Attachment 1

Matching of ITU-D SG1 and SG2 Questions of interest to ITU-T study groups

Amendments herein reflect:

- TSAG-ILS TD341 from TDAG (11 May 2018)
- TSAG-ILS TD350 from ITU-T SG11 (27 July 2018)
- TSAG-ILS TD351 from ITU-T SG11 (27 July 2018)
- TSAG-ILS TD355 from ITU-T SG13 (27 July 2018)
- TSAG-ILS TD361 from ITU-T SG17 (7 September 2018)
- TSAG-ILS TD366 from ITU-T SG2 (14 September 2018)
- TSAG-ILS TD378 from ITU-T SG5 (21 September 2018)
- TSAG-ILS TD386r1 from ITU-T SG15 (19 October 2018)
- TSAG-ILS TD410 from TDAG (5 December 2018)
- ITU-T CIR 112 (12 September 2018).

Reviewed matching of ITU-D SG1 and SG2 Questions of interest to ITU-T SG11.

Table 1 – ITU-D Questions vis-à-vis ITU-T Questions

ITU-D SG1 **Question 1/1: Strategies and policies for the deployment of broadband in developing countries**		
ITU-T SG	**ITU-T Question**	**Work items**
SG2	Q1/2: Application of numbering, naming, addressing and identification plans for fixed and mobile telecommunications services	E.129 Presentation of national numbering plans E.101 Definitions of terms used for identifiers (names, numbers, addresses and other identifiers) for public telecommunication services and networks in the E-series Recommendations; E.A-ENUM Principles and procedures for the administration of E.164 country codes for registration into the Domain Name System; E.spn Management and asssignment of global Service Provider Numbers (SPN); E.164 Supplement 2 Management and Assignment of Global Service Provider Numbers (SPN); M.rdm Requirements for Data Management in the TMN
	Q2/2: Routing and interworking plan for fixed and mobile networks	
	Q5/2: Requirements, priorities and planning for telecommunication management and operation, administration and maintenance (OAM) Recommendations	M.somm (ex M.inomsa) Framework of smart operation, management and maintenance
	Q6/2: Management architecture and security	

ITU-D SG1 Question 1/1: Strategies and policies for the deployment of broadband in developing countries		
ITU-T SG	**ITU-T Question**	**Work items**
SG3	Q1/3: Development of charging and accounting/settlement mechanisms for international telecommunications services using the next-generation networks (NGNs), future networks, and any possible future development, including adaptation of existing D-series Recommendations to the evolving user needs	D.Framework Framework for ICT service delivery with the guaranteed QoS and requested bitrate on fixed & mobile data networks, for development of efficient economic mechanisms and models of interaction in the "operator-provider-user" chain
	Q2/3: Development of charging and accounting/settlement mechanisms for international telecommunications services, other than those studied in Question 1/3, including adaptation of existing D-series Recommendations to the evolving user needs	
	Q3/3: Study of economic and policy factors relevant to the efficient provision of international telecommunication services	D.Classification Classification of telecommunications services in data networks; D.GVR Towards better governance of telecommunication regulation; D.IoTpolicy Guidelines on Tariff and regulatory aspects of Internet of Things (IoT) D.Licensing Mechanisms for pricing of licenses for mobile/broadband/fixed; D.SpectrumShare Shared use of spectrum and infrastructure; Study_EPQoS Study of economic and policy factors relevant to the efficient provision of international telecommunication services
	Q4/3: Regional studies for the development of cost models together with related economic and policy issues	
	Q6/3: International Internet connectivity including relevant aspects of Internet protocol (IP) peering, regional traffic exchange points, cost of provision of services and impact of transition from Internet protocol version 4 (IPv4) to Internet protocol version 6 (IPv6)	D. BGPE Proposed new recommendation on International Internet Connectivity; D.CompIIC Draft Recommendation ITU-T D.XX on Framework for the Competitive Provision of International Internet Connectivity (IIC); STUDY_IIC International Internet Connectivity, including IP peering, Regional Traffic Exchange Points, and cost of provision of services; STUDY_IPV6 Economic impact of transition from IPv4 to IPv6

ITU-D SG1 Question 1/1: Strategies and policies for the deployment of broadband in developing countries		
ITU-T SG	**ITU-T Question**	**Work items**
	Q10/3: Definition of relevant markets, competition policy and identification of operators with significant market power (SMP) as it relates to the economic aspects of the international telecommunication services and networks	D.CrossBorderSMP Quantifying cross-border market power; D.DynamicTariff Impact of Dynamic Tariffing on Market Competitiveness
	Q11/3: Economic and policy aspects of big data and digital identity in international telecommunications services and networks	
	Q13/3: Study of Tariff, Charging Issues of Settlements Agreement of Trans-multi-country Terrestrial Telecommunication Cables	D. ModelTTC Model of trans-multi-country terrestrial cable resource sharing
	~~Q6/5: Achieving energy efficiency and smart energy~~	~~L.5G_powering Sustainable power feeding solutions for 5G network;~~ ~~LSTR.5GEE Study on methods and metrics to evaluate energy efficiency for future 5G systems (Completed in 2017);~~ ~~Suppl. RBSbest prac Supplement to L.RBS Radio base station site best practices~~
	~~Q9/5: Climate change and assessment of information and communication technology (ICT) in the framework of the Sustainable Development Goals (SDGs)~~	
SG5	Q6/5: Achieving energy efficiency and smart energy	L.5G_powering Sustainable power feeding solutions for 5G network~~;~~ L.Supp~~l~~. RBSbest prac Supplement to L.RBS Radio base station site best practices L.1220 ~~L.1220: Innovative energy storage technology for stationary use - Part 1: Overview of energy storage~~Innovative energy storage technology for stationary use - Part 1: Overview of energy storage L.1221 ~~L.1221: Innovative energy storage technology for stationary use - Part 2: Battery1221:~~ Innovative energy storage technology for stationary use - Part 2: Battery L.1222~~L.1222: Innovative energy storage technology for stationary use - Part 3: Supercapacitor technology:~~ Innovative energy storage technology for stationary use - Part 3: Supercapacitor technology L.1310 ~~L.1310: Energy efficiency metrics and measurement methods for telecommunication equipment:~~Energy efficiency metrics and measurement methods for telecommunication equipment

ITU-D SG1 Question 1/1: Strategies and policies for the deployment of broadband in developing countries		
ITU-T SG	**ITU-T Question**	**Work items**
		L.1320 ~~L.1320: Energy efficiency metrics and measurement for power and cooling equipment for telecommunications and data centres:~~ Energy efficiency metrics and measurement for power and cooling equipment for telecommunications and data centres L.SE_BS Smart energy solution for telecom base stations
	Q7/5: Circular economy including e-waste	L.1020~~:~~ Circular economy: Guide for operators and suppliers on approaches to migrate towards circular ICT goods and networks L.1021~~:~~ Extended producer responsibility - Guidelines for sustainable e-waste management L.1030~~:~~ E-waste management framework for countries L.1022 (ex L.CE_concepts) Circular Economy:~~:~~ Definitions and concepts for material efficiency for ICT L.1032 (ex L.ER) Guidelines and Certification Schemes for e-Waste Recyclers L.methodology_arch Methodology to assess the environmental impact of the different proposed architectures
	Q9/5: Climate change and assessment of information and communication technology (ICT) in the framework of the Sustainable Development Goals (SDGs)	L.1700~~:~~ Requirements and framework for low-cost sustainable telecommunications infrastructure for rural communications in developing countries
SG9	Q5/9: Software components application programming interfaces (APIs), frameworks and overall software architecture for advanced content distribution services within the scope of Study Group 9 Q8/9: The Internet protocol (IP) enabled multimedia applications and services for cable television networks enabled by converged platforms Q9/9: Requirements, methods, and interfaces of the advanced service platforms to enhance the delivery of sound, television, and other multimedia interactive services over cable television network	

ITU-D SG1 Question 1/1: Strategies and policies for the deployment of broadband in developing countries		
ITU-T SG	**ITU-T Question**	**Work items**
SG11	Q1/11: Signalling and protocol architectures in emerging telecommunication environments and guidelines for implementations	Q.3053 (ex Q.Arc-IPSMS) Signalling architecture and requirements for IP based short message service over ITU-T defined NGN Q.DEN_IMS: Signalling architecture of distributed ENUM networking for IMS
	Q2/11: Signalling requirements and protocols for services and applications in emerging telecommunication environments	Q.3640 (ex Q.30xx_VoLTE_Interconnection_FW) Framework of interconnection of VoLTE/ViLTE-based networks; Q.IMS_NGN_Rel.11 IMS references to Release 11 for communication between IMS and NGN Networks in order to support the end-to-end service interoperability
	Q4/11: Protocols for control, management and orchestration of network resources	Q.3405 (ex Q.IPv6ProBB) IPv6 protocol procedures for broadband services; Q.SMO Signalling requirements of Software-defined Metro Orchestration; Q.SCC Signalling requirements and information model of Cooperative Controller Q.SD-DCI Signalling requirements and information model of SD-DCI service Q.SD-WAN Signalling Requirement for SD-WAN service Q.SVDC Signalling requirements of the Sew interface for Virtual Data Center Q Supplement 67 Framework of signalling for Software Defined Networking Q.3711 (ex Q.SBAN) Signalling requirements for software-defined broadband access network Q.3316 (ex Q.CSO) Interface and Signalling Requirements and Specification for Cross Stratum Optimization Q.3716 (ex Q.PVMapping) Signalling Requirements for Mapping between Physical and Virtual Networks Q.3740 (ex Q.SCO) Signalling Requirements for SDN and NFV based Central Office services
	Q5/11: Protocols and procedures supporting services provided by broadband network gateways	Q.3715 (ex Q.BNG-DBoD) Signalling requirements for dynamic bandwidth adjustment on demand on broadband network gateway implemented by software-defined networking technologies Q.BNG-IAP Signalling requirements of IP address pool based on broadband network gateway by SDN technologies Q.BNG-CFS Signalling requirements for control and forwarding plane separation in vBNG Q.BNG-PAC Procedures for vBNG acceleration with programmable acceleration card

ITU-D SG1 Question 1/1: Strategies and policies for the deployment of broadband in developing countries		
ITU-T SG	**ITU-T Question**	**Work items**
	Q6/11: Protocols supporting control and management technologies for IMT-2020	Q.CE-APIMP Protocol for managing capability exposure APIs in IMT-2020 network Q.NS-LCMP Protocol for network slice lifecycle management Q.D2D-EECP Energy efficient D2D communication protocol for IMT 2020 network Q.IMT2020-PFW Protocol Framework for IMT-2020
	Q7/11: Signalling requirements and protocols for network attachment including mobility and resource management for future networks and IMT-2020	Q.3714 (ex Q.SAN-MIM) Signalling requirements of SDN-based access networks with media independent management capabilities; Q.NEA-REQ Signalling Requirements of NFV Entity Management for Network Attachment Q.IEC-REQ Signalling requirements and architecture of intelligent edge computing Q.MEA-SRA Signalling requirement and architecture for media service entity attachment Q.QMP-TCA QoS management protocol for time constraint applications over SDN
	Q8/11: Protocols supporting distributed content networking and information centric network (ICN) for future networks and IMT-2020, including end-to-end multi-party communications	X.609.3 (ex X.mp2p-mssr) Managed P2P communications: Multimedia streaming signalling requirements X.609.4 (ex X.mp2p-mspp) Managed P2P communications: Multimedia streaming peer protocol X.609.5 (ex X.mp2p-msomp) Managed P2P communications: Multimedia streaming overlay management protocol X.mp2p-cdsr Managed P2P communications: Content distribution signalling requirements X.mp2p-cdpp Managed P2P communications: Content distribution peer protocol
	Q9/11: Service and networks benchmark testing, remote testing including Internet performance measurements	Q.3961 (ex Q.TM_Int_sp_test) Testing methodologies of Internet related performance measurements including e2e bit rate within the fixed and mobile operator's networks
	Q10/11: Testing of emerging IMT-2020 technologies	Guideline-TEST_UE/MS Guideline for general test procedure and specification for measurements of the LTE, 3G/2G user Equipment/mobile stations (UE/MS); Q.SDN-CT Framework of SDN controller testing; Q.SDN-OFT The compatibility testing of SDN-based equipment using OpenFlow protocol; Q.vs-iop-reqts Interoperability testing requirements of virtual switch
	Q14/11: Cloud interoperability testing	Q.vbng-iop-reqts Interoperability testing requirements of virtual Broadband Network Gateway

ITU-D SG1 Question 1/1: Strategies and policies for the deployment of broadband in developing countries		
ITU-T SG	**ITU-T Question**	**Work items**
	Q15/11: Combating counterfeit and stolen ICT equipment	
SG12 QSDG	Q1/12: SG12 work programme and quality of service/quality of experience (QoS/QoE) coordination in ITU-T	
	Q2/12: Definitions, guides and frameworks related to quality of service/quality of experience (QoS/QoE)	G.IMT2020 QoS Framework for IMT 2020; HB-CoCa Handbook on Country Case Studies; HB-Guireg Handbook providing guidance to regulators; HB-QoS Handbook on Quality of Service (QoS); HB-Recs Handbook on SG12 Recommendations; P.10/G.100 Vocabulary for performance, quality of service and quality of experience
	Q8/12: Virtualized deployment of recommended methods for network performance, QoS and QoE assessment	Y.cvms Considerations for Realizing Virtual Measurement Systems
	Q11/12: Performance considerations for interconnected networks	G.ACP Guidelines regarding the minimum QoS and QoE threshold to be fulfilled during the use of alternative calling procedures; G.ViLTE End-to-end QoS for Video Telephony over 4G mobile networks;
	Q12/12: Operational aspects of telecommunication network service quality	E.MTSM Measurement scenarios, advanced measurement systems and sampling methodologies to monitor the QoS in mobile networks; E.QSIMBox The effect of SIM-boxing on QoS and QoE; E.RQUAL Strategies to Establish Quality Measurement Frameworks
	Q13/12: QoE, QoS and performance requirements and assessment methods for multimedia)	G.NCP QoE-based network capacity planning
	Q16/12: Framework for diagnostic functions	E.FINAD Framework for Intelligent Network Analytics and Diagnostics
	Q17/12: Performance of packet-based networks and other networking technologies	
	Q18/12: Measurement and control of the end-to-end quality of service (QoS) for advanced television technologies, from image acquisition to rendering, in contribution, primary distribution and secondary distribution networks	
	Q19/12: Objective and subjective methods for evaluating perceptual audiovisual quality in multimedia services	

