1 to continue and enhance collaboration and cooperation with different standards development organizations (SDOs), industry forums, and open-source software projects on SDN, as appropriate, taking into account the outcome of TSAG work on open source;  2 to continue to expand and accelerate the work on SDN standardization, especially carrier SDN;  3 to research the advancement of emerging technology such as NFV container/docker to evolve the SDN technology;  4 to continue to develop the ITU‑T SDN standards to enhance interoperability between the controller products;  5 to consider the potential implications of the SDN orchestrator layer for ITU‑T operation supporting system (OSS) related work, |
| RESOLUTION 80 (Rev. Hammamet, 2016)  Acknowledging the active involvement of the membership in the development of ITU Telecommunication Standardization Sector deliverables | instructs the study groups of the ITU Telecommunication Standardization Sector  to acknowledge contributors to the development of study group deliverables, in particular those from academia, universities and associated research establishments, based on the criteria established by the Telecommunication Standardization Advisory Group (TSAG), |
| RESOLUTION 84 (Hammamet, 2016)  Studies concerning the protection of users of telecommunication/information and communication technology services | resolves  2 that the study groups concerned should expedite work on Recommendations that would provide additional detail and guidance for the implementation of this resolution; |
| RESOLUTION 86 (Hammamet, 2016)  Facilitating the implementation of the Smart Africa Manifesto | resolves to invite study groups of the ITU Telecommunication Standardization Sector  1 to develop ITU‑T Recommendations aimed at implementing emerging technologies, with a special focus on developing countries;  2 to collaborate with the Smart Africa office in regard to standards relating to emerging technologies, with more emphasis on use cases and scenarios for developing countries through regional meetings, forums, workshops, etc., |
| RESOLUTION 89 (Hammamet, 2016)  Promoting the use of information and communication technologies to bridge the financial inclusion gap | instructs the relevant study groups of the ITU Telecommunication Standardization Sector  1 to organize the necessary work and studies in order to expand and accelerate the work on digital financial services, starting with their first meeting in the next study period;  2 to coordinate and collaborate with other relevant SDOs and institutions with primary responsibility for financial services standards development, implementation and capacity‑building, and with other groups within ITU, |
| RESOLUTION 90 (Hammamet, 2016)  Open source in the ITU Telecommunication Standardization Sector | instructs all applicable study groups of the ITU Telecommunication Standardization Sector, within available financial resources  1 to provide inputs to TSAG enquiries on open source as listed in TSAG Report 8, July 2016;  2 to consider output from TSAG on open source, in order to study the value of using open source to develop reference implementations of ITU‑T Recommendations, as appropriate;  3 considering the output of the studies under *instructs*2 above, to continue using open source as appropriate;  4 to support the use of open-source projects in their work, as appropriate, taking into account the outcome of the TSAG study;  5 to continue engaging with open-source projects, |
| RESOLUTION 92 (Hammamet, 2016)  Enhancing the standardization activities in the ITU Telecommunication Standardization Sector related to non-radio aspects of international mobile telecommunications | instructs study groups of the ITU Telecommunication Standardization Sector  1 to strengthen the cooperation and coordination on IMT (especially IMT-2020) standardization activities with a positive and double-win spirit, in order to ensure a productive and practical standard solution for the global ICT industry;  2 to promote efficiently the standardization research work on the non-radio side network technologies of IMT;  3 to be responsible for the research and annual reporting of ITU‑T's standards strategy on IMT, |
| RESOLUTION 93 (Hammamet, 2016)  Interconnection of 4G, IMT-2020 networks and beyond | instructs the study groups  1 to identify as soon as possible future ITU‑T Recommendations that need to be developed associated with the interconnection of 4G, IMT-2020 networks and beyond;  2 to cooperate, as appropriate, with interested stakeholders and alliances in order to optimize studies on this particular subject, |
| RESOLUTION 95 (Hammamet, 2016)  ITU Telecommunication Standardization Sector initiatives to raise awareness on best practices and policies related to service quality | instructs study groups of the ITU Telecommunication Standardization Sector, according to their mandate  1 to elaborate Recommendations providing guidance to regulators in regard to defining strategies and testing methodologies to monitor and measure QoS and QoE;  2 to study QoS and QoE evaluation scenarios, measurement strategies and testing tools to be adopted by regulators and operators;  3 to study and provide guidance to regulators in regard to sampling methodologies for QoS measurements at a local, national and global level;  4 to provide references relating to minimal satisfactory key performance and key quality indicators for evaluating the quality of services;  5 to implement strategies to raise participation of developing and developed countries from all regions in all their activities, |

