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**Contact/focal points:**

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**Resolution 98 proposals side-by-side**

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| **PROPOSAL 1 (MOD,** [**WTSA C-037\_APT\_Add28**](https://www.itu.int/dms_pub/itu-t/md/17/wtsa.20/c/T17-WTSA.20-C-0037%21A28%21MSW-E.docx)**) (APT)** | **PROPOSAL 2 (MOD) (AST)** | **PROPOSAL 3 (MOD) (ATU)** | **PROPOSAL 4 (MOD**[**, WTSA C-038\_ECP\_Add31**](https://www.itu.int/dms_pub/itu-t/md/17/wtsa.20/c/T17-WTSA.20-C-0038%21A31%21MSW-E.docx)**) (CEPT)** | **Proposal 5 (MOD,**[**WTSA-C-039\_IAP\_Add23**](https://www.itu.int/dms_pub/itu-t/md/17/wtsa.20/c/T17-WTSA.20-C-0039%21A23%21MSW-E.docx)**) (CITEL)** |
| MOD APT/37A28/1**#75**RESOLUTION 98 (Rev. Geneva, 2022)Enhancing the standardization of Internet of things and smart cities and communities for global development(Hammamet, 2016; Geneva, 2022)The World Telecommunication Standardization Assembly (Geneva, 2022), recalling*a)* Resolution 197 (Rev. Dubai 2018) of the Plenipotentiary Conference, on promoting the development of the Internet of things (IoT) and smart sustainable cities and communities (SC&C); *b)* Resolution 66 (Rev. Sharm El-Sheikh, 2019) of the Radiocommunication Assembly, on studies related to wireless systems and applications for the development of the Internet of Things;*c)* Resolution 85 (Rev. Buenos Aires, 2017) of the World Telecommunication Development Conference (WTDC) on facilitating the Internet of Things and smart cities and communities for global development;*d)* the objectives of the ITU Telecommunication Standardization Sector (ITU‑T) in Resolution 71 (Rev. Dubai, 2018) of the Plenipotentiary Conference, and in particular Objective T.5, which mandates ITU‑T to extend and facilitate cooperation with international, regional and national standardization bodies,considering*a)* that it is expected that the development of IoT technologies will make it possible to connect billions of devices to the network by the year 2025, impacting almost all aspects of daily life production, and strongly promoting the process of industrial digitalization;*b)* the importance of IoT in contributing to achievement of the 2030 Agenda for Sustainable Development;*c)* that various industrial sectors, such as energy, transportation, health and agriculture, are collaborating for the development of IoT and smart cities and communities (SC&C) applications and services across verticals;*d)* that IoT and SC&C can be a key enabler for the information society and offers the opportunity to transform the urban infrastructure, taking advantage, among other things, of the efficiencies of smart buildings and transport systems, and smart water management, working together with services for the benefit of users;*e)* that IoT can use the latest technological achievements to quickly discover and respond to regional or global crises such as natural disasters and epidemics/pandemics;*f)* that research and development in IoT can help to improve global development, delivery of basic services and monitoring and evaluation programmes in different sectors;*g)* that IoT involves various stakeholders and areas, which may require coordination and cooperation;*h)* that IoT has evolved into a wide variety of applications with different aims and requirements, as a result of which it is necessary to work in coordination with other international standardization bodies and other related organizations in order to integrate better standardization frameworks;*i)* that technical standards as well as public-private partnerships should reduce the time and cost for implementing IoT with benefits in terms of economies of scale;*j)* that data interoperability is important for collaboratively assessing and standardizing IoT and SC&C;*k)* that relevant standards of IoT and SC&C need to consider the difference in development level and demand between different regions or countries;*l)* that connected devices and applications represent a massive, diverse and distributed ecosystem across industry verticals and geographies;*m*) that globally unique identifiers for devices and applications can enable confidence and security in ICTs,recognizing*a)* that industry forums and standards development organizations (SDO) partnership projects are developing technical specifications for IoT;*b)* that the purpose of the Joint Coordination Activity on Internet of things and smart cities and communities (JCA-IoT and SC&C), under the leadership of ITU‑T Study Group 20, is to coordinate the work on IoT and SC&C within ITU, and to seek cooperation from external bodies working in the field of IoT and SC&C;*c)* that much progress has been made in efforts to develop collaboration between ITU‑T and other organizations;*d)* that Study Group 20 is responsible for studies and standardization work relating to IoT and SC&C, and is progressing work regarding IoT in the marine sector;*e*) that Study Group 20 concluded the work of the Focus Group on Data Processing and Management (FG-DPM);*f)* that IoT and SC&C continuously put forward technical requirements for the sustainable development and evolution of existing networks, data, security, identification, trust, etc., and long-term research and standardization