ITU-D SG1 Question 1/1: Strategies and policies for the deployment of broadband in developing countries		
ITU-T SG	**ITU-T Question**	**Work items**
SG13	Q1/13: Innovative services scenarios, deployment models and migration issues based on Future Networks	Handbook on IMT-2000 (2nd Edition) The Handbook of evolving IMT-2000 Systems
	Q2/13: Next-generation network (NGN) evolution with innovative technologies including software-defined networking (SDN) and network function virtualization (NFV)	Technical Report on Network 2030 Network 2030 - beyond IMT-2020; Y.2322 (ex Y.NGN-VCNMO-Arch) The functional architecture of VCNMO (Virtualized Control Network entities Management and Orchestration) in NGN evolution; Y.2341 (ex Y. NGNe-authorized account messaging ser) Next Generation Network evolution - Requirements and capabilities for supporting authorized account messaging service; Y.NGNe-BC-reqts Scenarios and capability requirements of blockchain in next generation network evolution Y.NGNe-O-arch Functional architecture of orchestration in NGNe; Y.NGNe-O-reqts Requirements and capabilities of orchestration in NGNe
	Q5/13: Applying networks of future and innovation in developing countries	Supp-Y.IMT2020-Awareness-UC&Migration Trustworthy networking deployment architecture, mechanism, and procedure
	Q6/13: Quality of service (QoS) aspects including IMT-2020 networks	Y.IMT2020-qos-fr QoS support framework architecture for IMT-2020 networks Y.IMT2020-qos-req QoS requirements for IMT-2020 network
	Q7/13: Big data driven networking (bDDN) and Deep packet inspection (DPI)	Y. bDDN-MNTMP Big data driven mobile network traffic management and planning Y.bDDN-FunArch Functional architecture of big data driven networking; Y.bDDN-req Requirement of big data-driven networking Y.2774 (ex Y.DpiReqFn) Functional requirements of deep packet inspection for future networks; Y.Dpi-ArchFN (ex Y.DpiArchFn) Functional architecture of deep packet inspection for future networks
	Q20/13: IMT-2020: Network requirements and functional architecture	Y.3100 (ex Y.IMT2020-terms) Terms and definitions for IMT-2020 network; Y.3101 (ex Y.IMT2020-reqts) Requirements of IMT-2020 network; Y.3102 (ex Y.IMT2020-frame) Framework of the IMT-2020 network; Y.IMT2020-arch Architecture of IMT-2020 network; Y.IMT2020-BM Business Models of IMT-2020

ITU-D SG1 Question 1/1: Strategies and policies for the deployment of broadband in developing countries		
ITU-T SG	**ITU-T Question**	**Work items**
	Q21/13: Network softwarization including software-defined networking, network slicing and orchestration	Y.3100-series Supplement 44 (ex Suppl. To Y.IMT2020 series) Standardization and open source activities related to network softwarization of IMT-2020; Y.3110 (ex Y.IMT2020-mgmt-req) IMT-2020 Network Management and Orchestration Requirements; Y.3111 (ex Y.IMT2020-mgmt-frame) IMT-2020 Network Management and Orchestration Framework; Y.amc (ex Y.amnsa) Requirements and Architectural Framework for Autonomic Management and Control of IMT-2020 Networks (Y.amc); Y.3302 (ex Y.SDN-ARCH) Functional architecture of software-defined networking
	Q22/13: Upcoming network technologies for IMT-2020 and Future Networks	Y.ICN-ReqN Requirements of ICN naming and name resolution in IMT-2020; Y.SuppICN-PoC-DaaS PoC for IoT Data as a Service using ICN in IMT-2020.
	Q23/13: Fixed-Mobile Convergence including IMT-2020	Y.2041 (ex Y.MC-PCM) Policy Control Mechanism in Multi-connection; Y.3130 (ex Y.FMC-REQ) Requirements of IMT-2020 fixed mobile convergence; Y.FMC-MM Mobility management for fixed mobile convergence in IMT-2020 networks; Y.FMC-ReqMO IMT-2020 FMC functional requirements for management and orchestration; Y.Suppl.MM-SDN (ex Y.Sup.MMsdn-usecase) Supplement on use cases of mobility management over SDN Y.FMC-EC Unified edge computing for supporting fixed mobile convergence in IMT-2020 networks Y.FMC-ARCH Functional architecture for supporting fixed mobile convergence in IMT-2020 networks
SG15	Q1/15: Coordination of access and home network transport standards	
	Q2/15: Optical systems for fibre access networks	G.9806 Higher speed bidirectional single-fibre point to point optical access systems; G.9807.2 (2017) Amd.1 10 Gigabit-capable symmetrical passive optical networks (XG(S)-PON): Reach extension - Amendment 1; G.hsp.50Gpmd Higher Speed Passive Optical Networks: 50G PMD; G.hsp.comTC Higher Speed Passive Optical Networks: Common Transmission Convergence layer;

ITU-D SG1 Question 1/1: Strategies and policies for the deployment of broadband in developing countries		
ITU-T SG	**ITU-T Question**	**Work items**
		G.hsp.req Higher Speed Passive Optical Networks: Requirements; G.hsp.TWDMpmd Higher Speed Passive Optical Networks: TWDM PMD; G.RoF Radio over Fiber systems; G.sup.5GP 5G wireless fronthaul requirements in a PON context; G.RoF Radio over Fiber systems; G.mgfast-PHY (ex G.mgfast) Multi-Gigabit fast access to subscriber terminals (MGfast) – PHY; G.mgfast-PSD Multi-Gigabit fast access to subscriber terminals (MGfast) - PSD
	Q4/15: Broadband access over metallic conductors	
	Q11/15: Signal structures, interfaces, equipment functions, and interworking for optical transport networks	G.ctn5g Characteristics of transport networks to support IMT-2020/5G; GSup.5gotn Application of OTN to 5G Transport
	Q12/15: Transport network architectures	GSTR-TN5G Transport network support of IMT-2020/5G
	Q16/15: Optical physical infrastructures	
	Q18/15: Broadband in-premises networking	G.hn2 Evolution of unified high-speed wire-line based home networking transceivers
SG16	Q1/16: Multimedia coordination	
	Q11/16: Multimedia systems, terminals, gateways and data conferencing	
	Q13/16: Multimedia application platforms and end systems for IPTV	H.721 (V3) IPTV terminal devices: Basic model; H.722 (V2) IPTV terminal device: full-fledged model; H.IPTV-AM.2 IPTV application event handling: Audience measurement for IPTV interactive services; HSTP.IPTV-GUIDE.1 IPTV service deployment scenarios in high-speed broadband era
	Q21/16: Multimedia framework, applications and services	F.743.4 (ex F.VCDN-Reqs) Functional requirements for virtual content delivery networks
SG17	Q2/17: Security architecture and framework	X.1041 (ex X.voLTEsec-1) Security framework for voice-over-long-term-evolution (VoLTE) network operation; X.SDSec Guideline on Software-defined Security in SDN (Software-defined Networking)/NFV (Network Fuction Virtualization) Network; X.srnv Security Requirements of Network Virtualization; X.sup30 (ex X.sup-sgmvno) Supplement 30 to ITU-T X-series Recommendations - ITU-T X.805 Security guidelines for mobile virtual network operators

ITU-D SG1 Question 1/1: Strategies and policies for the deployment of broadband in developing countries		
ITU-T SG	**ITU-T Question**	**Work items**
	Q6/17: Security aspects of telecommunication services, networks and Internet of Things	X.sdnsec-1 Security services using the software-defined networking
	Q7/17: Secure application services	X.1146 (ex X.websec-8) Secure protection guidelines for value-added services provided by telecommunication operators; X.srfb Security Requirements and Framework for Big Data Analytics in mobile Internet services
SG20	Q1/20: End to end connectivity, networks, interoperability, infrastructures and Big Data aspects related to IoT and SC&C	
	Q2/20: Requirements, capabilities, and use cases across verticals	Y.IoT-NCM-reqts Requirements and capabilities of network connectivity management in the Internet of Things
	Q3/20: Architectures, management, protocols and Quality of Service	Supp-Y.IPv6-IoT IPv6 Potential for the Internet of Things and Smart Cities; Y.IPv6RefModel Reference model of IPv6 subnet addressing plan for Internet of things deployment; Y.IPv6-suite Reference Model of Protocol Suite for IPV6 interoperable Internet of Things Deployments; Y.NGNe-IoT-arch Architecture of the Internet of Things based on NGNe
	Q4/20: e/Smart services, applications and supporting platforms	
	Q5/20: Research and emerging technologies, terminology and definitions	
	Q6/20: Security, privacy, trust and identification	
	Q7/20: Evaluation and assessment of Smart Sustainable Cities and Communities	

ITU-D SG1 Question 2/1: Strategies, policies, regulations and methods of migration and adoption of digital broadcasting and implementation of new services		
ITU-T SG	**ITU-T Question**	**Work items**
SG9	Q1/9: Transmission and delivery control of television and sound programme signal for contribution, primary distribution and secondary distribution	J.382 Advanced digital downstream transmission systems for television, sound and data services for cable distribution; J.docsis31-gen Fourth Generation Transmission Systems for Interactive Cable Television Services - IP Cable Modems: General; J.docsis31-phy Fourth Generation Transmission Systems for Interactive Cable Television Services - IP Cable Modems: Physical Layer Specification
	Q2/9: Methods and practices for conditional access, protection against unauthorized copying and against unauthorized redistribution ("redistribution control" for digital cable television distribution to the home)	J.1020 (ex J.dmobile-sma) Service model and architecture of downloadable mobile multi-CA/DRM solutions for delivering CA/DRM client software to secondary device; J.dcas-oneway Downloadable Conditional Access System for One-Way TV Networks
	Q4/9: Guidelines for implementations and deployment of transmission of multichannel digital television signals over optical access networks	J.dtc-distribution-req Television Content Distribution Platforms: Requirements for Open Access and Signal Quality; Sup-digTV Installing a digital TV service for cable networks and relating Recommendations
	Q5/9: Software components application programming interfaces (APIs), frameworks and overall software architecture for advanced content distribution services within the scope of Study Group 9	J.207 Specification for integrated broadcast and broadband digital television application control framework; J.acf-hrm Harmonization of Integrated Broadcast-Broadband DTV application control framework; J.stvos-spec Specification for the architecture and functional requirement of smart TV operating system; J.stvos-spec-arch The Architecture of Smart TV Operating System
	Q6/9: Functional requirements for residential gateway and set-top box for the reception of advanced content distribution services	J.297 Requirements and functional specification of cable set top box for 4K ultra high definition television; J.stb-cts Requirements and technical specifications of cable TV hybrid set-top box that has the compatibility with terrestrial and satellite TV transport
	Q7/9: Cable television delivery of digital services and applications that use Internet protocol (IP) and/or packet-based data over cable networks	J.1106 (ex J.roip-req) Requirement for Radio over IP transmission system; J.1107 (ex J.roip-arch) Architecture and specification for Radio over IP transmission systems; J.roip-trans Transmission specification for Radio over IP transmission system
	Q8/9: The Internet protocol (IP) enabled multimedia applications and services for cable television networks enabled by converged platforms	J.qamip-req Requirements on QAM to IP Conversion for IP Multi-Room/House Services

ITU-D SG1 Question 2/1: Strategies, policies, regulations and methods of migration and adoption of digital broadcasting and implementation of new services		
ITU-T SG	**ITU-T Question**	**Work items**
	Q10/9: Work programme, coordination and planning	J.tda Terms, definitions and acronyms for television and sound transmission and integrated broadband cable networks
SG12	Q2/12: Definitions, guides and frameworks related to QoS/QoE	G.191 (V6) Software tools for speech and audio coding standardization; P.10/G.100 Vocabulary for performance, quality of service and quality of experience
	Q13/12: QoE, QoS and performance requirements and assessment methods for multimedia	G.IPTV-MP IPTV monitoring parameters
	Q18/12: Measurement and control of the end-to-end QoS for advanced TV technologies, from image acquisition to rendering, in contribution, primary distribution and secondary distribution networks	J.q-uhd Quality measurement methods for UHD services
	Q19/12: Objective and subjective methods for evaluating perceptual audiovisual quality in multimedia services	P.911rev Subjective audiovisual quality assessment methods for multimedia applications; J.343-rev Hybrid perceptual/bitstream models for objective video quality measurements
SG16	Q1/16: Multimedia coordination	
	Q8/16: Immersive live experience systems and services	H.ILE-SS Service scenario of ILE; H.ILE-MMT Service configuration, media transport protocols, signalling information of MMT for Immersive Live Experience systems
	Q13/16: Multimedia application platforms and end systems for IPTV	H.IPTV-AM.2 IPTV application event handling: Audience measurement for IPTV interactive services; HSTP.IPTV-GUIDE.1 IPTV service deployment scenarios in high-speed broadband era; HSTP.IPTV-GUIDE.2 IPTV service parameters for new IPTV service providers H.721 (V3) IPTV terminal devices: Basic model; H.722 (V2) IPTV terminal devices: full-fledged model; H.IPTV-MDS IPTV Multiple Devices Service; H.761 (V4) Nested context language (NCL) and Ginga-NCL; HSTP.IPTV-HRM.2 Harmonization of MAFR series with multiple content sources.
	Q21/16: Multimedia framework, applications and services	F.CDN-Reqs Use-cases and requirements for multimedia CDN; H.MCDN Functional architecture of multimedia content delivery network H.OIMSArch Architecture for on-demand service based on interactive multimedia streaming

ITU-D SG1 **Question 2/1: Strategies, policies, regulations and methods of migration and adoption of digital broadcasting and implementation of new services**		
ITU-T SG	**ITU-T Question**	**Work items**
	Q26/16: Accessibility to multimedia systems and services	H.702 Accessibility Profiles for IPTV Systems
SG17	Q6/17: Security aspects of telecommunication services, networks and Internet of Things	
	Q7/17: Secure application services	

