

RESOLUTION 197 (REV. DUBAI, 2018)

Facilitating the Internet of Things and smart sustainable cities and communities

The Plenipotentiary Conference of the International Telecommunication Union (Dubai, 2018),

recalling

- a)* Resolution 85 (Buenos Aires, 2017) of the World Telecommunication Development Conference (WTDC), on facilitating the Internet of Things (IoT) and smart cities and communities (SCCs) for global development;
- b)* Resolution 98 (Hammamet, 2016) of the World Telecommunication Standardization Assembly (WTSA), on enhancing standardization of IoT and SCCs for global development;
- c)* Resolution ITU-R 66 (Geneva, 2015) of the Radiocommunication Assembly, on studies related to wireless systems and applications for the development of IoT;
- d)* Resolution 71 (Rev. Dubai, 2018) of this conference, on the strategic plan for the Union for 2020-2023;
- e)* Resolution 139 (Rev. Dubai, 2018) of this conference, on the use of telecommunications/information and communication technologies (ICTs) to bridge the digital divide and build an inclusive information society;
- f)* Resolution 200 (Rev. Dubai, 2018) of this conference, on the Connect 2030 Agenda for global telecommunication/ICT development;
- g)* Resolution 176 (Rev. Dubai, 2018) of this conference, on human exposure to and measurement of electromagnetic fields;
- h)* Resolution 201 (Rev. Dubai, 2018) of this conference, on creating an enabling environment for the deployment and use of ICT applications;

- i) Resolution 90 (Hammamet, 2016) of WTSA, on open source in the ITU Telecommunication Standardization Sector (ITU-T);
- j) Resolution 958 (WRC-2015) of the World Radiocommunication Conference (WRC), on urgent studies in preparation for the 2019 WRC;
- k) relevant World Summit on the Information Society action lines and relevant United Nations Sustainable Development Goals (SDGs), particularly SDG 9, on building resilient infrastructure, promoting inclusive and sustainable industrialization and fostering innovation, and SDG 11, on sustainable cities and communities;
- l) Resolution 130 (Rev. Dubai, 2018) of this conference, on strengthening the role of ITU in building confidence and security in the use of ICTs,

taking into account

- a) the work and outcomes of relevant ITU study groups related to the scope of this resolution, including ITU-T Study Groups 17, 16, 13, 11, 5, 3 and 2, Study Group 2 of the ITU Telecommunication Development Sector (ITU-D) and Study Group 5 of the ITU Radiocommunication Sector (ITU-R);
- b) the work, studies and outcomes of ITU-T Study Group 20 on IoT and SCCs;
- c) the work of United for Smart and Sustainable Cities initiative;
- d) the current studies carried out by relevant ITU-R study groups, as well as relevant ITU-R reports;
- e) the ongoing work under relevant ITU-D study groups;
- f) the Buenos Aires Declaration adopted by WTDC-17, and particularly regional initiatives related to IoT;

g) the ongoing collaboration among the relevant ITU study groups and with other relevant organizations and standards-development organizations (SDOs),

considering

a) that a globally connected IoT world will be built on the connectivity and functionality made possible by telecommunication networks;

b) that the globally connected world also requires considerable enhancement of transmission speed, device connectivity and energy efficiency to accommodate the significant amounts of data exchanged among a plethora of devices;

c) that the rapid development of IoT-related and emerging technologies could enable the globally connected world to be realized faster than expected;

d) that IoT is playing a fundamental role in various fields, including energy, transportation, health, management of urban and rural spaces and smart and sustainable cities and communities (SSCCs), agriculture, emergencies, crisis and disaster management, public safety and home networks, and benefits developing countries¹ as well as developed countries;

e) that IoT is evolving to support a wide variety of applications and use cases involving various stakeholders;

f) that relevant ITU study groups as well as industry forums, consortia and other SDOs are working on the development of various standards and/or technical specifications for IoT;

g) that the impact of IoT is becoming more pervasive and far-reaching thanks to the wide range of applications in both ICT and non-ICT sectors;

¹ These include the least developed countries, small island developing states, landlocked developing countries and countries with economies in transition.

h) that, considering the limited financial and human resources in developing countries, special attention should be given to developing countries, in order to help them deploy necessary infrastructures to facilitate the interconnectivity of things,

recognizing

a) the role of ITU-T in carrying out studies and standardization work associated with IoT and its applications, including SCCs, and its activities in coordinating with other organizations;

b) the role of ITU-R in conducting studies on the technical and operational aspects of radio networks and systems for IoT;

c) the role of ITU-D in encouraging telecommunication/ICT development at the global level, and in particular the relevant work carried out by the ITU-D study groups;

d) the need to continue to collaborate with other relevant organizations, including relevant industry forums, consortia and SDOs;

e) that the Internet Protocol version six (IPv6) may contribute to the future development of IoT;

f) that cooperation between all relevant organizations and communities to raise greater awareness and to promote the adoption of IPv6 within Member States and through capacity building within the mandate of the Union is desired;

g) the work of the Joint Coordination Activity on IoT and SCCs;

h) that the development of IoT creates new opportunities in non-ICT sectors, including a wide range of verticals and industries, thus exerting an impact on economic growth, including the digital economy, and helping to achieve the 17 SDGs adopted in Resolution 70/1 of the United Nations General Assembly;