**Table 3 – *resolves, instructs* in operational parts of WTSA Resolutions assigned to TSAG**

| **WTSA Resolution**  **WTSA Resolution Title** | ***resolves, instructs, invites, requests* in operational parts of WTSA Resolutions assigned to TSAG** |
| --- | --- |
| RESOLUTION 18 (Rev. Hammamet, 2016)  Principles and procedures for the allocation of work to, and strengthening coordination and cooperation among, the ITU Radiocommunication, ITU Telecommunication Standardization and ITU Telecommunication Development Sectors | resolves  1 that RAG, TSAG and TDAG, meeting jointly as necessary, shall continue the review of new and existing work and its distribution among ITU‑R, ITU‑T and ITU‑D, for approval by Member States in accordance with the procedures laid down for the approval of new and/or revised Questions;  invites  1 RAG, TSAG and TDAG to continue to assist the Intersector Coordination Group on Matters of Mutual Interest 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 |
| RESOLUTION 22 (Rev. Hammamet, 2016)  Authorization for the Telecommunication Standardization Advisory Group to act between world telecommunication standardization assemblies | 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, taking into account the needs of the ITU‑T membership and in response to changes in the telecommunication marketplace, and assign chairmen and vice‑chairmen to act until the next WTSA in accordance with Resolution 35 (Rev. Hammamet, 2016) of this assembly;  *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)* identify changing requirements and provide advice on appropriate changes to be made to the priority of work in ITU‑T study groups, planning and allocation of work between study groups, having due regard for the cost and availability of resources;  *g)* review reports of and consider appropriate proposals made by coordination groups and other groups, and implement those that are agreed;  *h)* 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;  *i)* review progress in the implementation of the ITU‑T work programme, including fostering coordination and collaboration with other relevant bodies such as standardization organizations, forums and consortia outside of ITU;  *j)* advise the Director of TSB on financial and other matters;  *k)* 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;  *l)* 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;  *m)* address other specific matters within the competence of WTSA, subject to the approval of Member States, using the approval procedure contained in Resolution 1 (Rev. Hammamet, 2016) of this assembly, Section 9;  2 that TSAG examine implementation of the actions and achievement of the goals as reflected in the annual operational plans and in the WTSA‑16 Action Plan, which includes the WTSA resolutions, for the purpose of identifying possible difficulties and possible strategies for implementing key elements, and recommending solutions to the Director of TSB regarding them;  3 that revisions to the relevant procedures for the adoption of Questions and Recommendations by study groups, other than those referred to in Nos. 246D, 246F and 246H of the Convention, may be initiated by TSAG for approval by Member States between WTSAs, using the approval procedure contained in Resolution 1 (Rev. Hammamet) of this assembly, Section 9;  4 that TSAG provide liaison on its activities to organizations outside ITU in consultation with the Director of TSB, as appropriate;  5 that TSAG consider the implications, for ITU‑T, of market needs and new emerging technologies that have not yet been considered for standardization by ITU‑T, establish an appropriate mechanism to facilitate the examination of their consideration, for example assigning Questions, coordinating the work of study groups or establishing coordination groups or other groups, and appoint their chairmen and vice-chairmen;  6 that TSAG review and coordinate standardization strategies for ITU‑T by identifying the main technological trends and market, economic and policy needs in the fields of activity relevant to the mandate of ITU‑T, and identify possible topics and issues for consideration in ITU‑T's standardization strategies;  7 that TSAG establish an appropriate mechanism to facilitate standardization strategies, for example assigning Questions, coordinating the work of study groups or establishing coordination groups or other groups, and appoint their chairmen and vice-chairmen;  8 that TSAG consider the result of this assembly concerning GSS and take follow-up actions, as appropriate;  9 that a report on the above TSAG activities shall be submitted to the next WTSA, |
| RESOLUTION 31 (Rev. Dubai, 2012)  Admission of entities or organizations to participate as Associates in the work of the ITU Telecommunication Standardization Sector | requests  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, |
| RESOLUTION 32 (Rev. Hammamet, 2016)  Strengthening electronic working methods for the work of the ITU Telecommunication Standardization Sector | resolves  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  2 TSAG to continue to:  • act as the point of contact between the 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. |
| RESOLUTION 40 (Rev. Hammamet, 2016)  Regulatory aspects of the work of the ITU  Telecommunication Standardization Sector | resolves  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/information and communication technologies that might have policy and regulatory nature, taking into account the studies being carried out by the relevant study groups, and report that to the next WTSA, |