ITU-D SG1 **Question 3/1: Emerging technologies, including cloud computing: m-services, and OTTs: Challenges and opportunities, economic and policy impact for developing countries**		
ITU-T SG	**ITU-T Question**	**Work items**
SG2	Q5/2: Requirements, priorities and planning for telecommunication management and operation, administration and maintenance (OAM) Recommendations	M.3070/Y.3521: Overview of end-to-end cloud computing management M.3071: Cloud-based network management functional architecture M.3371: Requirements for service management in cloud-aware telecommunication management system M.3372 (ex. M.rrmctm): Requirements for Service Management in Cloud-aware Telecommunication Management System
SG3 FG DFS	Q9/3: Economic and regulatory impact of the Internet, convergence (services or infrastructure) and new services, such as over the top (OTT), on international telecommunication services and networks	D.50Supp_OTT OTTs in the context of IIC; D.262 (ex D.OTT) Collaborative Framework for OTTs; D.OTTBypass OTT Bypass; D.OTTMNO Guidelines on OTT-MNO Partnerships; STUDY_Convergence Study on the economic impact of convergence of technology and services and the role of the Regulator; STUDY_OTT Study on Economic Impact of OTTs
	Q11/3: Economic and policy aspects of big data and digital identity in international telecommunications services and networks	Study_bigdata Technical Paper on economic and policy aspects of Big Data in international telecommunication services and networks
	Q12/3: Tariffs, Economic and Policy Issues Pertaining to Mobile Financial Services (MFS)	D.263 (ex D.MFS) Competition in Mobile Financial Services; D.AgentMFS Guidelines for Mobile Financial Service Agents; D.EMoneyMFS Guidelines for e-money issuers; D.MFSCM Mobile Financial Services Transaction Cost Model; D.MFScoop Guidelines for MOU between telecommunications regulators and central banks taking into account the Zambian experience and existing MOU

ITU-D SG1 **Question 3/1: Emerging technologies, including cloud computing: m-services, and OTTs: Challenges and opportunities, economic and policy impact for developing countries**		
ITU-T SG	**ITU-T Question**	**Work items**
SG5	Q6/5: Achieving energy efficiency and smart energy	L.DCIM Specifications of data centre infrastructure management (DCIM) system based on Big Data and AI technology L.SE_DC Smart energy solution for data centre and telecom centre ~~L.methodology_arch Methodology to assess the environmental impact of the different proposed architectures~~
	Q7/5: Circular economy including e-waste	L.SEEQ Effect for global ICT of the potential of selling Services instead of Equipment on the waste creation and environmental impacts L.methodology_arch Methodology to assess the environmental impact of the different proposed architectures
SG9	Q8/9: The Internet protocol (IP) enabled multimedia applications and services for cable television networks enabled by converged platforms	J.qamip-req Requirements on QAM to IP Conversion for IP Multi-Room/House Services
SG11	Q14/11: Cloud interoperability testing	Q.vs-iop-reqts: Interoperability testing requirements of virtual switch Q.wa-iop: Cloud Interoperability testing about Web Application
SG12	Q1/12: SG12 work programme and quality of service/quality of experience (QoS/QoE) coordination in ITU-T	
	Q13/12: QoE, QoS and performance requirements and assessment methods for multimedia	G.DFS QoS and QoE Aspects of Digital Financial Services
SG13	Q5/13: Applying networks of future and innovation in developing countries	Y.3500-series Supplement 46 (ex Supp-Y.Cloud Computing Scenarios for Developing Countries) Scenarios of Implementing Cloud Computing in networks of developing countries
	Q7/13: Big data driven networking (bDDN) and deep packet inspection (DPI)	Y.3650 (ex Y.bDDN-fr) Framework of big data driven networking; Y. bDDN-MNTMP Big data driven mobile network traffic management and planning; Y.bDDN-FunArch Functional architecture of big data driven networking; Y.bDDN-req Requirement of big data-driven networking; Y.Sup-bDDN-usecase Supplement for use cases and application scenarios of big data driven networking
	Q17/13: Requirements, ecosystem, and general capabilities for cloud computing and big data	Y.BaaS-reqts Cloud computing - Functional requirements for blockchain as a service; Y.bdi-reqts Big Data - Overview and functional requirements for data integration;

ITU-D SG1 Question 3/1: Emerging technologies, including cloud computing: m-services, and OTTs: Challenges and opportunities, economic and policy impact for developing countries		
ITU-T SG	**ITU-T Question**	**Work items**
		Y.bdm-sch Big data - Metadata framework and conceptual model; Y.bdp-reqts Big data - Requirements for data provenance; Y.cccm-reqts Cloud Computing - Requirements for Containers and Micro-services; Y.ccdc-reqts Distributed cloud overview and high-level requirements; Y.ccpm-reqts Cloud computing - Functional requirements of physical machine; Y.MLaaS-reqts Cloud computing - Functional requirements for machine learning as a service; Y.sup.ccsr Supplement on Cloud Computing Standardization Roadmap Y.sup.bdsr2 Supplement on Big Data Standardization Roadmap
	Q18/13: Functional architecture for cloud computing and big data	Y.3515 (ex Y.CCNaaS-arch) Cloud computing - Functional architecture of Network as a Service; Y.3516 (ex Y.CCIC-arch) Cloud computing - Functional architecture of inter-cloud computing; Y.BDaaS-arch Cloud computing - Functional architecture of Big Data as a Service; Y.BD-arch Functional architecture of big data; Y.dsf-arch Cloud computing - Functional architecture for data storage federation
	Q19/13: End-to-end Cloud computing management, cloud security and big data governance	Y.3514 Cloud computing - Trusted inter-cloud computing framework and requirements; Y.BDDP-reqts Big data - Overview and requirements for data preservation; Y.CCICDM-Req Cloud Computing - Requirements for Inter-Cloud Data Management; Y.ccm-reqts Cloud computing maturity requirements and framework Y.cslm-metadata: Metadata framework for cloud service lifecycle management
SG15	Q1/15: Coordination of access and home network transport standards	
SG16	Q21/16: Multimedia framework, applications and services	F.CCVSReqs Requirements for cloud computing in visual surveillance; F.VSBD Requirements for big data application in visual surveillance system; H.626.2 (ex H.CSVS-Arch) Architecture for cloud storage in visual surveillance; H.VSCC Architecture for cloud computing in visual surveillance

ITU-D SG1 **Question 3/1: Emerging technologies, including cloud computing: m-services, and OTTs: Challenges and opportunities, economic and policy impact for developing countries**		
ITU-T SG	**ITU-T Question**	**Work items**
SG17	Q7/17: Secure application services	X.srfb Security Requirements and Framework for Big Data Analytics in mobile Internet services
	Q8/17: Cloud computing security	X.1603 (ex X.dsms) Data security requirements for the monitoring service of cloud computing; X.GSBDaaS Guidelines on security of Big Data as a Service; X.sgBDIP Security Guidelines for Big Data infrastructure and platform; X.sgtBD Security guidelines of lifecycle management for telecom Big Data; X.SRIaaS Security requirements of public infrastructure as a service (IaaS) in cloud computing; X.SRNaaS Security requirements of Network as a Service (NaaS) in cloud computing
	Q13/17: Security aspects for Intelligent Transport System	
	Q14/17: Security aspects for Distributed Ledger Technologies	

ITU-D SG1 **Question 4/1: Economic policies and methods of determining the costs of services related to national telecommunication/ICT networks**		
ITU-T SG	**ITU-T Question**	**Work items**
SG3	Q1/3: Development of charging and accounting/settlement mechanisms for international telecommunications services using the next-generation networks (NGNs), future networks, and any possible future development, including adaptation of existing D-series Recommendations to the evolving user needs	D.Framework Framework for ICT service delivery with the guaranteed QoS and requested bitrate on fixed & mobile data networks, for development of efficient economic mechanisms and models of interaction in the "operator-provider-user" chain
	Q2/3: Development of charging and accounting/settlement mechanisms for international telecommunications services, other than those studied in Question 1/3, including adaptation of existing D-series Recommendations to the evolving user needs	D.Colocation Colocation and Access Charges; STUDY_COMMAG Study of the use of commercial agreements for international telecommunications services arrangements; STUDY_DR Dispute Resolution Processes (previously "Dispute Resolution Related to Charging and Invoicing")

ITU-D SG1 Question 4/1: Economic policies and methods of determining the costs of services related to national telecommunication/ICT networks		
ITU-T SG	**ITU-T Question**	**Work items**
	Q3/3: Study of economic and policy factors relevant to the efficient provision of international telecommunication services	D.datatariff Principles for tariff regulation of Data Services; D.IoTpolicy Guidelines on Tariff and regulatory aspects of Internet of Things (IoT); D.Licensing Mechanisms for pricing of licenses for mobile/broadband/fixed; D.SpectrumShare Shared use of spectrum and infrastructure)
	Q4/3: Regional studies for the development of cost models together with related economic and policy issues	STUDY_ROAMREG Regional Roaming Initiatives
	Q6/3: International Internet connectivity including relevant aspects of Internet protocol (IP) peering, regional traffic exchange points, cost of provision of services and impact of transition from Internet protocol version 4 (IPv4) to Internet protocol version 6 (IPv6)	D.50 Supp.3 Reducing the cost of the international Internet connectivity of the Central African Backbone (CAB) project, Central African Republic component; D.CostModelIIC Cost model for international internet connectivity; STUDY_IIC International Internet Connectivity, including IP peering, Regional Traffic Exchange Points, and cost of provision of services
	Q7/3: International mobile roaming issues (including charging, accounting and settlement mechanisms and roaming at border areas	D.IoTRoaming Roaming for the Internet of Things (IoT)
	Q10/3: Definition of relevant markets, competition policy and identification of operators with significant market power (SMP) as it relates to the economic aspects of the international telecommunication services and networks	D.DynamicTariff Impact of Dynamic Tariffing on Market Competitiveness
	Q11/3: Economic and policy aspects of big data and digital identity in international telecommunications services and networks	
	Q12/3: Tariffs, Economic and Policy Issues Pertaining to Mobile Financial Services (MFS)	D.MFSCM Mobile Financial Services Transaction Cost Model
	Q13/3: Study of Tariff, Charging Issues of Settlements Agreement of Trans-multi-country Terrestrial Telecommunication Cables	STUDY_TCST Charging and accounting settlements in Trans-multi-country terrestrial cable circuit
SG20	Q2/20: Requirements, capabilities, and use cases across verticals	Y.4118 (ex Y.IoT-AC-reqts) Internet of Things requirements and technical capabilities for support of accounting and charging

ITU-D SG1 Question 5/1: Telecommunications/ICTs for rural and remote areas		
ITU-T SG	**ITU-T Question**	**Work items**
SG5	Q1/5: Protection of information and communication technology (ICT) infrastructure from electromagnetic surges	K.35 Bonding configurations and earthing at remote electronic sites (Completed in 2017)
	Q4/5: Electromagnetic compatibility (EMC) issues arising in the telecommunication environment	
	Q6/5: Achieving energy efficiency and smart energy	L.1220 Innovative energy storage technology for stationary use - Part 1: Overview of energy storage L.1221 Innovative energy storage technology for stationary use - Part 2: Battery L.1222 Innovative energy storage technology for stationary use - Part 3: Supercapacitor technology L.1310 Energy efficiency metrics and measurement methods for telecommunication equipment L.1350~~L.1220: Innovative energy storage technology for stationary use - Part 1: Overview of energy storage~~ ~~L.1221: Innovative energy storage technology for stationary use - Part 2: Battery~~ ~~L.1222: Innovative energy storage technology for stationary use - Part 3: Supercapacitor technology~~ ~~L.1310: Energy efficiency metrics and measurement methods for telecommunication equipment~~ ~~L.1320: Energy efficiency metrics and measurement for power and cooling equipment for telecommunications and data centres~~ ~~L.1350: Energy efficiency metrics of a base station site~~ Energy efficiency metrics of a base station site L.1700: Requirements and framework for low-cost sustainable telecommunications infrastructure for rural communications in developing countries L.5G_powering Sustainable power feeding solutions for 5G network L.SE_BS Smart energy solution for telecom base stations
	Q7/5: Circular economy including e-waste	L.1020: Circular economy: Guide for operators and suppliers on approaches to migrate towards circular ICT goods and networks L.1021: Extended producer responsibility - Guidelines for sustainable e-waste management L.1030: E-waste management framework for countries L.1022 (ex L.CE_concepts) Circular Economy; Definitions and concepts for material efficiency for ICT

ITU-D SG1 Question 5/1: Telecommunications/ICTs for rural and remote areas		
ITU-T SG	**ITU-T Question**	**Work items**
		L.1032 (ex L.ER) Guidelines and Certification Schemes for e-Waste Recyclers L.methodology_arch Methodology to assess the environmental impact of the different proposed architectures
	Q9/5: Climate change and assessment of information and communication technology (ICT) in the framework of the Sustainable Development Goals (SDGs)	L.1430: Methodology for assessment of the environmental impact of information and communication technology greenhouse gas and energy projects ~~L.1501: Best practices on how countries can utilize ICTs to adapt to the effects of climate change~~ L.1501: Best practices on how countries can utilize ICTs to adapt to the effects of climate change L.1502: Adapting information and communication technology infrastructure to the effects of climate change L.1504: ICT and adaptation of agriculture to the effects of climate change L.1505: Information and communication technology and adaptation of the fisheries sector to the effects of climate change L.1506: Framework of climate change risk assessment for telecommunication and electrical facilities
SG12	Q1/12: SG12 work programme and quality of service/quality of experience (QoS/QoE) coordination in ITU-T	
SG15	Q1/15: Coordination of access and home network transport standards	
	Q16/15: Optical physical infrastructures	
SG16	Q1/16: Multimedia coordination	
	Q13/16: Multimedia application platforms and end systems for IPTV	
	Q21/16: Multimedia framework, applications and services	HSTP-DIS-UAV Use cases and service scenarios of disaster information service using unmanned aerial vehicles
	Q26/16: Accessibility to multimedia systems and services	
	Q28/16: Multimedia framework for e-health applications	
SG20	Q1/20: End to end connectivity, networks, interoperability, infrastructures and Big Data aspects related to IoT and SC&C	

ITU-D SG1 Question 5/1: Telecommunications/ICTs for rural and remote areas		
ITU-T SG	**ITU-T Question**	**Work items**
	Q2/20: Requirements, capabilities, and use cases across verticals	Y.SRC Requirements for deployment of smart services in rural communities
	Q3/20: Architectures, management, protocols and Quality of Service	
	Q4/20: e/Smart services, applications and supporting platforms	
	Q5/20: Research and emerging technologies, terminology and definitions	
	Q6/20: Security, privacy, trust and identification	
	Q7/20: Evaluation and assessment of Smart Sustainable Cities and Communities	

