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| **The APT Preparatory Group for PP-14** | | **Document**  **PP14-3/OUT-10** | |
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**PRELIMINARY APT COMMON PROPOSAL: PROPOSED NEW RESOLUTION ON FACILITATING INTERNET OF THINGS (IOT) TO PREPARE FOR A GLOBALLY CONNECTED WORLD**

# 1. Introduction

Recently the Internet of Things (IoT) has been gathering international attention, especially in the fields of public service, disaster management and safety. It is perceived as the key infrastructure of a globally connected world, a world that is built upon digital networks where all people and things are interconnected and interact with each other, and where various intelligent services are provided through the Internet.

A globally connected world requires various networks that will be quite different from the existing one. Presently, the spectrum requirement for IoT’s communications purposes are met out of spectrum bands designated for ISM (industrial, scientific and medical) applications and the allocation of spectrum for IMT services. The high speed network is an Internet-based network that takes advantage of the current wired and wireless broadband networks, and in this context, the IoT would represent an appropriate realization of a globally connected world. Furthermore, the IoT has emerged as a revolutionary technology over the last few years in various areas including public service, disaster relief, public safety, etc. In 2012, Gartner, an IT research and advisory firm, included the IoT in the top 10 technologies that would have the biggest impact on companies in the next three years. Recently, the IoT was included in the top 10 strategic technology trends of 2014.This clearly shows a growing interest in and expectations for the IoT. However, its market segments, the current status, the industry size and related issues are yet to be defined. In addition, the more people make use of the IoT, the bigger its socio-economic impact, which makes it necessary to initiate extensive discussions on how to reform the relevant regulations, as well as to reduce the international digital divide and other related issues at the ITU level.

Meanwhile, the report[[1]](#footnote-1) of the Secretary-General of the United Nations Conference on Trade and Development (UNCTAD) considered the IoT as one of the five emerging trends in ICTs for development. The future realized bythe IoT was described as follows.

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| The Internet of things will extend the reach of connectivity beyond people and organizations to include objects and devices. Businesses and administrative systems already connect and monitor objects and devices through radio-frequency identification tags and global positioning systems. The Internet of things will take this further, enabling anything to which an IP address can be attached – “everything from tyres to toothbrushes” – to be connected, respond to digital instructions, and gather data for analysis. |

The report also illustrated the importance of the IoT in developing countries.

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| In developing countries, the principal short-term impact of the Internet of things is likely to concern specific applications given overall ICT infrastructure issues. Radio-frequency identification tags and global positioning systems, for example, can facilitate monitoring of trade consignments along supply chains, or help to manage the supply of educational materials and drugs in schools and clinics. Devices attached to vehicles can gather real-time information about traffic flows, enabling better traffic management – a major challenge in large, complex urban environments with poor infrastructure. Remote sensors can play an increasingly important part in monitoring environmental hazards such as climate change, health emergencies, and social unrest, enabling more timely adaptation, not least at local levels. |

As UNCTAD expects the IoT to play a major part in ICTs for development during the next five years, it is fairly reasonable for ITU, a specialized agency of the UN responsible for ICT issues, to address the IoT when discussing the future role of the organization. Therefore, it is suggested to that this proposal be discussed at the Plenipotentiary Conference in order to facilitate the IoT to prepare for a globally connected world.

# 2. Proposal

In this regard, APT Member States would like to propose the following Draft New Resolution, in Annex, in order to facilitate the IoT to prepare for a globally connected world.

**Annex**

**PACP/12**

**ADD**

DRAFT NEW RESOLUTION [APT/BBB] (Busan, 2014)

**Facilitating Internet of Things (IoT) to prepare for**

**a Globally Connected World**

The Plenipotentiary Conference of the International Telecommunication Union [Busan, 2014],

***considering***

a) that a globally connected world will be built on the connectivity and functionality made possible by the ‘Internet of Things (IoT)’;

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

c) that the rapid development of related technology could cause a globally connected world to be realized faster than expected;

d) that the IoT has been expected to play fundamental role in the fields of energy, transportation, health, agriculture, disaster management, public safety, and home networks and could benefit developing countries as well as developed countries;

e) that the impact of the IoT will be more pervasive and far-reaching thanks to the wide-range applications in Information and Communication Technology (ICT) sectors and non-ICT sectors;

f) that thorough and extensive discussions are needed at the ITU level to take necessary measures to facilitate converged activities related to IoT to all sectors;

g) that special attention to be paid to privacy and security in IoT;

h) that considering the limited financial and human resources in developing countries, special attention should be given to developing countries,