| RESOLUTION 45 (Rev. Hammamet, 2016)  Effective coordination of standardization work across study groups in the ITU Telecommunication Standardization Sector and the role of the ITU Telecommunication Standardization Advisory Group | instructs the Telecommunication Standardization Advisory Group  1 to take an active role in ensuring coordination among study groups, particularly on high-priority standardization issues that are being studied in more than one study group, including:  i) to consider the work of any JCAs, and also recommend the establishment of such activities, if appropriate, and to invite coordination groups to hold the necessary meetings to achieve the objectives set for them;  ii) to identify requirements and provide determination on appropriate changes to be made where overlapping issues arise, which includes, but is not limited to, assignment of a mandate to a study group to lead on coordination work;  iii) to advise on further improvements to working methods of the joint coordination activities;  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. |
| RESOLUTION 67 (Rev. Hammamet, 2016)  Use in the ITU Telecommunication Standardization Sector of the languages of the Union on an equal footing | resolves  9 that the Telecommunication Standardization Advisory Group (TSAG) and the Radiocommunication Advisory Group should consider the feasibility of establishing a joint working body within ITU to deal with issues of vocabulary and use of all six languages of the Union on an equal footing, and to report to their respective assemblies, |
| RESOLUTION 70 (Rev. Hammamet, 2016)  Telecommunication/information and communication technology accessibility for persons with disabilities and persons with specific needs | 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 the guide on a regular basis, based on contributions from Member States and Sector Members as well as the ITU‑T study groups, as appropriate, |
| RESOLUTION 73 (Rev. Hammamet, 2016)  Information and communication technologies, 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 development organizations (SDOs) and facilitate collaboration between ITU and those SDOs in order to avoid duplication of, or overlap in, international standards, through in particular JCA-ICT&CC;  2 to ensure that study groups carry out a review of both the appropriate existing ITU‑T Recommendations and all future Recommendations in order 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., |
| RESOLUTION 77 (Rev. Hammamet, 2016)  Enhancing the standardization work in the ITU Telecommunication Standardization Sector for software-defined networking | instructs the Telecommunication Standardization Advisory Group  to examine the matter, consider the input of 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:  • to continue coordination and assistance in SDN standardization across different ITU‑T study groups effectively and efficiently;  • to continue collaboration with other SDN-related standards bodies and forums;  • to coordinate the work on technical issues of SDN across the study groups according to their areas of expertise;  • to define a clear strategic vision for SDN standardization and an important active role that ITU‑T should play, |
| RESOLUTION 80 (Rev. Hammamet, 2016)  Acknowledging the active involvement of the membership in the development of ITU Telecommunication Standardization Sector deliverables | instructs the Telecommunication Standardization Advisory Group  to establish criteria that guide study groups to clearly acknowledge contributors to the development of study group deliverables, |
| RESOLUTION 87 (Hammamet, 2016)  Participation of the ITU Telecommunication Standardization Sector in the periodic review and revision of the International Telecommunication Regulations | instructs the Telecommunication Standardization Advisory Group  to provide advice to the Director of the Telecommunication Standardization Bureau consistent with Resolution 146 (Rev. Busan, 2014) and Council Resolution 1379, |
| RESOLUTION 90 (Hammamet, 2016)  Open source in the ITU Telecommunication Standardization Sector | resolves  that the Telecommunication Standardization Advisory Group (TSAG) continue to work on the benefits and disadvantages of the implementation of open-source projects in relation with the work of the ITU Telecommunication Standardization Sector (ITU‑T), as appropriate,  instructs the Telecommunication Standardization Advisory Group  to continue fulfilling of the outcomes of TSAG Report 8 concerning open source, |
| RESOLUTION 92 (Hammamet, 2016)  Enhancing the standardization activities in the ITU Telecommunication Standardization Sector related to non-radio aspects of international mobile telecommunications | resolves to invite the Telecommunication Standardization Advisory Group  1 to facilitate coordination of the standardization activities related to the non-radio side of IMT (especially IMT-2020) among all relevant study groups, focus groups, joint coordination activities, etc.;  2 to encourage , in cooperation with Study Group 13 and other relevant study groups, collaboration with other standards development organizations (SDOs) on a wide range of issues associated with the non-radio aspects of IMT-2020, |
| RESOLUTION 94 (Hammamet, 2016)  Standardization work in the ITU Telecommunication Standardization Sector for cloud based event data technology | instructs the Telecommunication Standardization Advisory Group  to drive a concerted effort across relevant study groups to accelerate standardization work on cloud‑based event data technology, |