ITU-D SG1 Question 6/1: Consumer information, protection and rights: Laws, regulation, economic bases, consumer networks		
ITU-T SG	**ITU-T Question**	**Work items**
SG2	Q1/2: Application of numbering, naming, addressing and identification plans for fixed and mobile telecommunications services	E.164 Supplement 2 Number Portability
SG3	Q3/3: Study of economic and policy factors relevant to the efficient provision of international telecommunication services	Study_ EPQoS Study of economic and policy factors relevant to the efficient provision of international telecommunication services
	Q9/3: Economic and regulatory impact of the Internet, convergence (services or infrastructure) and new services, such as over the top (OTT), on international telecommunication services and networks	D.ConsumerOTT Customer redress mechanism and consumer protection
	Q10/3: Definition of relevant markets, competition policy and identification of operators with significant market power (SMP) as it relates to the economic aspects of the international telecommunication services and networks	D.NumberPort Recommendation ITU-T "Methodological guide for determining the impact of numerical portability on competition"
	Q12/3: Tariffs, Economic and Policy Issues Pertaining to Mobile Financial Services (MFS)	D.ConsumerMFS Consumer Protection in Mobile Financial Services;

ITU-D SG1 Question 6/1: Consumer information, protection and rights: Laws, regulation, economic bases, consumer networks		
ITU-T SG	**ITU-T Question**	**Work items**
SG5	Q7/5: Circular economy including e-waste	L.1000: Universal power adapter and charger solution for mobile terminals and other hand-held ICT devices L.1001: External universal power adapter solutions for stationary information and communication technology devices L.1002: External universal power adapter solutions for portable information and communication technology devices L.1005: Test suites for assessment of the universal charger solution L.1006: Test suites for assessment of the external universal power adapter solutions for stationary information and communication technology devices L.1007: Test suites for assessment of the external universal power adapter solutions for portable information and communication L.1010: Green battery solutions for mobile phones and other hand-held information and communication technology devices L.Counterfeit Adequate Assessment and Sensitisation on Counterfeit ICT Products and their Environmental Impact
SG11	Q15/11: Combating counterfeit and stolen ICT equipment	
SG12 and QSDG	Q2/12: Definitions, guides and frameworks related to QoS/QoE	HB-CoCa Handbook on Country Case Studies; HB-Guireg Handbook providing guidance to regulators; P.10/G.100 Vocabulary for performance, quality of service and quality of experience
	Q7/12: Methods, tools and test plans for the subjective assessment of speech, audio and audiovisual quality interactions	P.CLN Cultural/language/nationality dependence of subjective quality
	Q12/12: Operational aspects of telecommunication network service quality	E.RQUAL Strategies to Establish Quality Measurement Frameworks; E.NetPerfRank Statistical Framework for QoE Centric Benchmarking Scoring and Ranking; E.831 (ex E.CEMI) Customer experience management index for popular services in operators' network to score service quality that customer experience in terms of key network performance parameters
	Q13/12: QoE, QoS and performance requirements and assessment methods for multimedia	G.1032 (ex G.QoE-gaming) Influence Factors on Gaming Quality of Experience
SG16	Q1/16: Multimedia coordination	

ITU-D SG1 Question 6/1: Consumer information, protection and rights: Laws, regulation, economic bases, consumer networks		
ITU-T SG	**ITU-T Question**	**Work items**
	Q24/16: Human factors related issues for improvement of the quality of life through international telecommunications	
	Q26/16: Accessibility to multimedia systems and services	
SG17	Q4/17: Cybersecurity	X.1212 (ex X.cogent) Design considerations for improved end-user perception of trustworthiness indicators
SG20	Q1/20: End to end connectivity, networks, interoperability, infrastructures and Big Data aspects related to IoT and SC&C	
	Q4/20: e/Smart services, applications and supporting platforms	
	Q5/20: Research and emerging technologies, terminology and definitions	
	Q6/20: Security, privacy, trust and identification	

ITU-D SG1 **Question 7/1: Access to telecommunication/ICT services by persons with disabilities and other persons with specific needs**		
ITU-T SG	**ITU-T Question**	**Work items**
SG5	Q2/5: Equipment resistibility and protective components	
	Q4/5: Electromagnetic compatibility (EMC) issues arising in the telecommunication environment	K.133 (ex K.bwenv) Electromagnetic (EM) environment of body worn equipment in the 2.4 GHz and 13.56MHz industrial, scientific and medical band (Completed in 2017)
SG9	Q6/9: Functional requirements for residential gateway and set-top box for the reception of advanced content distribution services	
SG12	Q1/12: SG12 work programme and quality of service/quality of experience (QoS/QoE) coordination in ITU-T	
	Q3/12 Speech transmission and audio characteristics of communication terminals for fixed circuit-switched, mobile and packet-switched Internet protocol (IP) networks	P.DHIP Technical requirements and test methods for the digital wired or wireless headset interface of mobile terminals
	Q5/12: Telephonometric methodologies for handset and headset terminals	P.57 Artificial ears
	Q6/12 Analysis methods using complex measurement signals including their application for speech and audio enhancement techniques	P.50 Artificial voices
SG16	Q1/16: Multimedia coordination	
	Q24/16: Human factors related issues for improvement of the quality of life through international telecommunications	E.OKID On-screen keyboards for ICT devices; E.FAST User interface for face-to-face speech translation considering human factors
	Q26/16: Accessibility to multimedia systems and services	F.790 Telecommunications accessibility guidelines for older persons and persons with disabilities; F.791 Accessibility terms and definitions; F.921 (V2) Audio-based network navigation system for persons with vision impairment; F.CVR-PWN Framework of cyber-vulnerability reduction for persons with disabilities and specific needs; F.WAAD Safety requirements for audio augmenting devices; FSTP.ANS Checklist Compliance Protocol and Indicators for Audio-Based Network Navigation System for Persons with Vision Impairment; FSTP.Intl-Relay International Relay Services; FSTP-RCSO Technical paper: Overview of remote captioning services;

ITU-D SG1 Question 7/1: Access to telecommunication/ICT services by persons with disabilities and other persons with specific needs		
ITU-T SG	**ITU-T Question**	**Work items**
		H.702 (2015) Cor.1 Accessibility profiles for IPTV systems: Various corrections and clarifications; H.ACC-GAD Guidance on audio descriptions (New) (twin text of ISO/IEC TS 20071-21:2015, Information technology - User interface component accessibility - Part 21); H.ACC-GAP Guidance on the audio presentation of text in videos, including captions, subtitles and other on-screen text (New) (twin text of ISO/IEC 20071-25:2017, Information Technology - User interface component accessibility Part 25); H.ACC-GVP Guidance on the Visual presentation of audio information, including captions and subtitles (twin text of ISO/IEC DIS 20071-23, Information technology - User Interface component accessibility Part 23); H.MD-DiDRR Profile metadata for persons with specific needs as part of disability-inclusive disaster risk reduction; HSTP.ACC-SL Production guidelines for sign language service; HSTP.ACC-AUD Technical Paper on Methods for improving the intelligibility of audio (or speech)
JCA-AHF	Joint Coordination Activity on Accessibility and Human Factors (JCA-AHF)	Q26/16: Accessibility to multimedia systems and services
SG20	Q1/20: End to end connectivity, networks, interoperability, infrastructures and Big Data aspects related to IoT and SC&C	
	Q2/20: Requirements, capabilities, and use cases across verticals	Y.Accessibility-IoT Accessibility requirements for the Internet of things applications and services
	Q4/20: e/Smart services, applications and supporting platforms	

ITU-D SG2 Question 1/2: Creating the smart cities and society: Employing ICTs for sustainable social and economic development		
ITU-T SG	**ITU-T Question**	**Work items**
SG2	Q1/2: Application of numbering, naming, addressing and identification plans for fixed and mobile telecommunications services	E.IoT-NNAI Internet of Things Naming Numbering Addressing and Identifiers; TR.IoTid Technical report on overview of IoT schemes
	Q6/2: Management architecture and security	M.somm (ex M.inomsa): Framework of smart operation, management and maintenance
SG3	Q3/3: Study of economic and policy factors relevant to the efficient provision of international telecommunication services	D.IoTpolicy Guidelines on Tariff and regulatory aspects of Internet of Things (IoT)
SG5	Q6/5: Achieving energy efficiency and smart energy	L.1325 (ex L.Green STNI) Green ICT solutions for telecom network facilities (Completed in 2016); L.1360 (ex L.EE-ARCH) Energy control of SDN architecture (Completed in 2016); L.SE_BS Smart energy solution for telecom base stations; Suppl. EE for Smart Grid Analysis of the energy efficiency of telecommunication services used for the needs of L.1200: Direct current power feeding interface up to 400 V at the input to telecommunication and ICT equipment L.1201: Architecture of power feeding systems of up to 400 VDC L.1202: Methodologies for evaluating the performance of an up to 400 VDC power feeding system and its environmental impact L.1203: Colour and marking identification of up to 400 VDC power distribution for information and communication technology systems L.1204: Extended architecture of power feeding systems of up to 400 VDC L.1205: Interfacing of renewable energy or distributed power sources to up to 400 VDC power feeding systems L.1206: Impact on ICT equipment architecture of multiple AC, -48VDC or up to 400 VDC power inputs L.1207: Progressive migration of a telecommunication/information and communication technology site to 400 VDC sources and di smart grid applications

ITU-D SG2 Question 1/2: Creating the smart cities and society: Employing ICTs for sustainable social and economic development		
ITU-T SG	**ITU-T Question**	**Work items**
	Q7/5: Circular economy including e-waste	~~L.1020 (ex L.CE_ICT) Circular Economy: Guide for Operators and Suppliers on approaches to migrate towards circular ICT goods and networks (Completed in 2017);~~ L.CE_Concepts Circular Economy; Definitions and concepts for material efficiency for ICT~~;~~ L.1020 Circular economy: Guide for operators and suppliers on approaches to migrate towards circular ICT goods and networks L.1021 Extended producer responsibility - Guidelines for sustainable e-waste management L.1030 E-waste management framework for countries L.1032 (ex L.ER) Guidelines and Certification Schemes for e-Waste Recyclers L.methodology_arch Methodology to assess the environmental impact of the different proposed architectures~~L.1020: Circular economy: Guide for operators and suppliers on approaches to migrate towards circular ICT goods and networks~~ ~~L.1021: Extended producer responsibility – Guidelines for sustainable e-waste management~~ ~~L.1030: E-waste management framework for countries~~ ~~L.CE_concepts Circular Economy; Definitions and concepts for material efficiency for ICT~~ ~~L.ER Guidelines and Certification Schemes for e-Waste Recyclers~~ ~~L.methodology_arch Methodology to assess the environmental impact of the different proposed architectures~~
	Q9/5: Climate change and assessment of information and communication technology (ICT) in the framework of the Sustainable Development Goals (SDGs)	L.1440 ~~:~~Methodology for environmental impact assessment of information and communication technologies at city level
SG11	Q5/11: Protocols and procedures supporting services provided by broadband network gateways	Q.HET-GW : Signalling protocol for Heterogeneous IoT gateways
	Q12/11: Testing of Internet of things, its applications and identification systems	Q.39_FW_Test_ID_IoT: The framework of testing of identification systems used in IoT Q.FW_IoT/Test: Framework for IoT Testing Q.Het_IoT_Gateway_Test: The structure of the testing of heterogeneous Internet of Things gateways in a laboratory environment

ITU-D SG2 Question 1/2: Creating the smart cities and society: Employing ICTs for sustainable social and economic development		
ITU-T SG	**ITU-T Question**	**Work items**
SG12	Q1/12: SG12 work programme and quality of service/quality of experience (QoS/QoE) coordination in ITU-T	
SG13	Q1/13: Innovative services scenarios, deployment models and migration issues based on Future Networks	Y.farms Framework and application model for risk mitigation service based on networks; Y.sfes Smart Farming Education Service based on u-learning environment; Y.smpp Service model for the pre-production stage on Smart Farming
	Q16/13: Knowledge-centric trustworthy networking and services	Y.STR Socio-technical recommendations for contributing to socio-economic awareness (New)
	Q22/13: Upcoming network technologies for IMT-2020 and Future Networks	Y.SuppICN-PoC-DaaS PoC for IoT Data as a Service using ICN in IMT-2020
SG15	Q1/15: Coordination of access and home network transport standards	
SG16	Q1/16: Multimedia coordination	
	Q13/16: Multimedia application platforms and end systems for IPTV	
	Q21/16: Multimedia framework, applications and services	F.745 Amd.1 Functional requirements for network-based speech-to-speech translation services: Support of automatic sign language generation; F.746.4 (ex F.DICN-Reqs) Requirements for deployment of information centric networks; F.746.5 (ex H.LLS-FW) Framework for language learning system based on speech/NLP technology; F.747.9 (ex F.EMS-Arch) Requirements and architecture for energy management services; F.CCNMMS Requirements and architecture for CCN-based mobile multimedia services; F.NG-CDN Service Requirements for the next generation content delivery networks
	Q24/16: Human factors related issues for improvement of the quality of life through international telecommunications	E.FAST User interface for face-to-face speech translation considering human factors
	Q26/16: Accessibility to multimedia systems and services	
	Q27/16: Vehicle gateway platform for telecommunication/ITS services and applications	F.749.2 (ex F.VG-REQ) Service requirements for vehicle gateway platforms; F.AUTO-TAX Taxonomy for ICT-enabled motor vehicle automated driving systems; H.550 (ex H.VGP-ARCH) Architecture and functional entities of Vehicle Gateway Platforms;

ITU-D SG2 Question 1/2: Creating the smart cities and society: Employing ICTs for sustainable social and economic development		
ITU-T SG	**ITU-T Question**	**Work items**
		HSTP-VG-Gap Technical Paper: Gap Analysis of Vehicle Gateways defined by SDOs
	Q28/16: Multimedia framework for e-health applications	
SG17	Q6/17: Security aspects of telecommunication services, networks and Internet of Things	X.1331 (ex X.sgsec-2) Security guidelines for home area network (HAN) devices in smart grid systems; X.1361 (ex X.iotsec-2) Security framework for the Internet of things based on the gateway model; X.1362 (ex X.iotsec-1) Simple encryption procedure for Internet of things (IoT) environments; X.1373 (ex X.itssec-1) Secure software update capability for intelligent transportation system communication devices; X.ibc-iot Security Framework for Use of Identity-Based Cryptography in Support of IoT Services over Telecom Networks; X.iotsec-3 Technical framework of PII (Personally Identifiable Information) handling system in IoT environment; X.nb-iot Security Requirements and Framework for Narrow Band Internet of Things; X.secup-iot Secure Software Update for IoT devices; X.sgsec-3 Security guidelines for smart metering service in smart grids; X.ssp-iot Security Requirements and Framework for IoT Service Platform; X.Sup26 Cor.1 ITU-T X.1111 - Supplement on security functional architecture for smart grid services using telecommunication networks: Corrigendum 1
	Q11/17: Generic technologies (Directory, public key infrastructure (PKI), privilege management infrastructure (PMI), Abstract Syntax Notation One (ASN.1), object identifiers (OIDs)) to support secure applications	X.orf-gs OID-based resolution framework for IoT group services; X.sup31 (ex X.sup-oid-iot) Supplement 31 to ITU-T X-series Recommendations - ITU-T X.660 Guidelines for using object identifiers for the Internet of things
	Q13/17: Security aspects for Intelligent Transport System	X.itssec-2 Security guidelines for V2X communication systems; X.itssec-3 Security requirements for vehicle accessible external devices; X.itssec-4 Methodologies for intrusion detection system on in-vehicle systems; X.itssec-5 Security guidelines for vehicular edge computing;