activities based on market requirements;*g)* that IoT technology plays an important role in areas such as Industrial Internet of Things, Internet of Vehicles, Smart Oceans and Seas, Smart Supply Chain, and Smart Home, digital transformation, and digital economy, and standardization work should be carried out in these areas based on market requirements;*h)* that Study Group 20 is also a platform where the ITU‑T membership, including administrations, Sector Members and Associates, can come together to exert an impact on the drafting of international standards for IoT and their implementation,resolves to instruct Study Group 20 of the ITU Telecommunication Standardization Sector1 to develop ITU‑T Recommendations aimed at implementing IoT and SC&C, and accelerate the development of Recommendations on applications of emerging technologies;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 other ITU-T study groups, as well as IoT‑related standardization development organizations (SDOs) and other stakeholders such as industry forums and associations, and consortia taking 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, instructs the Director of the Telecommunication Standardization Bureau1 to provide necessary assistance in order to take advantage of every opportunity, within the assigned budget, to promote quality standardization work in a timely manner, and to communicate with telecommunication and ICT industries in order to promote their participation in ITU‑T's standardization activities on IoT and SC&C;2 to carry out, in collaboration with Member States and cities, pilot projects in cities related to SC&C key performance indicator (KPI) assessment activities, aimed at facilitating the deployment and implementation of IoT and SC&C standards worldwide;3 to continue to support the United for Smart Sustainable Cities Initiative (U4SSC), launched by ITU together with the United Nations Economic Commission for Europe (UNECE) in May 2016 and supported by other UN agencies, and share its deliverables with ITU‑T Study Group 20 and other study groups concerned;4 to continue encouraging cooperation with other international SDOs and other related organizations, in order to increase the development of international telecommunication standards and reports that facilitate the interoperability of IoT services,instructs the Director of the Telecommunication Standardization Bureau, in collaboration with the Directors of the Telecommunication Development Bureau and the Radiocommunication Bureau1 to prepare reports considering, in particular, the needs of developing countries in terms of the study of IoT and its applications, sensor networks, services and infrastructure taking into account the results of work being done in ITU-R and ITU-D to avoid duplication of effort;2 to promote the adoption of IoT across vertical industries and the development of smart cities and communities in order to maximize the benefits in advancing socio-economic development and contribute to achieving the Sustainable Development Goals;3 to continue disseminating ITU publications on IoT and SC&C, as well as organizing forums, seminars and workshops on the subject, taking into account the needs of developing countries, in particular,invites the ITU Telecommunication Standardization Sector membership 1 to submit contributions and continue participating actively in the work of Study Group 20 and in the studies on IoT and SC&C being conducted by ITU‑T;2 to develop master plans and exchange use cases and best practices in order to promote smart and sustainable cities and communities and to promote social development and economic growth in order to achieve SDGs;3 to cooperate and exchange experiences and knowledge related to the global development of IoT and SC&C;4 to support and organize forums, seminars and workshops on IoT in order to promote innovation, development and growth in IoT technologies and solutions;5 to take necessary measures to facilitate the growth of IoT in relation to areas such as the establishment of standards;6 to develop and disseminate best practice documents for industries and users.  |  |  | MOD EUR/38A31/1**#36**RESOLUTION 98 ( Rev.Geneva, 2022)Enhancing the standardization of Internet of things and smart cities and communities for global development(Hammamet, 2016;Geneva, 2022)The World Telecommunication Standardization Assembly (Geneva, 2022), recalling*a)* Resolution 197 (Rev. Dubai, 2018) of the Plenipotentiary Conference, on facilitating the Internet of things (IoT) to prepare for a globally connected world; *b)* Resolution 66 (Geneva, 2015) of the Radiocommunication Assembly, on studies related to wireless systems and applications for the development of IoT;*c)* Resolution 58 (Rev. Dubai, 2014) of the World Telecommunication Development Conference (WTDC), which invites Member States to promote and undertake research and development of ICT‑accessible equipment, services and software;*d)* Resolution 85 (Buenos Aires, 2017) of the World Telecommunications Development Conference on facilitating the Internet of Things and smart cities and communities for global development;*e)* the objectives of the ITU Telecommunication Standardization Sector (ITU‑T) in Resolution 71 (Rev. Busan, 2014) of the Plenipotentiary Conference, and in