



Outcome report: Emerging Technology (ITEC)

Session Date and Time: Session 5. Monday, 5 July 2021 (17:30 – 19:00 (CEST)). 90 minutes.

Numer of Participants: The session counted with 146 participants from them we there was 116 participants in average.

Master of ceremony and Moderator: Pablo Palacios, Programme Officer, ITU Regional Office Chile.

Welcoming Remarks: Bruno Ramos, Regional Director - ITU Regional Office for the Americas.

Keynote Speakers:

- Professor David Dai. Expert from ITU-T SG13, Technical Director, Fiberhome Technologies.
- Professor Ahmad Reza Sharafat, Chairman, ITU-D SG-2, Professor of Electrical and Computer Engineering at Tarbiat Modares University.

1. Session summary:

This session assigns a space to present a general technical view of 5G networks, technical concepts, the deep packet inspection (DPI) and the benefits to network operators, the work of ITU on next-generation networks developed by the ITU-T SG13 and ITU-D SG2.

Welcoming Remarks:

Mr. Bruno Ramos offered the welcoming remarks. Mr Ramos highlighted that the event is being implemented in the framework of the ITU Global Action focused on emerging technologies, particularly Accelerating Digital Transformation in least developed countries and DCs, land locked developing countries, LLDCs, and the small island developing countries, SIDs.

All the countries of the Americas Region are planning on or are already working on the deployment of 5G networks and the adoption of emerging technologies. it is necessary to swiftly adopt regulatory frameworks so that rapid technological advances are quickly translated into tangible benefits. We must work on the adoption of innovation systems that dynamically integrate the contributions of all stakeholders.

Keynote Speaker 1: Yesterday today and tomorrow for network awareness in ITU-T

The Keynote Speaker from ITU-T SG13 presented the deep packet inspection (DPI) and the benefits to network operators in many areas such as service/application awareness, quality of service (QoS) assurance, network management and other benefits. Deep packet inspection and intelligent network awareness can also be the generic core technologies and common building blocks for some application technologies which depend on deep packet inspection and intelligent network awareness tightly such as big data-driven networking (bDDN).

Keynote Speaker 2: Digital Transformation for Sustainable Development: 5G Deployment and Transition from 4G

The Keynote Speaker from ITU-D SG2 discussed why digital transformation is vital for sustainable development. He also discussed why connectivity via new emerging

technologies, such as 5G is essential by way of presenting 5G use cases and requirements. He then presented 5G deployment challenges and examine the issues that are pertinent to the deployment of different segments of 5G, namely the core network, the transport network, and the radio access network. He also discussed recent studies, standards, and guidelines on safe levels of human exposure to electromagnetic fields (EMF) caused by wireless networks, including 5G.

2. Main outcomes highlighting the following:

- It was presented the global view of the adoption of 5G by Mr Ramos. The welcoming remarks presented the challenges of the adoption of new technologies, the deployment of 5G, need for legal framework, the joining work public and private, among other national and regional projections. Mr. Ramos presented a description of each of the sessions that were presented during the week.
- The Keynote speaker of the ITU-T SG13 presented the work of ITU in the Study Group, the advances of the emergency technologies, the work on deep packet inspection (DPI), and the benefits to network operators in many areas such as service/application awareness, quality of service (QoS) assurance, network management and other benefits. Additionally was presented several recommendations that have been developed and are under development in the Study Group.
- The second keynote speaker from the ITU-T SG2, presented the digital transformation and the vital importance for sustainable development. He also discussed why connectivity via new emerging technologies, such as 5G is essential by way of presenting 5G use cases and requirements, plus the possibilities to implement NSA and SA 5G networks, the core, the elements of the network, the new concept of this emerging technology.

3. Panellists contributions to the outcome reports

- The presentations of the Keynote speakers provided an overview of the work that ITU is developing in the Study Groups, the development of new technologies, the corresponding Recommendations, the main concepts of 5G network, Data Packet Inspection (DPI), etc.
 - There are several solutions for the implementation of 5G networks, not only a full stand alone implementation, but also non-stand alone networks to offer 5G services based in the current 4G networks.
 - The session provided an initial view of new emerging technologies as the basic introduction for the high-level discussions that were performed during the next days.
 - There are different options for the deployment of 5G Radio Access Networks, depending on the traffic and usage in any given location. It is more cost effective to start 5G RAN deployment in locations with more users, such as hotspots.
 - For economic reasons, 5G deployment in rural areas is the last stage in nationwide 5G deployment, therefore is necessary public-private alliance.
 - There are three different bands for 5G: The low band, below 1 gigahertz, and also the midband from 1 gigahertz to 6 gigahertz, and then the high band, which is millimeter waves.
 - The presentations provided incentive to the participation to the work that ITU is developing through the Study Groups, and to participate in the online sessions.
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