ITU-D SG2 Question 1/2: Creating the smart cities and society: Employing ICTs for sustainable social and economic development		
ITU-T SG	**ITU-T Question**	**Work items**
		X.mdcv Security-related misbehaviour detection mechanism based on big data analysis for connected vehicles; X.stcv Security threats in connected vehicles
SG20	Q1/20: End to end connectivity, networks, interoperability, infrastructures and Big Data aspects related to IoT and SC&C	Y.4200 (ex Y.SSCP, Y.SCP) Requirements for interoperability of smart city platforms; Y.4201 (ex Y.frame-scc) High-level requirements and reference framework of smart city platform; Y.4454 (ex Y.SC-platform) Platforms interoperability for smart cities; Y.infra Overview of city infrastructure; Y.ism-ssc Technical framework for integrated sensing and management system; Y.isw-ssc The Integrated Sensor Web Resource Metadata for Smart Sustainable Cities; Y.SC-OpenData Framework of Open Data in Smart Cities; Y.Suppl.45 to ITU-T Y.4000 series (ex Y.SC-Overview) An overview of smart cities and communities and the role of information and communication technologies
	Q2/20: Requirements, capabilities, and use cases across verticals	Supp.-Y.IoT Scenarios for Developing Countries Scenarios of Implementing Internet of Things in networks of developing countries; Supp-Y.IoT-Use-Cases IoT Use Cases; Y.4101/Y.2067 Common requirements and capabilities of a gateway for Internet of Things applications; Y.4114 (ex Y.IoT-BigData-reqts) Specific requirements and capabilities of the IoT for Big Data; Y.4116 (ex Y.TPS-req) Requirements of transportation safety service including use cases and service scenarios; Y.4117 (ex Y.IoT-WDS-Reqts) Requirements and capabilities of Internet of Things for support of wearable devices and related services; Y.4119 (ex Y.AERS-reqts) Requirements and capability framework for IoT-based automotive emergency response system; Y.4118 (ex Y.IoT-AC-reqts) Internet of Things requirements and technical capabilities for support of accounting and charging; Y.Accessibility-IoT Accessibility requirements for the Internet of things applications and services; Y.IoT-BPM-reqts-caps Specific Requirements and Capabilities of the Internet of Things for Business Process Management;

ITU-D SG2 Question 1/2: Creating the smart cities and society: Employing ICTs for sustainable social and economic development		
ITU-T SG	**ITU-T Question**	**Work items**
		Y.IoT-EC-reqts IoT requirements for edge computing; Y.IoT-GP-Reqts Requirements for an IoT enabled network to support applications for global processes of the earth; Y.IoT-ITS-framework Framework of Cooperative Intelligent Transport Systems based on the Internet of Things; Y.IoT-UAS-Reqts Use cases, requirements and capabilities of unmanned aircraft systems for Internet of Things; Y.SCC-Use-Cases Use Cases of Smart Cities and Communities; Y.SmartMan-IIoT-overview Overview of smart manufacturing in the context of Industrial Internet of Things; Y.SRC Requirements for deployment of smart services in rural communities
	Q3/20: Architectures, management, protocols and Quality of Service	Supp-Y.IPv6-IoT IPv6 Potential for the Internet of Things and Smart Cities; Y.4115 (ex Y.IoT-DE-RA) Reference architecture for IoT device capabilities exposure; Y.4500.1 (ex Y.oneM2M.ARC) oneM2M- Series of Working items (24 items); Y.gw-IoT-arch Functional architecture of gateway for Internet of things applications; Y.IoT-rmc Reference architecture of accessing IoT resources for management and control; Y.IoT-son Framework of self-organization network in the IoT environments; Y.NGNe-IoT-arch Architecture of the Internet of Things based on NGNe; Y.SSC-AISE-arc Reference architecture of artificial intelligence service exposure for smart sustainable cities
	Q4/20: e/Smart services, applications and supporting platforms	Y.4456 (ex Y.SPL) Requirements and Functional Architecture for Smart Parking Lot in Smart City; Y.del-fw Framework of delegation service for the IoT devices; Y.energy-mMG Application model for energy services on multiple microgrids; Y.IoT-LISF Lightweight intelligent software framework for IoT devices; Y.IoT-SQ-fns Service Functionalities of Self-quantification over Internet of things; Y.ISG-fr Framework of Smart Greenhouse Service;

ITU-D SG2 Question 1/2: Creating the smart cities and society: Employing ICTs for sustainable social and economic development		
ITU-T SG	**ITU-T Question**	**Work items**
		Y.SC-Residential Requirements and Reference Architecture of Smart Residential Communities; Y.smart-evacuation Framework of Smart Evacuation during emergencies in Smart Cities and Communities; Y.social-device Framework of the social device networking; Y.SSL Requirements and Reference Framework for Smart Street Light; Y.STD Functional Architecture for Management to Smart Tourist Destinations; Y.TPS-afw Architectural framework for providing transportation safety service; Y.WoO-hn Architecture of web of objects based virtual home network
	Q5/20: Research and emerging technologies, terminology and definitions	Suppl. Y. MEDT Methodology for Building Sustainable Capabilities during Enterprises' Digital Transformation; TR.AI4IoT (ex Y.AI4SC) Artificial Intelligence and Internet of Things; Y.CrowdSystems (ex Y.Req-Arch-CS) Requirements and Functional Architecture of IoT-related Crowdsourced Systems; Y.HEP Framework for Home Environment Profiles and Levels of IoT Systems; Y.SCC-Terms Vocabulary for Smart Cities and Communities
	Q6/20: Security, privacy, trust and identification	Y.4805 (ex Y.SC-Interop) Identifier service requirements for the interoperability of Smart City applications
	Q7/20: Evaluation and assessment of Smart Sustainable Cities and Communities	Y.AFDTS Assessment Framework for Digital Transformation of Sectors in Smart Cities; Y.ODI Open Data Indicator in smart cities; Y.SSC-IA Smart Sustainable City Impact Assessment; Y.SSC-MM Smart Sustainable Cities Maturity Model
JCA-IoT and SC&C	Joint Coordination Activity on Internet of Things and Smart Cities and Communities (JCA-IoT and SC&C)	D.2r16 - IoT and SC&C standards roadmap

ITU-D SG2 Question 2/2: Telecommunications/ICTs for eHealth		
ITU-T SG	**ITU-T Question**	**Work items**
SG5	Q4/5: Electromagnetic compatibility (EMC) issues arising in the telecommunication environment	K.133 (ex K.bwenv) Electromagnetic (EM) environment of body worn equipment in the 2.4 GHz and 13.56MHz industrial, scientific and medical band (Completed in 2017)
SG11	Q1/11: Signalling and protocol architectures in emerging telecommunication environments and guidelines for implementations	
SG12	Q1/12: SG12 work programme and quality of service/quality of experience (QoS/QoE) coordination in ITU-T	
SG13	Q2/13: Next-generation network (NGN) evolution with innovative technologies including software-defined networking (SDN) and network function virtualization (NFV)	
SG15	Q1/15: Coordination of access and home network transport standards	
SG16	Q1/16: Multimedia coordination	
	Q28/16: Multimedia framework for e-health applications	F.MCDC (ex H.OPVQ) Framework for in-flight and post-flight precautionary continuous monitoring for communicable disease control; F.Med-UHD Framework for telemedicine systems using ultra-high definition imaging; F.Med-VHN Framework of Telemedicine Service based on Virtual Hospital Network; F.SLD Guidelines for safe listening devices/systems; FTSP.EH-DEV Issues list for enhancing accessibility to e-health services and applications in developing countries; H.810 (V4), H.811, H.812, H.813 Interoperability design guidelines for personal connected health systems
SG17	Q9/17: Telebiometrics	X.1080.1 rev e-Health and world-wide telemedicines - Generic telecommunication protocol
SG20	Q2/20: Requirements, capabilities, and use cases across verticals	Y.4117 (ex Y.IoT-WDS-Reqts) Requirements and capabilities of Internet of Things for support of wearable devices and related services
	Q4/20: e/Smart services, applications and supporting platforms	Y.IoT-SQ-fns Service Functionalities of Self-quantification over Internet of things
	Q5/20: Research and emerging technologies, terminology and definitions	

ITU-D SG2 Question 2/2: Telecommunications/ICTs for eHealth		
ITU-T SG	**ITU-T Question**	**Work items**
	Q7/20: Evaluation and assessment of Smart Sustainable Cities and Communities	Y.IoT-EH-PFE Performance evaluation frameworks of e-health systems in the IoT

ITU-D SG2 Question 3/2: Securing information and communication networks: Best practices for developing a culture of cybersecurity		
ITU-T SG	**ITU-T Question**	**Work items**
SG9	Q2/9: Methods and practices for conditional access, protection against unauthorized copying and against unauthorized redistribution ("redistribution control" for digital cable television distribution to the home)	J.dcas-oneway Downloadable Conditional Access System for One-Way TV Networks
SG11	Q2/11: Signalling requirements and protocols for services and applications in emerging telecommunication environments	Q.SR-Trust Signalling requirements and architecture for interconnection between trustable network entities
SG13	Q16/13: Knowledge-centric trustworthy networking and services	Y.3051 (ex Y.trusted-env) The basic principles of trusted environment in ICT infrastructure; Y.3052 (ex Y.trust-provision) Overview of trust provisioning for ICT infrastructures and services; Y.trust-index Trust index for ICT infrastructures and services
	Q19/13: End-to-end Cloud computing management, cloud security and big data governance	Y.3514 (ex Y.CCTIC) Cloud computing - Trusted inter-cloud computing framework and requirements; Y.BDDP-reqts Big data - Overview and requirements for data preservation; Y.CCICTM Cloud Computing - Overview of Inter-Cloud Trust Management Y.CCICDM-Req Cloud Computing - Requirements for Inter-Cloud Data Management
SG15	Q1/15: Coordination of access and home network transport standards	
SG16	Q26/16: Accessibility to multimedia systems and services	F.CVR-PWN Framework of cyber-vulnerability reduction for persons with disabilities and specific needs
SG17	Q1/17: Telecommunication/ICT security coordination	Security Roadmap ICT security standards roadmap; Security Compendium Security compendium; Security Manual Security in Telecommunications and Information Technology, 7th edition; X.TRsuss-rev Technical Report on Successful use of security standards

ITU-D SG2 Question 3/2: Securing information and communication networks: Best practices for developing a culture of cybersecurity		
ITU-T SG	**ITU-T Question**	**Work items**
	Q2/17: Security architecture and framework	X.1040 (ex X.salcm) Security reference architecture for lifecycle management of e-commerce business data; X.1041 (ex X.voLTEsec-1) Security framework for voice-over-long-term-evolution (VoLTE) network operation; X.sdnsec-3 Security guideline of Service Function Chain based on software defined network; X.SDSec Guideline on Software-defined Security in SDN (Software-defined Networking)/NFV (Network Fuction Virtualization) Network; X.srnv Security Requirements of Network Virtualization; X.ssc Security Service Chain Architecture; X.sup30 (ex X.sup-sgmvno) Supplement 30 to ITU-T X-series Recommendations - ITU-T X.805 Security guidelines for mobile virtual network operators
	Q3/17: Telecommunication information security management	X.1051 (2016) Cor1 Information technology - Security techniques - Code of practice for Information security controls based on ISO/IEC 27002 for telecommunications organizations - Corrigendum 1; X.1052-rev Organization information security management guideline; X.1053 (ex X.sgsm) Code of practice for information security controls based on ITU-T X.1051 for small and medium-sized telecommunication organizations; X.1054-rev Information technology - Security techniques - Governance of information security; X.1058 (ex X.gpim) Information technology - Security techniques - Code of practice for Personally Identifiable Information protection; X.cins Information technology - Security techniques - Guidelines for Cyber Insurance; X.framcdc Framework for the creation and operation of a Cyber Defence Center; X.Sup32 (ex X.sup-gpim) ITU-T X.1058 - Code of practice for personally identifiable information protection for telecommunications organizations; X.sup-myuc Code of practice for information security control base on ITU-T X.1051 for Malaysian telecommunications organizations information and network security management
	Q4/17: Cybersecurity	X.1213 (ex X.sbb) Security capability requirements for countering smartphone-based botnets; X.1214 (ex X.samtn) Security assessment techniques in telecommunication/ICT networks;

ITU-D SG2 Question 3/2: Securing information and communication networks: Best practices for developing a culture of cybersecurity		
ITU-T SG	**ITU-T Question**	**Work items**
		X.1500 Amd.11, X.1500 App.I (2011) Amd.12 Overview of cybersecurity information exchange – Amendments 11 and 12; X.fgati Framework and Guidelines for Applying Threat Intelligence in Telecom Network Operation; X.gcpie Guidelines for Collection and Preservation of Cyber Security Incident Evidence; X.metric Metrics for evaluating threat and resilience in cyberspace; X.ucstix Use Cases for Structured Threat Information Expression (STIX™)
	Q5/17: Countering spam by technical means	X.1248 (ex X.cspim) Technical requirements for countering instant messaging spam; X.1249 (ex X.tfcma) Technical framework for countering mobile in-application advertising spam; X.gcims Guidelines for countering instant messaging spam; X.sup29 (ex X.sup-gcspi) Supplement 29 to ITU-T X-series Recommendations - ITU-T X.1242 Guidelines on countermeasures against short message service (SMS) phishing and smishing attacks; X.sup-ctss Supplement to ITU-T X.1231 Technical framework for countering telephone service scam; X.tecwes Technologies in countering website spoofing for telecommunication organizations; X.tfcas Technical framework for countering advertising spam in user generated information; X.tsfpp Technical security framework for the protection of users' personal information while countering mobile messaging spam
	Q6/17: Security aspects of telecommunication services, networks and Internet of Things	X.5Gsec-q Security guidelines for applying quantum-safe algorithms in 5G systems; X.1126 (ex X.msec-11) Guidelines on mitigating the negative effects of infected terminals in mobile networks; X.sdnsec-1 Security services using the software-defined networking; X.1331 (ex X.sgsec-2) Security guidelines for home area network (HAN) devices in smart grid systems; X.1361 (ex X.iotsec-2) Security framework for the Internet of things based on the gateway model; X.1362 (ex X.iotsec-1) Simple encryption procedure for Internet of things (IoT) environments; X.1373 (ex X.itssec-1) Secure software update capability for intelligent transportation system communication devices;