particular Objective T.5, which mandates ITU‑T to extend and facilitate cooperation with international, regional and national standardization bodies;,considering*a)* that it is expected that the development of IoT technologies will make it possible to connect billions of devices to the network, with consequences for almost all aspects of daily life;*b)* the importance of IoT in contributing to achievement of the 2030 Agenda for Sustainable Development in particular recalling Sustainable Development Goal 11 to make cities inclusive, safe, resilient and sustainable;*c)* that various industrial sectors, such as energy, transportation, health and agriculture, are collaborating for the development of IoT and smart cities and communities (SC&C) applications and services across verticals;*d)* that IoT can be a key enabler for the information society and offers the opportunity to transform the urban infrastructure, taking advantage, among other things, of the efficiencies of smart buildings and transport systems, and smart water management, working together with services for the benefit of users;*e)* that research and development in IoT can help to improve global development, delivery of basic services and monitoring and evaluation programmes in different sectors;*f)* that IoT involves various stakeholders and areas, which may require coordination and cooperation;*g)* that IoT has evolved into a wide variety of applications with different aims and requirements, as a result of which it is necessary to work in coordination with other international standardization bodies and other related organizations in order to integrate better standardization frameworks;*h)* that technical standards as well as public-private partnerships should reduce the time and cost for implementing IoT with benefits in terms of economies of scale;*i)* that ITU‑T should play a leading role in the development of IoT-related and SC&C‑related standards;*j)* the importance of collaboratively assessing and standardizing IoT data interoperability;*k)* that IoT may have an impact in many areas, which may require further cooperation between national, regional and international entities concerned on relevant aspects in order to maximize the benefits of IoT,recognizing*a)* that industry forums and standards development organizations (SDO) partnership projects are developing technical specifications for IoT;*b)* the work by the Internet of things Global Standards Initiative, which concluded its activities in July 2015; *c)* the role of ITU-R in conducting studies on the technical and operational aspects of radio networks and systems for IoT;*d)* the role of ITU-D in encouraging telecommunication/ICT development at the global level, and in particular the relevant work carried out by ITU-D study groups*e)* that the purpose of the Joint Coordination Activity on Internet of things and smart cities and communities (JCA-IoT and SC&C), under the leadership of ITU‑T Study Group 20, is to coordinate the work on IoT and SC&C within ITU, and to seek cooperation from external bodies working in the field of IoT and SC&C;*f)* that much progress has been made in efforts to develop collaboration between ITU‑T and other organizations, such as but not limited to active participation in different committees and working groups of ISO/IEC JTC 1 and ETSI. There has also been collaboration with fora such as oneM2M, Alliance for IoT innovation and collaboration on ITS communication standards. This collaboration should continue to develop;*g)* that Study Group 20 is responsible for studies and standardization work relating to IoT and its applications, including SC&C;*h)* that Study Group 20 is also a platform where the ITU‑T membership, including administrations, Sector Members and Associates, can come together to exert an impact on the drafting of international standards for IoT and their implementation;i) that the United for Smart Sustainable Cities (U4SSC) is a UN initiative coordinated by ITU, UNECE and UN-Habitat to achieve Sustainable Development Goal 11: "Make cities and human settlements inclusive, safe, resilient and sustainable",resolves to instruct Study Group 20 of the ITU Telecommunication Standardization Sector1 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, the wide variety of use cases and applications, and the need for IoT to be open and adaptable, 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, instructs the Director of the Telecommunication Standardization Bureau1 to provide necessary assistance in order to take advantage of every opportunity, within the assigned budget, to promote quality standardization work in a timely manner, and to communicate with telecommunication and ICT industries in order to promote their participation in ITU‑T's standardization activities on IoT and SC&C;2 to carry out, in collaboration with Member States and cities, pilot projects in cities related to SC&C key performance indicator (KPI) assessment activities, aimed at facilitating the deployment and implementation of IoT and SC&C standards worldwide;3 to continue to support the United for Smart Sustainable Cities Initiative (U4SSC), launched by ITU together with the United Nations Economic Commission for Europe (UNECE) in May 2016, and share its deliverables with ITU‑T Study