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| **TDAG Working Group  on the future of Study Group Questions (TDAG-WG-futureSGQ)**  **4th Meeting, Virtual, 21 January 2025** | | A close up of a sign  Description automatically generated |
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|  | **Document TDAG-WG-futureSGQ/22-E** | |
|  | **17 January 2025** | |
|  | **English only** | |
| Vice-Chair, ITU-D Study Group 2 | | |
| Initial thoughts on future of ITU-D Study Group 2 Questions | | |
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| **Summary:**  This document provides initial thoughts on new and revised study items for the ITU-D Study Group 2 Questions, as shared by each of the Management Teams of the Questions concerned and consolidated by the Coordinator on the referred study group for the discussion of the future of Questions. The result of the consolidation is brought as an initial input for the work of the TDAG Working Group on the future of Study Group Questions (TDAG-WG-futureSGQ).  **Action required:**  Participants are invited to use this document as an input for the discussions of the TDAG Working Group on the future of Study Group Questions (TDAG-WG-futureSGQ).  **References:**  WTDC Resolution 2 (Rev. Kigali, 2022) | | |

# Introduction

ITU-D Study Group 2 held its latest meeting from 11 to 15 November 2024, where the topic of the future of the study Questions was discussed in a management team meeting.

Mr Victor Martinez (Paraguay) was appointed as one of the Coordinators for the Future of Study Group Questions, and he, in that capacity, brings to the attention of this TDAG working group the discussions up to now.

Some Questions sent their inputs to the SG2 Coordinators, while others need to consider it further. The consolidated inputs are provided in this contribution. This work in on-going and can be updated in the future as discussions mature at the final meeting of the ITU-D Study Group 2 to be held from 5 to 9 May 2025.

# Initial ideas on new and revised items of study for ITU-D Study Group 2 Questions

**ITU-D Question 1/2 (Smart sustainable cities and communities)**

No information at this stage.

**ITU-D Question 2/2 (Enabling technologies for e-services and applications, including e-health and e-education)**

* Removal of the terms “OTT” and “cloud computing”, as they can be covered under the general scope of e-services and applications, and given the low number of contributions received in Q2/2 during this study period on these specific topics.
* Addition of “Impact of AI technologies in support of e-services and applications to enable an efficient telecommunication/ICT ecosystem”.

**ITU-D Question 3/2 (Securing information and communication networks: Best practices for developing a culture of cybersecurity)**

No information at this stage.

**ITU-D Question 4/2 (Telecommunication/ICT equipment: Conformance and interoperability, combating counterfeiting and theft of mobile devices)**

1. Conformance and Interoperability
   * Strengthening testing mechanisms to ensure that ICTs equipment conforms to international and regional standards and developing mechanisms to meet these standards.
   * Promoting interoperability of systems and equipment to improve global connectivity and facilitate the adoption of ICTs in different contexts.
   * Establishment of collaborative platforms to share best practices and testing methodologies.
2. Fight against counterfeit equipment
   * Establishment of centralized databases for identifying and tracking genuine equipment, and adoption of technological, legal, and institutional strategies to identify, mitigate, and deter counterfeit ICTs equipment.
   * Educating stakeholders (manufacturers, distributors, and consumers) on the risks and dangers associated with counterfeit equipment.
   * Development of technological solutions for the authentication of equipment (QR codes, microchips, etc.).
3. Combating mobile device theft
   * Increased international collaboration to track and block stolen devices through IMEI databases, and the development of legal and technical frameworks to reduce mobile device theft.
   * Establishment of harmonized legal frameworks for the criminalization of the resale of stolen equipment and strengthening international cooperation and traceability mechanisms to deter the resale.
   * Educating the general public on the use of anti-theft services (remote locking, traceability).

**ITU-D Question 5/2 (Adoption of telecommunications/ICTs and improving digital skills)**

This is a new study Question. All parts of the ToR need future studies as they have not been fully explored in this study cycle.

**ITU-D Question 6/2 (ICTs for the environment)**

Addition of “The role of ICTs and cutting-edge intelligent technologies like AI in reducing climate change-related disasters like flash floods and large-scale fires (in collaboration with Q3/1).”