**Table 4 – *resolves* in operational parts of Plenipotentiary Conference Resolutions assigned to ITU-T study groups**

| **ITU-T Study Group** | **PP Resolution**  **PP Resolution Title** | ***resolves* in operational part of Plenipotentiary Conference Resolution** |
| --- | --- | --- |
| ITU-T SG2 | RESOLUTION 21 (REV. DUBAI, 2018)  Measures concerning alternative calling procedures on international telecommunication networks | resolves  4 to request the appropriate ITU‑T study groups, particularly Study Groups 2 and 3, and ITU‑D Study Group 1, through contributions of Member States and Sector Members, to continue to study, within their respective mandates:  i) alternative calling procedures, based on *resolves* 1, in order to update or develop as needed relevant ITU‑T recommendations;  ii) issues related to OI and CLI, in order to take into account the importance of these studies as they relate to next-generation networks and network degradation; |
| ITU-T SG3 | RESOLUTION 21 (REV. DUBAI, 2018)  Measures concerning alternative calling procedures on international telecommunication networks | resolves  4 to request the appropriate ITU‑T study groups, particularly Study Groups 2 and 3, and ITU‑D Study Group 1, through contributions of Member States and Sector Members, to continue to study, within their respective mandates:  i) alternative calling procedures, based on *resolves* 1, in order to update or develop as needed relevant ITU‑T recommendations;  ii) issues related to OI and CLI, in order to take into account the importance of these studies as they relate to next-generation networks and network degradation; |
| RESOLUTION 101 (REV. DUBAI, 2018)  Internet Protocol-based networks | resolves  5 to continue the study of international Internet connectivity as an urgent matter, as called for in § 50 d) of the Tunis Agenda (2005)*,* and to call upon ITU‑T, in particular Study Group 3, which has responsibility for Recommendation ITU‑T D.50 and which has compiled an initial set of guidelines in Supplement 2 to Recommendation ITU‑T D.50 (05/2013), to complete as soon as possible its studies that have been ongoing since WTSA‑2000; |
| ITU-T SG12 | RESOLUTION 21 (REV. DUBAI, 2018)  Measures concerning alternative calling procedures on international telecommunication networks | resolves  5 to encourage ITU‑T Study Group 12 to develop guidelines regarding minimum QoS and QoE in accordance with its mandate, |

