

## **Question 7/20 – Evaluation and assessment of smart sustainable cities and communities**

(Continuation of Question Q7/20)

### **1 Motivation**

Comprehensive strategies to implement smart sustainable cities and communities (SSC&C) are emerging around the globe integrating information and communication technologies (ICTs) into all aspects of city planning and operation. In this context, ICTs, especially the Internet of Things (IoT) and other emerging technologies improve the efficiency of a city's functions by making use of pertinent information from different domains through appropriate data analytics. This allows municipalities, communities and citizens to make better-informed decisions, and to more effectively integrate city services and cooperate across different sectors.

At this stage, it is important to be able to assess the impact and measure the performance of various SC&C ventures. One such approach for measurement is provided by key performance indicators (KPIs) that facilitate the monitoring of the progress achieved in support of SC&C transitions, including IoT implementation in specific sectors such as environment, safety, transportation, health, education, and utilities.

It is desirable that cities can quantify and also qualitatively assess their achievement according to their goals. Therefore, by utilizing these indicators, cities as well as their stakeholders can also objectively assess the extent to which they may be perceived as smarter and more sustainable cities.

### **2 Questions**

Study items to be considered include, but are not limited to:

- General principles that could be used to establish methodologies to assess the use of ICT as well as the impact of ICT on city smartness and sustainability.
- Smart Sustainable Cities Index for worldwide use across countries and regions.
- Usefulness of different methodologies (measurement, statistics sampling, case studies, best practices, etc.) with respect to different countries and regions.
- Best methods for collecting reliable data, accounting for the evolution of that data over time.
- How to assess the achievement of the sustainable development goals (SDGs) in a smart city?
- How to measure and evaluate a city's specific performance and e/smart services with respect to defined sector (or vertical) indicators such as open data indicators, e-health indicators, utilities indicators, etc.
- How to assess city resilience and robustness?
- Collaboration with which standards development organizations (SDOs) would be necessary to maximize synergies and harmonize existing standards?

### **3 Tasks**

Tasks include, but are not limited to:

- Developing Recommendations, Reports, Guidelines, etc. as appropriate on:
  - providing guidance and structured methods to cities for helping prioritize initiatives and also for assessing the maturity of smart and sustainable cities;
  - developing methodologies for assessment of city SDGs, considering general principles and criteria for evaluating ICT impact;
  - identifying methods for collecting and calculating reliable data to feed into the assessment model;

- developing methodologies and frameworks for measuring and evaluating a city's specific performance and e/smart services with respect to defined sector indicators;
  - developing methodologies and frameworks for assessing smart and sustainable city resilience and robustness;
  - reporting on the Global Smart Sustainable Cities Index;
  - reporting a city's performance to help cities to reach SDGs.
- Providing the necessary collaboration for joint activities in this field within ITU and between ITU-T and SDOs, UN agencies, consortia and forums.

An up-to-date status of work under this Question is contained in the SG20 work programme ([https://www.itu.int/ITU-T/workprog/wp\\_search.aspx?sp=17&q=7/20](https://www.itu.int/ITU-T/workprog/wp_search.aspx?sp=17&q=7/20)).

#### **4 Relationships**

##### **WSIS Action Lines:**

- C2, C3, C6, C7, C8, C10, C11

##### **Sustainable Development Goals:**

- 3, 6, 7, 9, 11 and 13

##### **Recommendations:**

- All the pertinent Y.4000 series Recommendations and Y supplements

##### **Questions:**

- All Questions of ITU-T SG20

##### **Study Groups:**

- ITU-T, ITU-D and ITU-R Study Groups, as appropriate

##### **Other bodies:**

- IETF
- Open Mobile Alliance (OMA)
- Open Geospatial Consortium (OGC)
- IEEE
- ATIS
- ETSI TC Smart M2M
- CCSA TC10
- oneM2M
- ISO/IEC JTC 1/SC41, ISO/IEC JTC 1/WG11
- Joint IEC-ISO-ITU Smart Cities Task Force
- GSMA
- 3GPP/3GPP2
- W3C
- Organization for the Advancement of Structured Information Standards (OASIS)
- Object Management Group (OMG)
- Industrial Internet Consortium (IIC)
- Alliance of Industrial Internet (AII)
- Alliance for IoT Innovation (AIOTI)

– Open Connectivity Foundation (OCF)

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