**ITU-D Question 7/2 (Strategies and policies concerning human exposure to electromagnetic fields)**

The following new topics are proposed at this stage:

1. 5G EMF
2. EMF in low-altitude airspace and drone
3. AI in EMF evaluation
4. EMF in smart wearable devices

Additional topics are being discussed and may be proposed in a subsequent contribution.

**Annex 1: Proposed new terms of reference for ITU-D SG2 Questions**

**MOD**

**QUESTION 2/2 Enabling technologies for e-services and applications, including e-health and e‑education**

1. **Statement of the situation or problem**

In order to continue to contribute to and promote attainment of the United Nations Sustainable Development Goals (SDGs) set in September 2015 and objectives set by the Geneva Plan of Action of the World Summit on the Information Society (WSIS) in the era of digital transformation, it is necessary to address the challenge of digital infrastructure development to make available consequent benefit in developing countries.

The offerings of e-services, m-services and applications present new opportunities for economic development, particularly in developing countries. Enabling technologies offer ubiquitous, convenient and on-demand network access to a shared pool of configurable computing resources (e.g. networks, servers, storage, applications and services) that can be rapidly provisioned and released with minimal management effort or service-provider interaction.

Increased broadband networks also lead to the development and deployment of new services and applications, such as mobile money transfer, m-banking, m-commerce and e-commerce. More importantly, in developing countries, especially in remote areas, there are few health professionals, and the United Nations goal of "minimum health care for all'' will not be achieved by 2030 without the use of e-health technology. The coronavirus disease (COVID-19) pandemic has made it more difficult to meet people in person, and the relationship between patients and medical doctors, pregnant women and midwives, and older persons and visiting nurses has begun to change in many ways in the medical field. In addition, students at schools or universities in both urban and remote areas were not able to meet their instructors in person during the pandemic and demand increased sharply on different educational platforms and applications. Such a trend is expected to continue and even increase as it proves effective. M‑services were at the core of the pandemic response, and will continue to be essential in the years to come.

1. **Question or issue for study**

The scope of activities is:

1. Introduce best-practice models for e-services in developing countries, including e-health and e-education.
   1. Ways to promote an enabling environment among ICT stakeholders for the development and deployment of e-services and m-services.
   2. Study of new e-health technologies, including combating pandemics.
   3. Sharing e-health standardization with developing countries.
2. Methods of development and deployment of cross-cutting m-services related to e‑commerce, e-finance and e-governance, including money transfer, m-banking and m-commerce.
3. National case studies and experiences regarding legal frameworks and partnerships seeking to facilitate the development and deployment of e-services and m-services.
4. Impact of AI technologies in support of e-services and applications to enable an efficient telecommunication/ICT ecosystem.
5. Strategies and policies to foster the e-application and e-government systems in developing countries, taking into consideration relevant standards recognized or under study in the other two ITU Sectors.
6. Advanced knowledge support to BDT's e-application projects in cooperation with WHO or other UN bodies.

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**QUESTION 6/2 ICTs for the environment**

1. **Statement of the situation or problem**
   1. **ICTs and climate change**

The issue of climate change has emerged as a global concern and requires global collaboration by all concerned, in particular the developing countries[[1]](#footnote-2) (which are the most vulnerable group of countries with respect to climate change). International initiatives in this domain are seeking to achieve sustainable development and identify ways and means in which information and communication technologies (lCTs) can monitor climate change and reduce overall global greenhouse gas (GHG) emissions. The focus of this study Question is ''responsible consumption and production''.

ICTs have a direct and indirect effect on the environment. ICTs can help emerging economies overcome and thrive despite climate change and fluctuations, while helping the world mitigate climate change.

New technologies, systems and applications can monitor climate and reduce its adverse impact by utilizing big data. They can be pivotal in helping policy-makers and industry to tackle challenges with regard to environmental changes while formulating new policies and setting new standards of production towards reduction of emissions. Also, artificial intelligence can contribute to the collection of information through various methods and channels of data collection, by utilizing both human and historical experience to face extreme and unpredictable weather scenarios.