- i) the challenges and opportunities related to the widespread use of a large number of IoT devices, and their potential impact;
- j) the importance of continuing the work on IoT and SSCCs, within the mandate of ITU,

bearing in mind

- a) that interoperability is required in many sectors in order to develop services enabled by IoT (hereinafter "IoT services") at the global level, to the greatest extent practicable with mutual collaboration among relevant organizations and entities, including other SDOs involved in developing and using open standards, to the extent practicable;
- b) that industry forums are developing technical specifications for IoT;
- c) that the application of IoT is expected to encompass all sectors, including, but not limited to, energy, transportation, health, agriculture, etc. and that it will be necessary to take into account the different aims and requirements of different sectors;
- d) that it is important to encourage the participation of all relevant organizations or entities around the world to promote the early establishment and expansion of IoT;
- e) that the globally connected world through IoT could also contribute to achieving the goals of the 2030 Agenda for Sustainable Development,

resolves

- 1 to promote investment in and development of IoT in order to support the goals of the 2030 Agenda for Sustainable Development;
- 2 to continue and further develop studies and activities on IoT and SSCCs within the remit of ITU, in order to promote the development of IoT and SSCCs and address any possible challenges for ITU members and relevant stakeholders,

instructs the Secretary-General, in consultation and collaboration with the Directors of the three Bureaux

- 1 to coordinate the IoT and SSCC activities of the Union to implement the resolution;
- 2 to facilitate the exchange of experiences and information with all relevant organizations and entities involved in IoT and SSCCs, with the aim of creating opportunities for cooperative efforts to support the deployment of IoT;
- 3 to raise awareness among ITU members of the opportunities and challenges for developing countries in the adoption of IoT, and to facilitate the exchange of experiences and information and increase cooperation with all relevant organizations and entities involved in IoT and SSCCs, with the aim of creating opportunities;
- 4 to submit an annual report on the results of implementation of this resolution to the ITU Council sessions;
- 5 to submit a report to the next plenipotentiary conference in 2022,

instructs the Director of the Telecommunication Standardization Bureau and the Director of the Radiocommunication Bureau

- 1 to support the work of relevant ITU-T and ITU-R study groups on IoT and SSCCs and to facilitate the emergence of diverse services in the globally connected world, in collaboration with relevant sectors;
- 2 to continue cooperation with relevant organizations, including SDOs, for exchanging best practices and disseminating information to increase interoperability of IoT services, through joint workshops, training sessions, joint coordination activity groups and any other appropriate means;

3 to encourage the development of IoT and SSCCs, taking into account the outcomes of the work of the relevant ITU study groups on various aspects of IoT and SSCCs,

instructs the Director of the Radiocommunication Bureau

to support work of the ITU-R study groups on relevant radio aspects for IoT,

instructs the Director of the Telecommunication Development Bureau, in close collaboration with the Director of the Telecommunication Standardization Bureau and the Director of the Radiocommunication Bureau

1 to encourage and assist those countries which need support in adopting IoT and SSCCs, by providing relevant information, capacity building and best practices to enable the adoption of IoT, through seminars, workshops, etc.;

2 to encourage Member States to develop enabling frameworks, such as ICT strategies, for IoT and SSCCs,

instructs the ITU Council

1 to consider the reports of the Secretary-General referred to in *instructs the Secretary-General 4* above and take necessary measures so as to contribute to achieving the objectives of this resolution;

2 to report to the next plenipotentiary conference on the progress made with respect to this resolution based on the report of the Secretary-General,

invites Member States

1 to foster the development of guidelines and best practices for deployment, planning, and capacity building in the field of IoT and SSCCs;

2 to cooperate in order to promote IoT and SSCCs by encouraging the active participation of relevant stakeholders and exchange of relevant information on this topic;

3 to support studies on radio-related matters on IoT to support cost-effective deployment of IoT ecosystems,

invites the ITU membership

1 to consider developing best practices to enhance the development of IoT and SSCCs;

2 to contribute to the implementation of this resolution;

3 to cooperate in order to promote IoT and SSCCs by encouraging the active participation of relevant stakeholders in the activities of ITU and exchange information on this topic;

4 to participate actively in studies on IoT and SSCCs in the Union through contributions and by other appropriate means;

5 to encourage enterprises in various industries to participate in ITU's activities on IoT and SSCCs.