**Table 5 – *requests*, *resolves, instructs* in operational parts of Plenipotentiary Conference Resolutions assigned to unspecified ITU-T study groups**

| **PP Resolution**  **PP Resolution Title** | ***requests, resolves, instructs* in operational part of Plenipotentiary Conference Resolution** |
| --- | --- |
| RESOLUTION 101 (REV. DUBAI, 2018)  Internet Protocol-based networks | requests the ITU Telecommunication Standardization Sector  to continue its collaborative activities on IP-based networks with ISOC/IETF and other relevant recognized organizations, in respect of interconnectivity with existing telecommunication networks and migration to NGN and future networks,  requests the three Sectors  to continue to consider and update their work programmes on IP-based networks and on migration to NGN and future networks, including strengthening collaboration with other entities and organizations for the benefit of Member States, taking into account the impact of emerging telecommunications/ICTs, |
| RESOLUTION 190 (BUSAN, 2014)  Countering misappropriation and misuse of international telecommunication numbering resources | resolves  to continue to study ways and means to improve the understanding, identification and resolution of misappropriation and misuse of ITU‑T E.164 telephone numbers through activities of ITU‑T and ITU‑D study groups, |
| RESOLUTION 204 (DUBAI, 2018)  Use of information and communication technologies to bridge the financial inclusion gap | instructs the relevant study groups of the ITU Telecommunication Standardization Sector  1 to continue studying economic and policy issues, developing standards, recommendations and guidelines in the area of digital financial services, as appropriate;  2 to continue studying the areas of interoperability, digitization of payments, consumer protection, quality of service, data monetization, agents, and network security, where such studies, standards and guidelines require collaboration with efforts taking place in other institutions and relate to the mandate of the Union;  3 to continue efforts in the area of the collaboration among telecommunication regulators, financial regulators and central banks;  4 to coordinate and collaborate with other relevant standards development organizations (SDOs) and institutions with primary responsibility for the development of financial services standards, implementation and capacity building, and with other groups within ITU, |

**Table 6 – *resolves, invites* in operational parts of Plenipotentiary Conference Resolutions assigned to TSAG**

| **PP Resolution**  **PP Resolution Title** | ***resolves, invites* in operational part of Plenipotentiary Conference Resolution** |
| --- | --- |
| RESOLUTION 191 (REV. DUBAI, 2018)  Strategy for the coordination of efforts among the three Sectors of the Union | resolves  that the Radiocommunication Advisory Group (RAG), TSAG and the Telecommunication Development Advisory Group (TDAG), including through ISCT, shall continue to consider current and new activities and their distribution among ITU‑R, ITU‑T and ITU‑D for approval by the ITU Member States in accordance with the procedures for approval of new and revised questions,  invites  1 RAG, TSAG and TDAG to continue to assist ISCT in identifying of subjects common to the three Sectors and mechanisms to enhance cooperation and collaboration in all Sectors on matters of mutual interest; |