Study Group 5 of the ITU Telecommunication Standardization Sector (ITU-T) is the lead study group for the study of ICT environmental aspects of electromagnetic phenomena and climate change, including design methodologies to reduce environmental effects, such as recycling related to ICT facilities and equipment; and Study Group 7 (Science services) of the ITU Radiocommunication Sector (ITU‑R) is the lead study group for studies related to the use of radio technologies, systems and applications, including satellite systems, for environment and climate‑change monitoring and climate‑change prediction.

In this respect, the outcomes of ITU‑T and ITU‑R resolutions and Recommendations, and in particular Resolution 73 (Rev. Geneva, 2022) of the World Telecommunication Standardization Assembly (WTSA) and Resolution 673 (Rev. WRC‑12) of the World Radiocommunication Conference, should serve as a basis for the study of this Question.

* 1. **Telecommunication/ICT waste material**

The growth of telecommunications/ICTs, especially in developing countries, has been exponential in recent years. For instance, between 2002 and 2007, mobile‑phone penetration in the Americas region grew from 19 to 70 terminals per 100 inhabitants. Globally, the share of mobile‑phone subscriptions in developing countries increased by 20 percentage points, from 44 per cent to 64 per cent over the same period of time.

The growth of electrical and electronic equipment and their peripherals, as well as the continuous updating of technology, has generated a significant growth in telecommunication/ICT waste. It is estimated that between 20 and 50 million tonnes of telecommunication/ICT waste are generated every year worldwide. However, recycling and responsible disposal of telecommunication/ICT waste remain at low levels, making it difficult to even find figures on this issue at regional level.

According to the Global E-waste Monitor 2020, the world generated 53.6 million tonnes of e‑waste in 2019, whilst global waste generation is predicted to reach 74 Mt by the year 2030, which is almost double the 2014 figures. This equates to an average of 7.3 kg per person.

Recycling and efficient disposal of telecommunication/ICT waste have not been handled properly, so it is proving a major challenge even to obtain correct figures for total ICT waste/e-waste present in the world.

The consequences of not carrying out proper recycling or disposal of e-waste constitute environmental problems of large magnitude and give rise to health issues, especially for developing countries.

The exponential growth of telecommunication/ICT terminals, the associated high turnover of terminals and advances in technology make it imperative to put forward actions in the immediate future to prevent the environmental catastrophe that would result in developing countries if we fail to produce an adequate regulatory framework and work towards policies that address this problem.

1. **Question or issue for study**

There are a variety of issues that members will address under this study Question in the next four years. It is expected that the following steps for the study will play a major role in the future in order to meet the objective of the Question:

1. In close collaboration with the respective BDT programme(s), identify the regional needs for relevant applications for developing countries.
2. Elaborate a methodology for the implementation of the Question, in particular gathering evidence and information regarding current best practices on how ICTs can help reduce overall GHG emissions, taking into consideration progress achieved by ITU‑T and ITU‑R in this regard.
3. Consider the role of Earth observation in climate change, as determined by the implementation of Resolution 673 (Rev. WRC‑12), on the use of radiocommunication for Earth observation applications, in order to enhance the knowledge and understanding of developing countries in respect of the utilization and benefits of relevant applications in connection with climate change.
4. Develop best-practice guidelines for the implementation of relevant Recommendations adopted by ITU‑T as a result of the implementation of Resolution 73 (Rev. Geneva, 2022), both for monitoring changes in the climate and reducing the impact of climate change using the action plan in WTSA Resolution 44 (Rev. Geneva, 2022), in particular programmes 1, 2, 3 and 4 thereof.
5. Strategies to develop a responsible approach to, and comprehensive treatment of, telecommunication/ICT waste: policy and regulatory actions required in developing countries, in close collaboration with ITU‑T Study Group 5.
6. Consider the role of ICTs towards a greener world post-COVID-19.
7. The role of ICTs and cutting-edge intelligent technologies like AI in reducing climate change-related disasters like flash floods and large-scale fires. (in collaboration with Q3/1).

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1. These include the least developed countries, small island developing states, landlocked developing countries and countries with economies in transition. [↑](#footnote-ref-2)