ITU-D SG2 Question 3/2: Securing information and communication networks: Best practices for developing a culture of cybersecurity		
ITU-T SG	**ITU-T Question**	**Work items**
		X.ibc-iot Security Framework for Use of Identity-Based Cryptography in Support of IoT Services over Telecom Networks; X.iotsec-3 Technical framework of PII (Personally Identifiable Information) handling system in IoT environment; X.nb-iot Security Requirements and Framework for Narrow Band Internet of Things; X.secup-iot Secure Software Update for IoT devices; X.sgsec-3 Security guidelines for smart metering service in smart grids; X.ssp-iot Security Requirements and Framework for IoT Service Platform; X.Sup26 Cor.1 ITU-T X.1111 - Supplement on security functional architecture for smart grid services using telecommunication networks: Corrigendum 1
	Q7/17: Secure application services	X.1145 (ex X.websec-6) Security framework and requirements for open capabilities of telecommunication services; X.1146 (ex X.websec-8) Secure protection guidelines for value-added services provided by telecommunication operators; X.sfop Security framework of open platform for FinTech services; X.sgos Security guidelines of Web-based online customer service; X.tfss Technical Framework for Security Services Provided by Operators; X.srfb Security Requirements and Framework for Big Data Analytics in mobile Internet services
	Q8/17: Cloud computing security	X.1603 (ex X.dsms) Data security requirements for the monitoring service of cloud computing; X.GSBDaaS Guidelines on security of Big Data as a Service; X.sgBDIP Security Guidelines for Big Data infrastructure and platform; X.sgtBD Security guidelines of lifecycle management for telecom Big Data; X.SRIaaS Security requirements of public infrastructure as a service (IaaS) in cloud computing; X.SRNaaS Security requirements of Network as a Service (NaaS) in cloud computing
	Q9/17: Telebiometrics	X.1080.0 (2017) Cor.1 Access control for telebiometrics data protection: Corrigendum 1; X.1080.1 - X.1080.6 Telebiometrics related to; X.tab Telebiometric authentication using bio-signals;

ITU-D SG2 Question 3/2: Securing information and communication networks: Best practices for developing a culture of cybersecurity		
ITU-T SG	**ITU-T Question**	**Work items**
		X.tac Telebiometric access control with smart ID card; X.tas Telebiometric authentication using speaker recognition
	Q10/17: Identity management architecture and mechanisms	X.eaasd Framework of enhanced authentication in telebiometric environments using anti-spoofing detection mechanisms
	Q11/17: Generic technologies (Directory, public key infrastructure (PKI), privilege management infrastructure (PMI), Abstract Syntax Notation One (ASN.1), object identifiers (OIDs)) to support secure applications	X.500-series-rev Edition 9 of the X.500 Series; X.cms-prof Cryptographic Message Syntax (CMS) Profile; X.orf-gs OID-based resolution framework for IoT group services; X.sup31 (ex X.sup-oid-iot) Supplement 31 to ITU-T X-series Recommendations - ITU-T X.660 Guidelines for using object identifiers for the Internet of things;
	Q13/17: Security aspects for Intelligent Transport System	X.itssec-2 Security guidelines for V2X communication systems; X.itssec-3 Security requirements for vehicle accessible external devices; X.itssec-4 Methodologies for intrusion detection system on in-vehicle systems; X.itssec-5 Security guidelines for vehicular edge computing; X.mdcv Security-related misbehaviour detection mechanism based on big data analysis for connected vehicles; X.stcv Security threats in connected vehicles
	Q14/17: Security aspects for Distributed Ledger Technologies	
SG20	Q3/20: Architectures, management, protocols and Quality of Service	Y.oneM2M.SEC.SOL oneM2M-TS 0003 Security Solutions
	Q6/20: Security, privacy, trust and identification	Y.4806 (ex Y.IoT-sec-safety) Security capabilities supporting safety of the Internet of Things; Y.IoT-IoD-PT Identity of IoT devices, which is based on secure procedures and ensures privacy and trust of the used IoT systems; Y.LPWA Security, interoperability and identification aspects for Low Power Wide Area (LPWA) systems; Y.IoT-Interop An Interoperability framework for IoT

ITU-D SG2 **Question 4/2: Assistance to developing countries for implementing conformance and interoperability (C&I) programmes and combating counterfeit ICT equipment and theft of mobile devices**		
ITU-T SG	**ITU-T Question**	**Work items**
SG2	Q1/2: Application of numbering, naming, addressing and identification plans for fixed and mobile telecommunications services	E.A-N/GoC Administrative procedures for ENUM for E.164 country codes and associated ICs for networks and GICs for groups of countries; E.156 Guidelines for ITU-T action on reported misuse of E.164 number resources
	Q7/2: Interface specifications and specification methodology	X.781: Requirements and guidelines for Implementation Conformance Statements proformas associated with CORBA-based systems. X.783: Guidelines for implementation conformance statement proformas associated with web services-based management systems X.784: Guidelines for implementation conformance statements proformas associated with SNMP-based management systems M.3170.4: Multi-technology network management: Conformance testing specification
SG3	Q12/3: Tariffs, Economic and Policy Issues Pertaining to Mobile Financial Services (MFS)	D.InteropCompetition Interoperability for Competition in Mobile Financial Services
SG5	Q2/5: Equipment resistibility and protective components	
	Q3/5: Human exposure to electromagnetic fields (EMFs) from information and communication technologies (ICTs)	
	Q4/5: Electromagnetic compatibility (EMC) issues arising in the telecommunication environment	

ITU-D SG2 Question 4/2: Assistance to developing countries for implementing conformance and interoperability (C&I) programmes and combating counterfeit ICT equipment and theft of mobile devices		
ITU-T SG	**ITU-T Question**	**Work items**
	Q7/5: Circular economy including e-waste~~Q6/5: Achieving energy efficiency and smart energy~~	L.1000 Universal power adapter and charger solution for mobile terminals and other hand-held ICT devices L.1001 External universal power adapter solutions for stationary information and communication technology devices L.1002 External universal power adapter solutions for portable information and communication technology devices L.1005 Test suites for assessment of the universal charger solution L.1006 Test suites for assessment of the external universal power adapter solutions for stationary information and communication technology devices L.1007 Test suites for assessment of the external universal power adapter solutions for portable information and communication L.1010 Green battery solutions for mobile phones and other hand-held information and communication technology devices L.Counterfeit Adequate Assessment and Sensitisation on Counterfeit ICT Products and their Environmental Impact~~L.1000: Universal power adapter and charger solution for mobile terminals and other hand-held ICT devices~~ ~~L.1001: External universal power adapter solutions for stationary information and communication technology devices~~ ~~L.1002: External universal power adapter solutions for portable information and communication technology devices~~ ~~L.1005: Test suites for assessment of the universal charger solution~~ ~~L.1006: Test suites for assessment of the external universal power adapter solutions for stationary information and communication technology devices~~ ~~L.1007: Test suites for assessment of the external universal power adapter solutions for portable information and communication~~ ~~L.1010: Green battery solutions for mobile phones and other hand-held information and communication technology devices~~ ~~L.Counterfeit Adequate Assessment and Sensitisation on Counterfeit ICT Products and their Environmental Impact~~

ITU-D SG2 **Question 4/2: Assistance to developing countries for implementing conformance and interoperability (C&I) programmes and combating counterfeit ICT equipment and theft of mobile devices**		
ITU-T SG	**ITU-T Question**	**Work items**
	Q9/5: Climate change and assessment of information and communication technology (ICT) in the framework of the Sustainable Development Goals (SDGs)	
SG11	Q9/11: Service and networks benchmark testing, remote testing including Internet related performance measurements	Q.3961 (ex Q.TM_Int_sp_test) Testing methodologies of Internet related performance measurements including e2e bit rate within the fixed and mobile operator's networks; Q.SP-RT-NP Signalling procedures for controlling probes used for remote testing of network parameters
	Q10/11: Testing of emerging IMT-2020 technologies	Q.SDN-CT Framework of SDN controller testing;
	Q11/11: Protocols and networks test specifications; frameworks and methodologies	Q.4013.1 v.1_SI_IBCF_TS_Part1 Testing of the IBCF requirements; (3GPP Release 12); Part 1: Protocol Implementation Conformance Statement (PICS); Q.4013.2 v.1_SI_IBCF_TS_Part2 Core Network and Interoperability Testing (INT); Testing of the IBCF requirements; (3GPP Release 10); Part 2: Test Suite Structure and Test Purposes (TSS&TP); Q.4014.2 v.1_SI_IAD_TS_Part2 (ex Q.39_SI_IAD_TS_Part2 v.1 [3GPP Release 10]) PSTN/ISDN terminal equipment using IP Multimedia core network subsystem; Conformance testing; Part 2: TSS&TP; Q.TI-TEST Framework of model network for Tactile Internet testing
	Q12/11: Testing of Internet of things, its applications and identification systems	Q.39_FW_Test_ID_IoT The framework of testing of identification systems used in IoT; Q.FW_IoT/Test Framework for IoT Testing; Q.Het_IoT_Gateway_Test The structure of the testing of heterogeneous Internet of Things gateways in a laboratory environment
	Q13/11: Monitoring parameters for protocols used in emerging networks, including cloud computing and software-defined networking/network function virtualization (SDN/NFV)	Q.SQM Signalling requirements and architecture for the Internet service quality monitoring system Q.BNGP: Set of parameters of vBNG for monitoring
	Q14/11: Cloud interoperability testing	Q.wa-iop Cloud Interoperability testing about Web Application Q.vs-iop-reqts: Interoperability testing requirements of virtual switch

ITU-D SG2 **Question 4/2: Assistance to developing countries for implementing conformance and interoperability (C&I) programmes and combating counterfeit ICT equipment and theft of mobile devices**		
ITU-T SG	**ITU-T Question**	**Work items**
	Q15/11: Combating counterfeit and stolen ICT equipment	Q.FW_CCF Framework for solution to combat counterfeit ICT Devices; Q.FW_CSM Framework for Combating the use of Stolen Mobile ICT Devices; TR-BP_CF Technical Report - Guidelines on Best Practice and Solutions for Combating Counterfeit ICT Devices; TR-Uni_Id (ex TR-Sub_Una) Technical Report on use of anti-counterfeiting technical solutions relying on unique and persistent mobile device identifiers
SG12	Q3/12 Speech transmission and audio characteristics of communication terminals for fixed circuit-switched, mobile and packet-switched Internet protocol (IP) networks	P.DHIP Technical requirements and test methods for the digital wired or wireless headset interface of mobile terminals
SG16	Q13/16: Multimedia application platforms and end systems for IPTV	HSTP.CONF-H764 Conformance testing specification for H.764
	Q26/16: Accessibility to multimedia systems and services	HSTP.CONF-H702 Conformance testing specification for ITU-T H.702
	Q28/16: Multimedia framework for e-health applications	H.821 Conformance of ITU-T H.810 personal health system: Healthcare information system interface; H.830.1-12 Conformance of ITU-T H.810 personal health system: Services interface Part 1-12; H.840 - H.850 Conformance of ITU-T H.810 personal health system: Personal Health Devices interface
SG17	Q6/17: Security aspects of telecommunication services, networks and Internet of Things	X.1127 (ex X.msec-9) Functional security requirements and architecture for mobile phone anti-theft measures
SG20	Q6/20: Security, privacy, trust and identification	Y.IoT-DA-Counterfeit Information Management Digital Architecture to combat counterfeiting in IoT

ITU-D SG2 **Question 5/2: Utilizing telecommunications/ICTs for disaster risk reduction and management**		
ITU-T SG	**ITU-T Question**	**Work items**
SG2	Q3/2: Service and operational aspects of telecommunications, including service definition	E.119 (ex E.rdr-scbm) Requirements for safety confirmation and broadcast message service for disaster relief;

ITU-D SG2 Question 5/2: Utilizing telecommunications/ICTs for disaster risk reduction and management		
ITU-T SG	**ITU-T Question**	**Work items**
		E.sup.fdr Framework of disaster management for disaster relief system; E.TD-DR Terms and definitions for DR&NRR
SG5	Q6/5: Achieving energy efficiency and smart energy	L.1507 (ex. L.SES) Use of ICT sites to support environmental sensing
	Q9/5: Climate change and assessment of information and communication technology (ICT) in the framework of the Sustainable Development Goals (SDGs)	L.1500÷ Framework for information and communication technologies and adaptation to the effects of climate change L.1501÷ Best practices on how countries can utilize ICTs to adapt to the effects of climate change L.1502÷ Adapting information and communication technology infrastructure to the effects of climate change L.1503÷ Use of information and communication technology for climate change adaptation in cities L.1504÷ ICT and adaptation of agriculture to the effects of climate change L.1505÷ Information and communication technology and adaptation of the fisheries sector to the effects of climate change L.1506÷ Framework of climate change risk assessment for telecommunication and electrical facilities
SG9	Q8/9: The Internet protocol (IP) enabled multimedia applications and services for cable television networks enabled by converged platforms	
SG11	Q3/11: Signalling requirements and protocols for emergency telecommunications	Q.ETN-DS Signalling architecture of the fast deployment emergency telecommunication network to be used in a natural disaster; Q.suppl.Multi_Device_ETS Signalling requirements for VoLTE-based network and GSM/UMTS network supporting Multi-device emergency telecommunications service; Q.Suppl.VoLTE_ETS_Interconnection Signalling requirements for interconnection between VoLTE-based network and other networks supporting emergency telecommunications service (ETS)
SG12	Q1/12: SG12 work programme and quality of service/quality of experience (QoS/QoE) coordination in ITU-T	
	Q4/12 Objective methods for speech and audio evaluation in vehicles	P.1140 Speech Quality Requirements for Emergency Calls
SG13	Q2/13: Next-generation network (NGN) evolution with innovative technologies including software-defined networking	

