



TSB DIRECTOR CxO MEETING

7 December 2017, Dubai, United Arab Emirates

COMMUNIQUÉ

The transformative role to be played by artificial intelligence (AI) and 5G systems – in telecommunications, smart sustainable cities and society at large – was in focus at a meeting of 18 high-level ICT executives (CxOs) and the senior management of the ITU Telecommunication Standardization Sector (ITU-T).

The CxO meeting took place alongside the Telecom Review Summit 2017 in Dubai, UAE. The Arab region was especially well represented at the CxO meeting, a meeting which provided industry leaders with an opportunity to exchange views with ITU on emerging industry needs and related standardization priorities.

“Operator in a box” – key principles enabling smart city innovation and efficient service delivery

Attendees discussed how information and communication technologies (ICTs) will assist the response to challenges associated with globalization, changing climates and demographics and aging infrastructure, as well as enhance the quality of public services and create business environments supportive of growth and innovation. The meeting highlighted the opportunity for network operators to enable the shift towards a smarter society by building efficient, interoperable, reliable, scalable, secure ICT platforms.

Participants called on ITU to consider the following as key principles of standardization work to enable this transformation:

- *Security and privacy by design*, considering security and privacy from the outset of ICT services’ development through to the proactive monitoring and protection of live services
- *open APIs*, enabling third parties to access and build on network capabilities to develop innovative, reusable services
- *network virtualization*, capitalizing on techniques including network function virtualization (NFV) and software-defined networking (SDN) to support services in demand of low latency and high efficiency and flexibility
- *Identity and authorization*, providing for the reliable identification essential to secure, efficient service provision
- *Analytics*, supporting the development of evidence-based, data driven services
- *Accessibility by design*, mainstreaming the consideration of needs of the elderly and persons with disabilities to build inclusive ICT solutions

Realizing the 5G vision

CxOs described future 5G systems as representative of a technological shift empowering a wide range of use cases over and above smart cities and industry digitalization. Participants recognized that 5G development is well underway in R&D labs and standards bodies – including ITU-T Study Groups 2, 5, 11,

13 and 15 – but highlighted a range of hurdles still to be overcome before 5G systems can be deployed, including spectrum availability and harmonization; a unified 5G network architecture allowing for flexibility, automation and fixed-mobile convergence; large-bandwidth backhaul and fronthaul solutions; and concrete strategies for the migration from 4G to 5G systems.

To realize the 5G vision and meet the set timeline, participants argued that operators, vendors, regulators and standards bodies should adopt a strong spirit of cooperation, innovation and change.

CxOs identified a range of 5G-relevant standardization areas in need of further attention, areas such as end-to-end network orchestration, control and management; service-based network architecture; open service management APIs for the Internet of Things; electromagnetic field (EMF) studies around 5G beam-forming capabilities; and the interoperability of services supporting public safety.

Operators and vendors present at the meeting called for concerted effort by ITU-T Study Groups and other organizations active in the field of 5G to address open issues and accelerate standards development, thereby reducing the uncertainty created by a proliferation of options and promoting multi-vendor interoperability.

Participants highlighted the value of ITU as a neutral platform for 5G standards development and coordination, as well as the opportunity to leverage the work of open-source communities to complement formal standards.

Artificial intelligence and machine learning – silver bullet?

Silver bullet? Not yet, agreed CxOs. The meeting categorized AI-driven services and network-management scenarios – including customer behavior analysis; dynamic network-resource provisioning and optimization; and predictive network maintenance – as either *intra-network* or *inter-network* use cases, the latter requiring interface standards for control and negotiation. Participants welcomed the work of the ITU Focus Group on ‘Machine learning for Future Networks including 5G’ to develop technical specifications and reports on the required interfaces, network architectures, protocols, algorithms and data formats. Novel approaches to the performance benchmarking and certification of AI techniques were considered by CxOs to be in need of further attention.

Briefing on recent ITU achievements and call for ENUM input

CxOs appreciated the opportunity to learn about ITU initiatives relevant to the topics discussed at the meeting, initiatives such as the AI for Global Good Summit and ITU work on data processing and management, distributed ledger technologies, digital financial inclusion and digital fiat currency.

ITU representatives brought CxOs’ attention to the importance of ITU’s work on VoLTE/ViLTE interconnection, highlighting in addition that the slow adoption of ENUM – a key component of IMS interconnection – poses a technical barrier to global VoLTE/ViLTE interconnection.

The Rapporteur on ITU-T standardization strategy introduced examples of how recommendations issued by past CxO and CTO meetings had given rise to new ITU-T standardization activities.

The CxO meeting’s participants expressed their gratitude to ITU-T for the opportunity to exchange views on emerging trends and associated standardization priorities.

Chaesub Lee, the Director of the ITU Telecommunication Standardization Bureau, expressed his appreciation to Trace Media for hosting the meeting and invited all participants to join the next CTO meeting scheduled for 9 September 2018 in Durban, South Africa, as part of ITU Telecom World 2018.

The meeting welcomed an invitation from Saudi Arabia's Communications and Information Technology Commission (CITC) to host the next CxO Meeting in Saudi Arabia in 2018 (dates and location to be confirmed).

The participating organizations were:

Arab ICT Organization, Tunisia; **China Mobile**, China; **Communications and Information Technology Commission**, Saudi Arabia; **DarkMatter**, United Arab Emirates; **Emirates Integrated Telecommunication Company (du)**, United Arab Emirates; **Ericsson**, Sweden; **Fujitsu**, Japan; **Huawei Technologies**, China; **NEC**, Japan; **Nokia**, Finland; **NXN**, United Arab Emirates; **Sofrecom**, France; **Telecom Review North America**, United States; **Telecommunications Regulatory Authority**, United Arab Emirates; **Telecommunication Technology Committee**, Japan; **TELUS**, Canada; **TODA-Algorand**, United States; **Trace Media**, United Arab Emirates; **ITU**.