**Table 7 – *resolves* in operational parts of WTDC Resolutions assigned to ITU-T study groups**

| **ITU-T Study Group** | **WTDC Resolution**  **WTDC Resolution Title** | ***resolves* in operational part of WTDC Resolution** |
| --- | --- | --- |
| ITU-T SG2 | RESOLUTION 22 (Rev. Buenos Aires, 2017)  Alternative calling procedures on international telecommunication networks and identification of origin in providing international telecommunication services | resolves  3 to request ITU-D and ITU-T study groups to collaborate so as to avoid overlap and duplication of effort in studying alternative calling procedures, and specifically ITU-T Study Group 2, in studying aspects and forms of alternative calling procedures, ITU-T Study Group 3, in studying the economic effects of alternative calling procedures, and ITU-T Study Group 12, in studying the minimum QoS and QoE threshold to be fulfilled during the use of alternative calling procedures;  5 that cooperation is required with ITU-T, and specifically ITU-T Study Group 2, in implementing Resolution 20 (Rev. Hammamet, 2016) in relation to telecommunication origin identification and misuse of relevant international telecommunication resources within the remit of ITU, |
| ITU-T SG3 | RESOLUTION 22 (Rev. Buenos Aires, 2017)  Alternative calling procedures on international telecommunication networks and identification of origin in providing international telecommunication services | resolves  3 to request ITU-D and ITU-T study groups to collaborate so as to avoid overlap and duplication of effort in studying alternative calling procedures, and specifically ITU-T Study Group 2, in studying aspects and forms of alternative calling procedures, ITU-T Study Group 3, in studying the economic effects of alternative calling procedures, and ITU-T Study Group 12, in studying the minimum QoS and QoE threshold to be fulfilled during the use of alternative calling procedures; |
| ITU-T SG5 | RESOLUTION 62 (Rev. Buenos Aires, 2017)  Assessment and measurement of human exposure to electromagnetic fields | instructs Study Group 2  within the framework of its Questions, including Question 7/2, to cooperate with ITU-T Study Group 5 and ITU-R Study Groups 1, 4, 5 and 6, in order to achieve the following goals:  i) collaborate with ITU-T Study Group 5 in particular to update the mobile EMF guide application relating to human exposure to EMF and the guidance on its implementation, as a matter of high priority; |
| ITU-T SG11 | RESOLUTION 79 (Rev. Buenos Aires, 2017)  The role of telecommunications/information and communication technologies in combating and dealing with counterfeit telecommunication/information and communication devices | instructs Study Groups 1 and 2 of the ITU Telecommunication Development Sector, within their mandate, as appropriate, in collaboration with the relevant ITU study groups  2 to prepare guidelines, methodologies and publications to assist Member States in identifying counterfeit devices and methods of increasing public awareness to restrict trade in these devices, as well as the best ways of limiting them, taking into account ongoing studies conducted by ITU-T Study Group 11;  5 to cooperate with relevant ITU-T study groups, in particular Study Group 11 as the lead study group in the area of combating counterfeit telecommunication/ICT devices, |
| ITU-T SG12 | RESOLUTION 22 (Rev. Buenos Aires, 2017)  Alternative calling procedures on international telecommunication networks and identification of origin in providing international telecommunication services | resolves  3 to request ITU-D and ITU-T study groups to collaborate so as to avoid overlap and duplication of effort in studying alternative calling procedures, and specifically ITU-T Study Group 2, in studying aspects and forms of alternative calling procedures, ITU-T Study Group 3, in studying the economic effects of alternative calling procedures, and ITU-T Study Group 12, in studying the minimum QoS and QoE threshold to be fulfilled during the use of alternative calling procedures; |

**Table 8 – *resolves, instructs* in operational parts of WTDC Resolutions assigned to unspecified ITU-T study groups**

| **WTDC Resolution**  **WTDC Resolution Title** | ***resolves, instructs* in operational part of WTDC Resolution** |
| --- | --- |
| RESOLUTION 43 (Rev. Buenos Aires, 2017)  Assistance in implementing International Mobile Telecommunications and future networks | resolves  2 to include support for ITU work on the deployment of IMT and future networks in developing countries in the action plan and the work plans of ITU study groups:  ii) ITU-T study groups: in the area of standardization of non-radio aspects of network management, protocols and interoperability, quality of service, future networks, transport, fronthaul/backhaul and security, |
| RESOLUTION 79 (Rev. Buenos Aires, 2017)  The role of telecommunications/information and communication technologies in combating and dealing with counterfeit telecommunication/information and communication devices | instructs Study Groups 1 and 2 of the ITU Telecommunication Development Sector, within their mandate, as appropriate, in collaboration with the relevant ITU study groups  1 to prepare and document examples of best practices on limiting counterfeit devices, for distribution to ITU Member States and Sector Members;  3 to study the impact of counterfeit telecommunication/ICT devices being transported to developing countries;  4 to continue studying safe ways of disposing of the harmful e-waste from the counterfeit devices currently in circulation in the world; |
| RESOLUTION 80 (Rev. Buenos Aires, 2017)  Establishing and promoting trusted information frameworks in developing countries to facilitate and encourage electronic exchanges of economic information between economic partners | resolves  that relevant ITU-D and ITU Telecommunication Standardization Sector (ITU-T) study groups, to the extent possible, take into account the aims of this resolution in studies under Questions pertaining to ICT applications, |