ITU-D SG2 Question 5/2: Utilizing telecommunications/ICTs for disaster risk reduction and management		
ITU-T SG	**ITU-T Question**	**Work items**
	(SDN) and network function virtualization (NFV)	
SG15	Q1/15: Coordination of access and home network transport standards	
	Q16/15: Optical physical infrastructures	
	Q17/15: Maintenance and operation of optical fibre cable networks	L.300series.Sup.35 (ex L.300series.Sup.nrr-frm) Framework of disaster management for network resilience and recovery
SG16	Q1/16: Multimedia coordination	
	Q8/16: Immersive live experience systems and services	H.ILE-SS Service scenario of ILE H.ILE-MMT Service configuration, media transport protocols, signalling information of MMT for Immersive Live Experience systems
	Q11/16: Multimedia systems, terminals, gateways and data conferencing	
	Q14/16: Digital signage systems and services	H.DS-ASM Digital signage: Metadata for alerting services; H.DS-CASF Digital signage: Common alerting service framework; H.785.0 Digital signage: Requirements for disaster information services
	Q26/16: Accessibility to multimedia systems and services	H.MD-DiDRR Profile metadata for persons with specific needs as part of disability-inclusive disaster risk reduction
SG17	Q4/17: Cybersecurity	
SG20	Q2/20: Requirements, capabilities, and use cases across verticals	Y.4119 (ex Y.AERS-reqts) Requirements and capability framework for IoT-based automotive emergency response system
	Q3/20: Architectures, management, protocols and Quality of Service	Y.AERS-msd Minimum set of data structure for automotive emergency response system; Y.AERS-mtp Minimum set of data transfer protocol for automotive emergency response system;
	Q4/20: e/Smart services, applications and supporting platforms	Y.disaster_notification Framework of the disaster notification of the population in Smart Cities and Communities; Y.smart-evacuation Framework of Smart Evacuation during emergencies in Smart Cities and Communities

ITU-D SG2 Question 6/2: ICTs and the environment		
ITU-T SG	**ITU-T Question**	**Work items**
SG5	Q6/5: Achieving energy efficiency and smart energy	L.1220 Innovative energy storage technology for stationary use - Part 1: Overview of energy storage L.1221 Innovative energy storage technology for stationary use - Part 2: Battery L.1222 Innovative energy storage technology for stationary use - Part 3: Supercapacitor technology ~~L.1220: Innovative energy storage technology for stationary use - Part 1: Overview of energy storage~~ ~~L.1221: Innovative energy storage technology for stationary use - Part 2: Battery~~ ~~L.1222: Innovative energy storage technology for stationary use - Part 3: Supercapacitor technology~~ L.1300~~:~~ Best practices for green data centres L.1301~~:~~ Minimum data set and communication interface requirements for data centre energy management L.1302~~:~~ Assessment of energy efficiency on infrastructure in data centres and telecom centres L.1303~~:~~ Functional requirements and framework of green data centre energy-saving management system L.1310~~:~~ Energy efficiency metrics and measurement methods for telecommunication equipment L.1320~~:~~ Energy efficiency metrics and measurement for power and cooling equipment for telecommunications and data centres L.1350~~:~~ Energy efficiency metrics of a base station site L.1700~~:~~ Requirements and framework for low-cost sustainable telecommunications infrastructure for rural communications in developing countries L.5G_powering Sustainable power feeding solutions for 5G network L.SE_BS Smart energy solution for telecom base stations~~L.5G_powering Sustainable power feeding solutions for 5G network~~ ~~L.SE_BS Smart energy solution for telecom base stations~~ L.1325 (ex L.Green STNI) Green ICT solutions for telecom network facilities (Completed in 2016)~~L.1325 (ex L.Green STNI) Green ICT solutions for telecom network facilities;~~ L.1507 (ex. L.SES) Use of ICT sites to support environmental sensing~~L.SES Use of ICT sites to support environmental sensing;~~ L.Supp~~l.~~Green ICT SLQ Green ICT standards landscape questionnaires~~;~~

ITU-D SG Question 6/2: ICTs and the environment		
ITU-T SG	**ITU-T Question**	**Work items**
		L.Suppl.BP_EF A Guideline on best practices and environment friendly policies for effective ICT deployment methods
	Q7/5: Circular economy including e-waste	L.1020 (ex L.CE_ICT) Circular Economy: Guide for Operators and Suppliers on approaches to migrate towards circular ICT goods and networks (Completed in 2017); L.1021 (ex L.EPR) Extended producer responsibility - Guidelines for sustainable e-waste management (Completed in 2017); L.1030 (ex L.EWFrame) E- Waste management framework for countries; L.ARCH_EoL_CE Environmental Impact of architecture solutions with regards to End of Life and Circular Economy (CE); L.BP Best practices on e-waste management; L.1022 (ex L.CE_Concepts) Circular Economy; Definitions and concepts for material efficiency for ICT; L.CEML.1015 Criteria for evaluation of the environmental impact of mobile phones; L.1032 (ex.L.ER) Guidelines and Accreditation Certification Schemes for e- Waste Recyclers; L.1031 : Guideline on implementing the e-waste reduction target of the Connect 2020 Agenda L.EW2020 Connect 2020 agenda E-Waste reduction; L.methodology_arch Methodology to assess the environmental impact of the different proposed architectures; L.SEEQ Effect for global ICT of the potential of selling Services instead of Equipment on the waste creation and environmental impacts; Suppl. L.BM Supplement on Collection of sustainable models for e-waste management by private corporations
	Q8/5: Guides and terminology on environment and climate change	Terminology Handbook Extension of the Terminology Handbook to cover relevant L-series terminologies; Terminology Handbook - web version Web version of the Terminology Handbook
	Q9/5: Climate change and assessment of information and communication technology (ICT) in the framework of the Sustainable Development Goals (SDGs)	L.1450 (ex L.MAE) Methodologies for the assessment of the environmental impact of the information and communication technology sector; L.1460 (ex L.Connect2020 framework) Connect 2020 greenhouse gases emissions – Guidelines; L.1505 (ex L.ICT and FA) Information and communication technology and adaptation of the

ITU-D SG2 Question 6/2: ICTs and the environment		
ITU-T SG	**ITU-T Question**	**Work items**
		fisheries sector to the effects of climate change (Completed in 2017)~~;~~ L.1506 (ex L.CCRisk) Framework of climate change risk assessment for telecommunication and electrical facilities (Completed in 2017)~~;~~ ~~L.DATA Guidelines for an ITU Database on GHG emissions;~~ L.methodology RM Methodology for helping ICT organizations to assess the impact on rare metals from their operation~~;~~ L.MAAP Methodology for assessing the aggregated positive sector-level impacts of ICT in other sectors~~;~~ L.microgrid_assesement Impact assessment of energy services on multiple microgrids
SG20	Q2/20: Requirements, capabilities, and use cases across verticals	Y.IoT-GP-Reqts Requirements for an IoT enabled network to support applications for global processes of the earth; Y.SEM Requirements and capability framework of Smart Environmental Monitoring
	Q4/20: e/Smart services, applications and supporting platforms	Y.ISG-fr Y.ISG-fr Framework of Smart Greenhouse Service
	Q5/20: Research and emerging technologies, terminology and definitions	

ITU-D SG2 Question 7/2: Strategies and policies concerning human exposure to electromagnetic fields		
ITU-T SG	**ITU-T Question**	**Work items**
SG5	Q3/5: Human exposure to electromagnetic fields (EMFs) from information and communication technologies (ICTs)	K.52 Guidance on complying with limits for human exposure to electromagnetic fields (Completed in 2017); K.61 Guidance on measurement and numerical prediction of electromagnetic fields for compliance with human exposure limits for telecommunication installations (Completed in 2017); K.70 Mitigation techniques to limit human exposure to EMFs in the vicinity of radiocommunication stations (Completed in 2017); K.91 Guidance for assessment, evaluation and monitoring of human exposure to radio frequency electromagnetic fields (Completed in 2017); K.100 Measurement of radio frequency electromagnetic fields to determine compliance with human exposure limits when a base station is put into service(Completed in 2017);

ITU-D SG2 Question 7/2: Strategies and policies concerning human exposure to electromagnetic fields		
ITU-T SG	**ITU-T Question**	**Work items**
		K.121 Guidance on the environmental management for compliance with radio frequency EMF limits for radiocommunication base stations; K.Suppl.16 (ex. K.Supp-5G_EMF_Compliance) Electromagnetic field (EMF) compliance assessments for 5G wireless networks; K.Suppl.13 (ex. K.BPrac) Best Practices of the use of mobile devices for exposure reduction
SG20	Q2/20: Requirements, capabilities, and use cases across verticals	

Table 2 – Matrix of ITU-D Questions and ITU-T Questions

		ITU-D SG 1							ITU-D SG 2						
		Q1/1	Q2/1	Q3/1	Q4/1	Q5/1	Q6/1	Q7/1	Q1/2	Q2/2	Q3/2	Q4/2	Q5/2	Q6/2	Q7/2
ITU-T SG2	Q1/2	X					X		X			X			
	Q2/2	X													
	Q3/2												X		
	Q5/2	X		X											
	Q6/2	X							X						
	Q7/2											X			
ITU-T SG3	Q1/3	X			X										
	Q2/3				X										
	Q3/3	X			X		X		X						
	Q4/3				X										
	Q6/3	X			X										
	Q7/3				X										
	Q9/3			X			X								
	Q10/3	X			X		X								
	Q11/3			X											
	Q12/3			X	X		X					X			
	Q13/3	X			X										

		ITU-D SG 1							ITU-D SG 2						
		Q1/1	Q2/1	Q3/1	Q4/1	Q5/1	Q6/1	Q7/1	Q1/2	Q2/2	Q3/2	Q4/2	Q5/2	Q6/2	Q7/2
ITU-T SG5	Q1/5					X									
	Q2/5							X				X			
	Q3/5											X			X
	Q4/5					X		X		X		X			
	Q6/5	X		X		X			X				X	X	
	Q7/5	X		X		X	X		X			X		X	
	Q8/5													X	
	Q9/5	X		~~X~~		X			X			X	X	X	
ITU-T SG9	Q1/9		X												
	Q2/9		X								X				
	Q4/9		X												
	Q5/9		X												
	Q6/9		X												
	Q7/9		X												
	Q8/9		X	X											
	Q10/9		X												

		ITU-D SG 1							ITU-D SG 2						
		Q1/1	Q2/1	Q3/1	Q4/1	Q5/1	Q6/1	Q7/1	Q1/2	Q2/2	Q3/2	Q4/2	Q5/2	Q6/2	Q7/2
ITU-T SG11	Q1/11	X													
	Q2/11	X									X				
	Q3/11												X		
	Q4/11	X													
	Q5/11	X							X						
	Q6/11	X													
	Q7/11	X													
	Q8/11	X													
	Q9/11	X										X			
	Q10/11	X										X			
	Q11/11											X			
	Q12/11								X			X			
	Q13/11								X			X			
	Q14/11	X		X								X			
	Q15/11											X			

		ITU-D SG 1							ITU-D SG 2						
		Q1/1	Q2/1	Q3/1	Q4/1	Q5/1	Q6/1	Q7/1	Q1/2	Q2/2	Q3/2	Q4/2	Q5/2	Q6/2	Q7/2
ITU-T SG12	Q1/12														
	Q2/12	X	X				X								
	Q3/12							X				X			
	Q4/12												X		
	Q5/12							X							
	Q6/12							X							
	Q7/12						X								
	Q8/12	X													
	Q11/12	X													
	Q12/12	X					X								
	Q13/12	X	X	X			X								
	Q16/12	X													
	Q17/12														
	Q18/12		X												
	Q19/12		X												

		ITU-D SG 1							ITU-D SG 2						
		Q1/1	Q2/1	Q3/1	Q4/1	Q5/1	Q6/1	Q7/1	Q1/2	Q2/2	Q3/2	Q4/2	Q5/2	Q6/2	Q7/2
ITU-T SG13	Q1/13	X							X						
	Q2/13	X													
	Q5/13	X		X											
	Q6/13	X													
	Q7/13	X		X											
	Q16/13								X		X				
	Q17/13			X											
	Q18/13			X											
	Q19/13			X							X				
	Q20/13	X													
	Q21/13	X													
	Q22/13	X							X						
	Q23/13	X													

		ITU-D SG 1							ITU-D SG 2						
		Q1/1	Q2/1	Q3/1	Q4/1	Q5/1	Q6/1	Q7/1	Q1/2	Q2/2	Q3/2	Q4/2	Q5/2	Q6/2	Q7/2
ITU-T SG15	Q1/15	X		X		X			X	X	X		X		
	Q2/15	X													
	Q4/15	X													
	Q11/15	X													
	Q12/15	X													
	Q14/15														
	Q15/15														
	Q16/15	X				X							X		
	Q17/15												X		
	Q18/15	X													
	Q19/15														
ITU-T SG16	Q1/16														
	Q8/16		X										X		
	Q11/16														
	Q13/16	X	X									X			
	Q14/16												X		
	Q21/16	X	X	X		X			X						
	Q24/16							X	X						
	Q26/16		X					X			X	X	X		
	Q27/16								X						
	Q28/16									X		X			

		ITU-D SG 1							ITU-D SG 2						
		Q1/1	Q2/1	Q3/1	Q4/1	Q5/1	Q6/1	Q7/1	Q1/2	Q2/2	Q3/2	Q4/2	Q5/2	Q6/2	Q7/2
ITU-T SG17	Q1/17										X				
	Q2/17	X									X				
	Q3/17										X				
	Q4/17						X				X				
	Q5/17										X				
	Q6/17	X	X						X		X	X			
	Q7/17	X	X	X							X				
	Q8/17			X							X				
	Q9/17									X	X				
	Q10/17										X				
	Q11/17	X							X		X				
	Q13/17			X					X		X				
	Q14/17			X							X				
ITU-T SG20	Q1/20								X						
	Q2/20	X			X	X		X	X	X			X	X	
	Q3/20	X							X		X		X		
	Q4/20								X	X			X	X	
	Q5/20								X						
	Q6/20								X		X	X			
	Q7/20								X	X					

Table 3 – List of ITU-T Questions which could be related to ITU-D Questions even in the absence of relevant ITU-T working items

