

## RESOLUTION ITU-R 66-2

### **Studies related to wireless systems and applications for the development of the Internet of Things**

(2015-2019-2023)

The ITU Radiocommunication Assembly,

*considering*

- a)* that the globally connected “Internet of Things” (IoT) world builds on the connectivity and functionality made possible by telecommunication networks;
- b)* that the growing number of IoT applications may require enhanced transmission speed (dependent upon the IoT use case), device connectivity and energy efficiency to accommodate the significant amounts of data among a plethora of devices;
- c)* that ITU-T Study Group 20, which is dealing with “IoT and its applications including smart cities and communities (SC&C)”, is working on development of international standards for IoT technologies including machine to machine (M2M) networks, smart cities and Ubiquitous Sensor Networks (USN);
- d)* that relevant standards development organizations have developed standards specifically related to M2M and other technologies which underpin IoT applications;
- e)* that many administrations, equipment developers and standardization bodies are considering wireless technologies for IoT use in various frequency bands;
- f)* that because IoT applications originated on, and operate on or interoperate with, existing as well as developing platforms, existing and evolving ITU-R work is inherently supportive of IoT;
- g)* Recommendation ITU-R M.2002, on Objectives, characteristics and functional requirements of wide-area sensor and/or actuator network (WASN) systems;
- h)* Recommendation ITU-R M.2083, on IMT Vision – Framework and overall objectives of the future development of IMT for 2020 and beyond;
- i)* Question ITU-R 250-1/5, on Mobile wireless access systems providing telecommunications for a large number of ubiquitous sensors and/or actuators scattered over wide areas as well as machine to machine communications in the land mobile service;
- j)* Report ITU-R M.2370, on IMT traffic estimates for the years 2020 to 2030,

*recognizing*

- a)* Resolution 197 (Rev. Bucharest, 2022) of the Plenipotentiary Conference, on Facilitating the Internet of Things and smart sustainable cities and communities;

- b) the use of different radio-frequency bands by radiocommunication services, many of which provide communication channels, infrastructure and capacity that could be used in IoT deployment with the aim of ensuring cost-effective deployment and efficient use of the radiofrequency spectrum;
- c) that IoT is a concept encompassing various platforms, applications, and technologies that are, and will continue to be, implemented under a number of radiocommunication services;
- d) that the implementation of IoT currently does not require specific regulatory provisions in the Radio Regulations,

*resolves to invite ITU-R*

1 to conduct studies on the technical and operational aspects of radio networks and systems for IoT;

2 to develop ITU-R Recommendations, Reports and/or Handbooks as appropriate, on the basis of the studies referred to above,

*further resolves to invite ITU-R*

to closely cooperate and collaborate with ITU-T and relevant standards development organizations, in order to take account of the results of work being done in those bodies, avoid duplication of effort with ITU-T and minimize conflict with the standards development organizations,

*invites Members of the Union*

to participate actively in implementing this resolution by, inter alia, submitting contributions for consideration by ITU-R and providing relevant information from sources outside ITU-R.