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Contact:	Bruce A. Gracie
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RESOLUTION GSC-16/XX: (Plenary) Internet of Things

The 16th Global Standards Collaboration meeting (Halifax, 31 October – 3 November 2011)

Recognizing:

a) that it was agreed in early 2011 in ITU-T to change the name of the Joint Coordination Activity (JCA) on the Network Aspects of Identification Systems (NID) to Internet of Things (IoT) in order to enhance global understanding of the scope of the work;

b) that the scope of the JCA-IoT is to coordinate work associated with the network aspects of identification of things and USN (Ubiquitous Sensor Network);

c) that work on identification of things covers among others: tag-based identification with three mandatory elements: identifier (e.g. Recommendation ITU-T E.164, ISBN, etc.), reader/writer (e.g. RFID interrogator, optical scanner, camera, etc.) and tag (e.g. RFID tag, barcode tag, smartcard, etc.);

d) that the USN work includes networking and service aspects of sensor information;

e) that it was also agreed in ITU-T to establish an IoT Global Standards Initiative to develop the detailed standards necessary for IoT deployment, taking into account the work undertaken in other SDOs;

f) that ITU-R Study Group 1 participates in the work of JCA-IoT on radiocommunication subjects such as short range devices (SRDs), which include RFIDs;

g) that global standards are of major importance, since large deployment of IoT devices is very much dependent on the cost factor; and that the elaboration of specifications for network capabilities and interfaces that could be used on a global basis would be beneficial to the industry and regulatory authorities;

h) that the GSC produced Resolutions GSC-9/7, 10/9 and 11/3 on EAS (Electronic Article Surveillance) and RFID and the need to maintain such activities as being of high interest;

i) that, in the past, applications of IoT were focused on systems working in a local environment and on specific areas like logistics, supply chain management, access control, etc. and that there is potentially now a wide range of applications;

j) that IoT devices are increasingly becoming integrated elements of complex applications, for which networking capabilities are needed;

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k) that telecommunications services can also include service capabilities based on IoT applications (e.g., RFID reader in mobile phones for presence indication, mobile payment, local information retrieval); and

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l) that with large-scale deployment of IoT standards for frequency allocations, radio requirements, protocols and network interfaces maybe be needed with due consideration to the security and privacy aspects, and regulatory and governance implications.

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Considering:

a) the need for common enabling mechanisms in protocols and services in support of highly disbursed data collection and management systems and services, such as those enabled by IoT;

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b) that the requirements for Radio-Frequency Identification and similar applications should be standardized on a global basis;

c) that international standards that support a number of applications already exist and that additional standards are necessary for effective global solution deployments;

d) that national, regional and international standards defining IoT schemes already exist and that any effective global solution should consider these existing IoT schemes;

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e) that different standards organizations are best positioned to produce the different types of standards necessary;

f) that the ITU has initiated development of Recommendations related to IoT and has established an IoT coordination mechanism; and that SDOs are developing international standards for aspects of the IoT solution; and

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g) the importance of the coordination in the development of global standards due to the complexity of the subject in terms of technical, regulatory (*e.g.*, radio communication and spectrum issues), communication interface (*i.e.*, networking) and legal aspects.

Resolves:

1) to facilitate a strong and effective standards collaboration on IoT;

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2) to encourage Participating Standards Organizations (PSOs) and other standards bodies to develop globally compatible IoT standards, including radio requirements, identity requirements, network capabilities, protocols, applications/services software platform architecture, and Automatic Identification Data Capture (AIDC) type network interfaces;

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3) to promote the development of Recommendations or Reports for globally compatible standards related to IoT applications;

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4) to consider both radio issues and telecommunications issues for IoT/AIDC standardization;

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5) to encourage the ITU-T, PSOs, other standards bodies and fora to cooperate in order to develop harmonized, globally-compatible, IoT-related standards and for PSOs, other standards bodies, and forums to designate representatives to ITU-T's "Joint Coordination Activity on Internet of Things"; and

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6) to encourage the ITU-T, PSOs, other relevant standards bodies and forums/consortia to collaborate in order to enable a globally interoperable IoT system considering all possible solutions such as OID (Object Identifier).

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