ITU-D SG1 Question 1/1: Strategies and policies for the deployment of broadband in developing countries	
ITU-T SG	**ITU-T Question**
SG2	Q2/2: Routing and interworking plan for fixed and mobile networks
	Q3/2: Service and operational aspects of telecommunications, including service definition
	Q5/2: Requirements, priorities and planning for telecommunication management and operation, administration and maintenance (OAM) Recommendations
	Q6/2: Management architecture and security
SG3	Q2/3: Development of charging and accounting/settlement mechanisms for international telecommunications services, other than those studied in Question 1/3, including adaptation of existing D-series Recommendations to the evolving user needs
	Q4/3: Regional studies for the development of cost models together with related economic and policy issues
	Q10/3: Definition of relevant markets, competition policy and identification of operators with significant market power (SMP) as it relates to the economic aspects of the international telecommunication
	Q11/3: Economic and policy aspects of big data and digital identity in international telecommunications services and networks
SG5	Q6/5: Achieving energy efficiency and smart energy Q7/5: Circular economy including e-waste Q9/5: Climate change and assessment of information and communication technology (ICT) in the framework of the Sustainable Development Goals (SDGs)
SG9	Q4/9: Guidelines for implementations and deployment of transmission of multichannel digital television signals over optical access networks
	Q5/9: Software components application programming interfaces (APIs), frameworks and overall software architecture for advanced content distribution services within the scope of Study Group 9
	Q8/9: The Internet protocol (IP) enabled multimedia applications and services for cable television networks enabled by converged platforms
	Q9/9: Requirements, methods, and interfaces of the advanced service platforms to enhance the delivery of sound, television, and other multimedia interactive services over cable television network
SG11	Q4/11: Protocols for control, management and orchestration of network resources
	Q5/11: Protocols and procedures supporting services provided by broadband network gateways
	Q10/11: Testing of emerging IMT-2020 technologies
	Q11/11: Protocols and networks test specifications; frameworks and methodologies

ITU-D SG1 Question 1/1: Strategies and policies for the deployment of broadband in developing countries	
	Q13/11: Monitoring parameters for protocols used in emerging networks, including cloud computing and software-defined networking/network function virtualization (SDN/NFV)
	Q14/11: Cloud interoperability testing
	Q15/11: Combating counterfeit and stolen ICT equipment
SG12 QSDG	Q1/12: SG12 work programme and quality of service/quality of experience (QoS/QoE) coordination in ITU-T
	Q9/12: Perceptual-based objective methods for voice, audio and visual quality measurements in telecommunication services
	Q14/12: Development of models & tools for multimedia quality assessment of packet-based video
	Q17/12: Performance of packet-based networks and other networking technologies
SG13	Q5/13: Applying networks of future and innovation in developing countries
	Q7/13: Big data driven networking (bDDN) and Deep packet inspection (DPI)
SG15	Q1/15: Coordination of access and home network transport standards
	Q2/15: Optical systems for fibre access networks
	Q4/15: Broadband access over metallic conductors
	Q16/15: Optical physical infrastructures
	Q18/15: Broadband in-premises networking
SG16	Q1/16: Multimedia coordination
	Q11/16: Multimedia systems, terminals, gateways and data conferencing
SG20	Q1/20: End to end connectivity, networks, interoperability, infrastructures and Big Data aspects related to IoT and SC&C
	Q4/20: e/Smart services, applications and supporting platforms
	Q5/20: Research and emerging technologies, terminology and definitions
	Q6/20: Security, privacy, trust and identification
	Q7/20: Evaluation and assessment of Smart Sustainable Cities and Communities

ITU-D SG1 Question 2/1: Strategies, policies, regulations and methods of migration and adoption of digital broadcasting and implementation of new services	
SG2	Q3/2: Service and operational aspects of telecommunications, including service definition
SG11	Q12/11: Testing of Internet of things, its applications and identification systems
	Q14:/11: Cloud interoperability testing

ITU-D SG1 Question 1/1: Strategies and policies for the deployment of broadband in developing countries	
SG12	Q1/12: SG12 work programme and quality of service/quality of experience (QoS/QoE) coordination in ITU-T
	Q9/12: Operational aspects of telecommunication network service quality
	Q14/12: Development of models and tools for multimedia quality assessment of packet-based video services
SG16	Q1/16: Multimedia coordination

ITU-D SG1 Question 3/1: Emerging technologies, including cloud computing: m-services, and OTTs: Challenges and opportunities, economic and policy impact for developing countries	
SG2	Q1/2: Application of numbering, naming, addressing and identification plans for fixed and mobile telecommunications services
	Q3/2: Service and operational aspects of telecommunications, including service definition
	Q5/2: Requirements, priorities and planning for telecommunication management and operation, administration and maintenance (OAM) Recommendations
	Q7/2: Interface specifications and specification methodology
SG5	Q6/5: Achieving energy efficiency and smart energy
	Q7/5: Circular economy including e-waste
SG12	Q1/12: SG12 work programme and quality of service/quality of experience (QoS/QoE) coordination in ITU-T
SG13	Q1/13: Innovative services scenarios, deployment models and migration issues based on Future Networks
SG15	Q1/15: Coordination of access and home network transport standards
SG20	Q1/20: End to end connectivity, networks, interoperability, infrastructures and Big Data aspects related to IoT and SC&C
	Q7/20: Evaluation and assessment of Smart Sustainable Cities and Communities

ITU-D SG1 Question 4/1: Economic policies and methods of determining the costs of services related to national telecommunication/ICT networks	
SG3	Q11/3: Economic and policy aspects of big data and digital identity in international telecommunications services and networks

ITU-D SG1 Question 5/1: Telecommunications/ICTs for rural and remote areas

ITU-D SG1 Question 1/1: Strategies and policies for the deployment of broadband in developing countries	
SG3	Q1/3: Development of charging and accounting/settlement mechanisms for international telecommunications services using the next-generation networks (NGNs), future networks, and any possible future development, including adaptation of existing D-series Recommendations to the evolving user needs
SG5	Q12/5: Protection of information and communication technology (ICT) infrastructure from electromagnetic surges ~~Equipment resistibility and protective components~~
	Q4/5: Electromagnetic compatibility (EMC) issues arising in the telecommunication environment
	Q6/5: Achieving energy efficiency and smart energy
	Q7/5: Circular economy including e-waste
	Q9/5 Climate change and assessment of information and communication technology (ICT) in the framework of the Sustainable Development Goals (SDGs)
SG11	Q9/11: Service and networks benchmark testing, remote testing including Internet related performance measurements
	Q12/11: Testing of Internet of things, its applications and identification systems
	Q13/11: Monitoring parameters for protocols used in emerging networks, including cloud computing and software-defined networking/network function virtualization (SDN/NFV)
	Q14:/11: Cloud interoperability testing
SG12	Q1/12: SG12 work programme and quality of service/quality of experience (QoS/QoE) coordination in ITU-T
	Q2/12: Definitions, guides and frameworks related to QoS/QoE
SG15	Q1/15: Coordination of access and home network transport standards
	Q16/15: Optical physical infrastructures
SG16	Q1/16: Multimedia coordination
	Q13/16: Multimedia application platforms and end systems for IPTV
	Q26/16: Accessibility to multimedia systems and services
	Q28/16: Multimedia framework for e-health applications
SG20	Q1/20: End to end connectivity, networks, interoperability, infrastructures and Big Data aspects related to IoT and SC&C
	Q3/20: Architectures, management, protocols and Quality of Service
	Q4/20: e/Smart services, applications and supporting platforms
	Q5/20: Research and emerging technologies, terminology and definitions
	Q6/20: Security, privacy, trust and identification
	Q7/20: Evaluation and assessment of Smart Sustainable Cities and Communities

ITU-D SG1 Question 1/1: Strategies and policies for the deployment of broadband in developing countries

ITU-D SG1 Question 6/1: Consumer information, protection and rights: Laws, regulation, economic bases, consumer networks	
SG3	Q7/3: International mobile roaming issues (including charging, accounting and settlement mechanisms and roaming at border areas
	Q8/3: Alternative calling procedures and misappropriation and misuse of facilities and services including calling line identification (CLI), calling party number delivery (CPND) and origin identification (OI)
	Q11/3: Economic and policy aspects of big data and digital identity in international telecommunications services and networks
SG5	Q7/5: Circular economy including e-waste
SG11	Q15/11: Combating counterfeit and stolen ICT equipment
SG12 and QSDG	Q1/12: SG12 work programme and quality of service/quality of experience (QoS/QoE) coordination in ITU-T
SG16	Q1/16: Multimedia coordination
	Q24/16: Human factors related issues for improvement of the quality of life through international telecommunications
	Q26/16: Accessibility to multimedia systems and services
SG20	Q1/20: End to end connectivity, networks, interoperability, infrastructures and Big Data aspects related to IoT and SC&C
	Q4/20: e/Smart services, applications and supporting platforms
	Q5/20: Research and emerging technologies, terminology and definitions
	Q6/20: Security, privacy, trust and identification

ITU-D SG1 Question 7/1: Access to telecommunication/ICT services by persons with disabilities and other persons with specific needs	
SG5	Q2/5: Equipment resistibility and protective components
	Q4/5: Electromagnetic compatibility (EMC) issues arising in the telecommunication environment ~~Q6/5: Achieving energy efficiency and smart energy~~
SG9	Q6/9: Functional requirements for residential gateway and set-top box for the reception of advanced content distribution services
SG12	Q1/12: SG12 work programme and quality of service/quality of experience (QoS/QoE) coordination in ITU-T
	Q2/12: Definitions, guides and frameworks related to QoS/QoE
SG16	Q1/16: Multimedia coordination

ITU-D SG1 Question 1/1: Strategies and policies for the deployment of broadband in developing countries	
SG20	Q1/20: End to end connectivity, networks, interoperability, infrastructures and Big Data aspects related to IoT and SC&C
	Q4/20: e/Smart services, applications and supporting platforms

ITU-D SG2 Question 1/2: Creating the smart cities and society: Employing ICTs for sustainable social and economic development	
SG2	Q6/2: Management architecture and security
SG5	Q6/5: Achieving energy efficiency and smart energy Q7/5: Circular economy including e-waste Q9/5: Climate change and assessment of information and communication technology (ICT) in the framework of the Sustainable Development Goals (SDGs)
SG11	Q5/11: Protocols and procedures supporting services provided by broadband network gateways
	Q9/11: Service and networks benchmark testing, remote testing including Internet related performance measurements
	Q10/11: Testing of emerging IMT-2020 technologies
	Q11/11: Protocols and networks test specifications; frameworks and methodologies
	Q13/11: Monitoring parameters for protocols used in emerging networks, including cloud computing and software-defined networking/network function virtualization (SDN/NFV)
	Q14/11: Cloud interoperability testing
	Q15/11: Combating counterfeit and stolen ICT equipment
SG12	Q1/12: SG12 work programme and quality of service/quality of experience (QoS/QoE) coordination in ITU-T
	Q2/12: Definitions, guides and frameworks related to QoS/QoE
SG15	Q1/15: Coordination of access and home network transport standards
SG16	Q1/16: Multimedia coordination
	Q13/16: Multimedia application platforms and end systems for IPTV
	Q26/16: Accessibility to multimedia systems and services
	Q28/16: Multimedia framework for e-health applications

ITU-D SG2 Question 2/2: Telecommunications/ICTs for eHealth	
SG5	Q4/5: Electromagnetic compatibility (EMC) issues arising in the telecommunication environment

ITU-D SG1 Question 1/1: Strategies and policies for the deployment of broadband in developing countries	
SG11	Q1/11: Signalling and protocol architectures in emerging telecommunication environments and guidelines for implementations
SG12	Q1/12: SG12 work programme and quality of service/quality of experience (QoS/QoE) coordination in ITU-T
	Q2/12: Definitions, guides and frameworks related to QoS/QoE
SG13	Q2/13: Next-generation network (NGN) evolution with innovative technologies including software-defined networking (SDN) and network function virtualization (NFV)
SG15	Q1/15: Coordination of access and home network transport standards
SG16	Q1/16: Multimedia coordination
SG20	Q5/20: Research and emerging technologies, terminology and definitions

ITU-D SG2 Question 3/2: Securing information and communication networks: Best practices for developing a culture of cybersecurity	
SG2	Q6/2: Management architecture and security
SG11	Q2/11: Signalling requirements and protocols for services and applications in emerging telecommunication environments
SG15	Q1/15: Coordination of access and home network transport standards

ITU-D SG2 Question 4/2: Assistance to developing countries for implementing conformance and interoperability (C&I) programmes and combating counterfeit ICT equipment and theft of mobile devices	
SG2	Q3/2: Service and operational aspects of telecommunications, including service definition
	Q7/2: Interface specifications and specification methodology
SG5	Q2/5: Equipment resistibility and protective components
	Q3/5: Human exposure to electromagnetic fields (EMFs) from information and communication technologies (ICTs)
	Q4/5: Electromagnetic compatibility (EMC) issues arising in the telecommunication environment
	Q7/5: Circular economy including e-waste~~Q6/5: Achieving energy efficiency and smart energy~~
	Q9/5: Climate change and assessment of information and communication technology (ICT) in the framework of the Sustainable Development Goals (SDGs)~~Q9/5: Climate change and assessment of information and communication technology (ICT) in the framework of the Sustainable Development Goals (SDGs)~~

ITU-D SG1 **Question 1/1: Strategies and policies for the deployment of broadband in developing countries**	
ITU-D SG2 **Question 5/2: Utilizing telecommunications/ICTs for disaster risk reduction and management**	
SG5	Q6/5: Achieving energy efficiency and smart energy Q9/5: Climate change and assessment of information and communication technology (ICT) in the framework of the Sustainable Development Goals (SDGs)
SG9	Q8/9: The Internet protocol (IP) enabled multimedia applications and services for cable television networks enabled by converged platforms
SG12	Q1/12: SG12 work programme and quality of service/quality of experience (QoS/QoE) coordination in ITU-T
	Q2/12: Definitions, guides and frameworks related to QoS/QoE
SG13	Q2/13: Next-generation network (NGN) evolution with innovative technologies including software-defined networking (SDN) and network function virtualization (NFV)
SG15	Q1/15: Coordination of access and home network transport standards
	Q16/15: Optical physical infrastructures
SG16	Q1/16: Multimedia coordination
	Q11/16: Multimedia systems, terminals, gateways and data conferencing
SG17	Q4/17: Cybersecurity

ITU-D SG2 **Question 6/2: ICTs and the environment**	
SG5	Q6/5: Achieving energy efficiency and smart energy Q7/5: Circular economy including e-waste Q8/5: Guides and terminology on environment and climate change Q9/5: Climate change and assessment of information and communication technology (ICT) in the framework of the Sustainable Development Goals (SDGs)
SG20	Q5/20: Research and emerging technologies, terminology and definitions

ITU-D SG2 **Question 7/2: Strategies and policies concerning human exposure to electromagnetic fields**	
SG5	Q3/5: Human exposure to electromagnetic fields (EMFs) from information and communication technologies (ICTs)

ITU-D SG1 Question 1/1: Strategies and policies for the deployment of broadband in developing countries	
SG20	Q2/20: Requirements, capabilities, and use cases across verticals

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