Group 20 and other study groups concerned;4 to continue encouraging cooperation with other international standardization organizations, other related organizations and global projects, in order to increase the development of international telecommunication standards and reports that facilitate the interoperability of IoT services,instructs the Director of the Telecommunication Standardization Bureau, in collaboration with the Directors of the Telecommunication Development Bureau and the Radiocommunication Bureau1 to prepare reports considering, in particular, the needs of developing countries in terms of the study of IoT and its applications, sensor networks, services and infrastructure;2 to continue disseminating ITU publications on IoT and SC&C, as well as organizing forums, seminars and workshops on the subject, taking into account the needs of developing countries, in particular;3 to support Member States especially those of developing countries in the organisation of forums, seminars and workshops on IoT and SC&C to promote innovations, development and growth in IoT technologies and solutions;4 to report progress made in the organisation of forums, seminars and workshops organised to develop the capacity of developing countries to the next WTSA;5 to further collaborate with U4SSC through its implementation programme to support projects across cities, working closely with city experts to enhance the deliverables of the U4SSC,invites the ITU Telecommunication Standardization Sector membership 1 to submit contributions and continue participating actively in the work of Study Group 20 and in the studies on IoT and SC&C being conducted by ITU‑T;2 to develop master plans and exchange use cases and best practices in order to promote smart and sustainable cities and communities and to promote social development and economic growth;3 to cooperate and exchange experiences and knowledge related to this topic;4 to support and organize forums, seminars and workshops on IoT in order to promote innovation, development and growth in IoT technologies and solutions;5 to take necessary measures to facilitate the growth of IoT in relation to areas such as the establishment of standards.  | MOD IAP/39A23/1**#48**RESOLUTION 98 (Rev.Geneva, 2022)Enhancing the standardization of Internet of things and smart cities and communities for global development(Hammamet, 2016;Geneva, 2022)The World Telecommunication Standardization Assembly (Geneva, 2022), recalling*a)* Resolution 197 (Rev. Dubai, 2018) of the Plenipotentiary Conference, on facilitating the Internet of things (IoT) to prepare for a globally connected world; *b)* Resolution 66 (Rev. Sharm El-Sheikh, 2019) of the Radiocommunication Assembly, on studies related to wireless systems and applications for the development of IoT;*c)* Resolution 58 (Rev. Buenos Aires, 2017) of the World Telecommunication Development Conference (WTDC), which invites Member States to promote and undertake research and development of ICT‑accessible equipment, services and software;*d)* Resolution 85 (Buenos Aires, 2017) of the World Telecommunication Development Conference (WTDC), on facilitating the Internet of things (IoT) and smart cities and communities for global development;*e)* Recommendation ITU‑T Y.4000/Y.2060, on overview of IoT, which defines IoT as "a global infrastructure for the information society, enabling advanced services by interconnecting (physical and virtual) things based on existing and evolving interoperable information and communication technologies";*f)* Recommendation ITU‑T Y.4702, on common requirements and capabilities of device management in IoT, which establishes common requirements and capabilities of device management in IoT for different application scenarios,considering*a)* that it is expected that the development of IoT technologies will make it possible to connect billions of devices to the network by the year 2020, with consequences for almost all aspects of daily life;*b)* the importance of IoT in contributing to achievement of the 2030 Agenda for Sustainable Development;*c)* that various industrial sectors, such as energy, transportation, health and agriculture, are collaborating for the development of IoT and smart cities and communities (SC&C) applications and services across verticals;*d)* that IoT can be a key enabler for the information society and offers the opportunity to transform the urban infrastructure, taking advantage, among other things, of the efficiencies of smart buildings and transport systems, and smart water management, working together with services for the benefit of users;*e)* that research and development in IoT can help to improve global development, delivery of basic services and monitoring and evaluation programmes in different sectors;*f)* that IoT involves various stakeholders and areas, which may require coordination and cooperation;*g)* that IoT has evolved into a wide variety of applications with different aims and requirements, as a result of which it is necessary to work in coordination with other international standardization bodies and other related organizations in order to integrate better standardization frameworks;*h)* that technical standards as well as public-private partnerships should reduce the time and cost for implementing