***recognizing***

a) that Recommendation ITU-T Y.2060 (2012) defines the concept of the IoT as a global infrastructure for the information society, enabling advanced services by interconnecting (physical and virtual) things based on existing and evolving interoperable ICT;

b) that studies on the IoT are being carried out in the telecommunication standardization sector to develop recommendations, such as the Joint Coordination Activity on IoT, the Global Standards Initiative on the IoT, the Focus Group on M2M (Machine-to-Machine), and ITU-T Study Groups in accordance with their respective scope and mandate of activities;

c) that as Radio-frequency identification (RFID) and Ubiquitous Sensor Network (USN) facilitated the advent of the IoT, the IoT will in turn play an important part as a catalyst for other related technologies currently studied by the Union;

d) that the Internet Protocol version six (IPv6) along with a suite of new Internet Protocols specifically for IoT networks are prerequisites for implementing its future applications and services; as well as collaborating 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,

***bearing in mind***

a) that interoperability is required to develop services derived by the IoT (hereinafter ‘IoT services’) at the global level, the extent practicable with mutual collaboration among relevant organizations and entities including other Standards Development Organizations(SDOs) involved in using open standard to the extent practicable;

b) that industry fora are developing technical specification of the IoT and have requested collaboration with the Union;

c) that spectrum requirement of the IoT may need to be studied to facilitate the achievement of a globally connected world;

d) that the application of IoT is expected to encompass all sectors including but not limited to energy, transportation, health, agriculture, etc.;

e) that the IoT related activities will encourage the participation of all relevant organizations or entities around the world to promote the early establishment and expansion of the IoT;

f) that a globally connected world through the IoT could also contribute to achieving the goals of the Post-2015 Development Agenda;

g) that the IoT could redefine the relationship between people and devices,

***resolves***

to promote IoT as a key enabler of a globally connected world in order to achieve the objectives mentioned in *considering* d) and e)above,

***invites the next World Radiocommunication Conference***

to consider the necessity to study the requirement to allocate spectrum for IoT, as appropriate,

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

1 to consider taking necessary measures in order to develop and foster the IoT as a tool to implement the outcomes of World Submit on Information Society (WSIS) and Post-WSIS activities;

2 to coordinate ITU activities with activities of other standards organizations in order to facilitate the use of the IoT;

3 to facilitate the exchange of experiences and information with all relevant organizations and entities involved in the IoT and IoT services with the aim of creating opportunities for collaborative efforts to support the deployment of the IoT;

4 to submit an annual report on the results of implementation of this Resolution to the Council sessions in 2015-2018;

5 to submit a report to the next Plenipotentiary Conference in 2018,

***instructs the Director of the Telecommunication Standardization Bureau***

1 to foster studies currently being carried out by relevant ITU-T Study Groups on IoT including security and interoperability as a basic enabler capable of facilitating the emergence of diverse services in a globally connected world in collaboration with relevant sectors;

2 to continue collaboration with relevant organizations including SDOs for exchanging best practices and disseminating information to increase interoperability of IoT services through joint workshops and training sessions and joint coordination activity groups,

***instructs the Director of the Telecommunication Development Bureau***

to encourage and assist those countries which need support in adopting the IoT and IoT services by providing information and technologies of the IoT,

***instructs the Council***

1 to consider the reports of the Secretary General on the activities referred to *in instructs the Secretary-General* 4 above and take necessary measures so as to contribute to the achievement of 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***

to consider developing appropriate policies, regulations, codes of practices and guidelines to enhance the development of the IoT,

***invites Member States, Sector Members, Associates and Academia***

to participate actively in IoT-related studies in the Union through contributions and by other appropriate means.

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1. The report titled “Information and communications technologies forinclusive social and economic development”was submitted to the Seventeenth session of theUnited Nations Commission on Science and Technology for Development (CSTD) held on May 12 to 16, 2014. [↑](#footnote-ref-1)