**Table 9 – *resolves, invites* in operational parts of RA Resolutions assigned to unspecified ITU-T study groups**

| **RA Resolution**  **RA Resolution Title** | ***Resolves, invites* in operational part of RA Resolution** |
| --- | --- |
| RESOLUTION ITU-R 6-3\*  Liaison and collaboration with the ITU Telecommunication Standardization Sector  (1993-2000-2015-2019) | resolves  2 that the principles for the allocation of work to the Radiocommunication Sector and Telecommunication Standardization Sector (see Annex 1) should be used to give guidance in the allocation of work to the Sectors;  3 that, if considerable responsibilities in both Sectors in a particular subject are identified, either:  *c)* the matter should be studied by relevant Study Groups of both Sectors with appropriate coordination (see Annex 3 and Annex 4), |
| RESOLUTION ITU-R 50-4  Role of the Radiocommunication Sector in the ongoing development of IMT  (2000-2007-2012-2015-2019) | resolves  2 that the effective coordination currently established between ITU‑T and ITU‑R for IMT should be continued;  invites  the Telecommunication Standardization Sector to develop a complementary roadmap for all ITU‑T IMT activities, and to coordinate it with ITU‑R to ensure full alignment and harmonization of the work programmes of both ITU‑T and ITU‑R, |

**Table 10 – *resolves* in operational parts of RA Resolutions assigned to TSAG**

| **RA Resolution**  **RA Resolution Title** | ***resolves* in operational part of RA Resolution** |
| --- | --- |
| RESOLUTION ITU-R 6-3\*  Liaison and collaboration with the ITU Telecommunication Standardization Sector  (1993-2000-2015-2019) | resolves  1 to refer to the Radiocommunication Advisory Group in collaboration with the Telecommunication Standardization Advisory Group, the continuing review of new and existing work and its distribution between the two Sectors, for approval by Members in accordance with the procedures laid down for the approval of new or revised Questions taking into account the activities and results of the ongoing restructuring efforts within ITU; |

**Table 11 –Operational parts of Council Resolutions assigned to ITU-T study groups**

| **ITU-T Study Group** | **Council Resolution**  **Council Resolution Title** | **Operational part of Council Resolution** |
| --- | --- | --- |
| ITU-T SG3 | RESOLUTION 1305 (C09, last amended C19)  Role of the Dedicated Group in identifying Internet-related Public Policy issues  Annex | |  |  | | --- | --- | | 2 International Internet Connectivity | ITU-T Study Group 3 (Recommendation D.50) | |
| ITU-T SG17 | RESOLUTION 1305 (C09, last amended C19)  Role of the Dedicated Group in identifying Internet-related Public Policy issues  Annex | |  |  | | --- | --- | | 4 The security, safety, continuity, sustainability, and robustness of the Internet | ITU-T Study Group 17, ITU-D Study Group 1 | |

**Table 12 – *resolves* in operational parts of Council Resolutions assigned to unspecified ITU-T study groups**

| **Council Resolution**  **Council Resolution Title** | ***resolves* in operational part of Council Resolution** |
| --- | --- |
| RESOLUTION 1386 (C17)  ITU Coordination Committee for Terminology (ITU CCT) | *resolves*  2 that the ITU-R and ITU-T study groups, within their terms of reference, should continue their work on technical and operational terms and their definitions in English only;  5 that, when selecting terms and preparing definitions, study groups shall take into account the established use of terms and existing definitions in ITU, in particular those included in the online ITU Terms and Definitions database; |

**Table 13 –Operational parts of Council Decision assigned to TSAG**

| **Council Decision**  **Council Decision Title** | **Operational part of Council Decision** |
| --- | --- |
| DECISION 519 (C04, last modified C12)  Participation of Sector Members in sessions of the Council as observers  Annex A | 1 Each Sector Advisory Group, through consultations and taking into account *conscious d)* above, nominates up to three Sector Members to attend Council as observers representing the Sector Members of that Sector. |

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