IoT with benefits in terms of economies of scale;*i)* that ITU‑T should play a leading role in the development of IoT-related and SC&C‑related standards;*j)* the importance of collaboratively assessing and standardizing IoT data interoperability;*k)* that IoT may have an impact in many areas, which may require further cooperation between national, regional and international entities concerned on relevant aspects in order to maximize the benefits of IoT;*l)* that security aspects are a key component in the development of a reliable and secure IoT ecosystem,recognizing*a)* that industry forums, standards development organizations (SDOs) and partnership projects are developing technical specifications for IoT;*b)* that the purpose of the Joint Coordination Activity on Internet of things and smart cities and communities (JCA-IoT and SC&C), under the leadership of ITU‑T Study Group 20, is to coordinate the work on IoT and SC&C within ITU, and to seek cooperation from external bodies working in the field of IoT and SC&C;*c)* that much progress has been made in efforts to develop collaboration between ITU‑T and other organizations;*d)* that Study Group 20 is responsible for studies and standardization work relating to IoT and its applications, including SC&C;*e)* that Study Group 20 is also a platform where the ITU‑T membership, including Member States, Sector Members, Associates and Academia, can come together to exert an impact on the drafting of international standards for IoT and their implementation;*f)* that ITU-T Study Group 2, Study Group 12 and Study Group 17 may have related work on IoT and its application,resolves to instruct Study Group 20 of the ITU Telecommunication Standardization Sector1 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, Member States needs 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, taking into account relevant work;4 to interact with SG2, SG12 and SG17 to develop standards related to identification, quality of service (QoS) and security, respectively, in IoT systems;5 to collate, evaluate, assess and share IoT use cases from the interoperability and standardization standpoints for data and information exchange, instructs the Director of the Telecommunication Standardization Bureau1 to provide necessary assistance in order to take advantage of every opportunity, within the assigned budget, to promote quality standardization work in a timely manner, and to communicate with telecommunication and ICT industries in order to promote their participation in ITU‑T's standardization activities on IoT and SC&C;2 to carry out, in collaboration with Member States and cities, pilot projects in cities related to SC&C key performance indicator (KPI) assessment activities, aimed at facilitating the deployment and implementation of IoT and SC&C standards worldwide;3 to continue to support the United for Smart Sustainable Cities Initiative (U4SSC), launched by ITU together with the United Nations Economic Commission for Europe (UNECE) in May 2016, and share its deliverables with ITU‑T Study Group 20 and other study groups concerned;4 to continue encouraging cooperation with other international standardization organizations and other related organizations, in order to increase the development of international telecommunication standards and reports that facilitate the interoperability of IoT services,instructs the Director of the Telecommunication Standardization Bureau, in collaboration with the Directors of the Telecommunication Development Bureau and the Radiocommunication Bureau1 to prepare reports considering, in particular, the needs of developing countries in terms of the study of IoT and its applications, sensor networks, services and infrastructure;2 to foster joint work among ITU Sectors to discuss the various aspects related to the development of IoT ecosystem and solutions to SC&C, in the context of the achievement of the sustainable development goals and the framework of the World Summit for the Information Society;3 to continue disseminating ITU publications on IoT and SC&C, as well as organizing forums, seminars and workshops on the subject, taking into account the needs of developing countries, in particular;4 to assist developing countries on the implementation of recommendations, technical reports and guidelines related to IoT and SC&C;5 to assist developing countries by providing capacity building and training opportunities for IoT and SC&C,invites the ITU Telecommunication Standardization Sector membership 1 to submit contributions and continue participating actively in the work of Study Group 20 and in the studies on IoT and SC&C being conducted by ITU‑T;2 to develop master plans and exchange use cases and best practices in order to promote the IoT ecosystem, as well as smart and sustainable cities and communities and to promote social development and economic growth;3 to cooperate and exchange experiences and knowledge related to this topic;4 to support and organize forums, seminars and workshops on IoT in order to promote innovation, development and growth in IoT technologies and solutions;5 to take necessary measures to facilitate the growth of IoT in relation to areas such as the establishment of standards.  |

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