Attachment 2

Matching of ITU-R WPs of interest to ITU-T study groups

Amendments herein reflect:

- TSAG-ILS TD342 from ITU-R Study Group 1 (5 July 2018)

- TSAG-ILS TD350 from ITU-T SG11 (27 July 2018)

- TSAG-ILS TD352 from ITU-R WPs 3J, 3K, 3L and 3M (2 July 2018)

- TSAG-ILS TD353 from ITU-R WP 5A, 5B and 5C (31 May 2018)

- TSAG ILS TD367 from ITU-R Working Parties (WPs) 7A, 7B, 7C and 7D (25 September 2018)

- TSAG ILS TD372, TSAG ILS TD373, and TSAG ILS TD378 from ITU-T SG5 (21 September 2018)

- TSAG ILS TD386r1 from ITU-T SG15 (19 October 2018)

- TSAG ILS TD402 from ITU-T SG9 (28 November 2018)

- ITU-T CIR 112 (12 September 2018).

Table 1 – ITU-R WPs vis-à-vis ITU-T Questions

ITU-R SG 1 Working Parties 1A, 1B, and 1C vis-à-vis ITU-T Questions

WP 1A: Spectrum engineering techniques	
ITU-T SG	**ITU-T SG Questions**
SG5	Q3/5: Human exposure to electromagnetic fields (EMFs) from information and communication technologies (ICTs) Note: The exposure limits for EMF fields are developed by the International Commission on Non-Ionizing Radiation Protection (ICNIRP) - a non-governmental organization formally recognized by WHO. Q4/5: Electromagnetic compatibility (EMC) issues arising in the telecommunication environment Q6/5: Achieving energy efficiency and smart energy
SG15	Q1/15: Coordination of access and home network transport standards Q4/15: Broadband access over metallic conductors Q15/15: Communications for smart grid Q18/15: Broadband in-premises networking

WP 1B: Spectrum management methodologies and economic strategies	
ITU-T SG	**ITU-T SG Questions**
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 Q3/3: 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
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)
SG13	Q2/13: Next-generation network (NGN) evolution with innovative technologies including software-defined networking (SDN) and network function virtualization (NFV) Q21/13: Network softwarization including software-defined networking, network slicing and orchestration
SG20	Q5/20: Research and emerging technologies, terminology and definitions Q7/20: Evaluation and assessment of Smart Sustainable Cities and Communities

WP 1C: Spectrum monitoring	
ITU-T SG	**ITU-T SG Questions**
SG5	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
SG9	Q1/9: Transmission and delivery control of television and sound programme signal for contribution, primary distribution and secondary distribution

ITU-R SG 3 Working Parties 3J, 3K, 3L, 3M vis-à-vis ITU-T Questions

WP 3J: Propagation fundamentals	
ITU-T SG	**ITU-T SG Questions**
SG9	Q10/9: Work programme, coordination and planning

WP 3K: Point-to-area propagation	
ITU-T SG	**ITU-T SG Questions**
SG9	Q10/9: Work programme, coordination and planning

WP 3L: Ionospheric propagation and radio noise	
ITU-T SG	**ITU-T SG Questions**
SG9	Q10/9: Work programme, coordination and planning

WP 3M: Point-to-point and Earth-space propagation	
ITU-T SG	**ITU-T SG Questions**
SG9	Q10/9: Work programme, coordination and planning

ITU-R SG 4 Working Parties 4A, 4B, 4C vis-à-vis ITU-T Questions

WP 4A: Efficient orbit/spectrum utilization for FSS and BSS	
ITU-T SG	**ITU-T SG Questions**
SG5	Q3/5: Human exposure to electromagnetic fields (EMFs) from information and communication technologies (ICTs)
SG9	Q1/9: Transmission and delivery control of television and sound programme signal for contribution, primary distribution and secondary distribution Q7/9: Cable television delivery of digital services and applications that use Internet protocol (IP) and/or packet-based data over cable networks

WP 4B: Systems, air interfaces, performance and availability objectives for FSS, BSS and MSS, including IP-based applications and satellite news gathering	
ITU-T SG	**ITU-T SG Questions**
SG12	Q1/12: SG12 work programme and quality of service/quality of experience (QoS/QoE) coordination in ITU-T Q12/12: Operational aspects of telecommunication network service quality Q17/12: Performance of packet-based networks and other networking technologies
SG13	Q5/13: Applying networks of future and innovation in developing countries Q23/13: Fixed-Mobile Convergence including IMT-2020
SG16	Q1/16: Multimedia coordination Q13/16: Multimedia application platforms and end systems for IPTV
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 Q3/20: Architectures, management, protocols and Quality of Service Q4/20: e/Smart services, applications and supporting platforms Q6/20: Security, privacy, trust and identification

WP 4C: Efficient orbit/spectrum utilization for MSS and RDSS * * WP 4C will also deal with the performance issues related to RDSS	
ITU-T SG	**ITU-T SG Questions**
SG2	Q3/2: Service and operational aspects of telecommunications, including service definition
SG9	Q10/9: Work programme, coordination and planning
SG16	Q1/16: Multimedia coordination Q24/16: Human factors related issues for improvement of the quality of life through international telecommunications

ITU-R SG 5 Working Parties 5A, 5B, 5C, 5D vis-à-vis ITU-T Questions

WP 5A: Land mobile service above 30 MHz* (excluding IMT); wireless access in the fixed service; amateur and amateur-satellite services	
ITU-T SG	**ITU-T SG Questions**
SG5	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 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
SG2	Q1/2: Application of numbering, naming, addressing and identification plans for fixed and mobile telecommunications services
SG12	Q1/12: SG12 work programme and quality of service/quality of experience (QoS/QoE) coordination in ITU-T Q12/12: Operational aspects of telecommunication network service quality Q17/12: Performance of packet-based networks and other networking technologies
SG13	Q5/13: Applying networks of future and innovation in developing countries Q16/13: Knowledge-centric trustworthy networking and services Q23/13: Fixed-Mobile Convergence including IMT-2020
SG15	Q15/15: Communications for smart grid
SG16	Q1/16: Multimedia coordination Q24/16: Human factors related issues for improvement of the quality of life through international telecommunications Q27/16: Vehicle gateway platform for telecommunication/ITS services and applications
SG17	Q6/17: Security aspects of telecommunication services, networks, and Internet of Things Q13/17: Security aspects for Intelligent Transport System

WP 5A: Land mobile service above 30 MHz* (excluding IMT); wireless access in the fixed service; amateur and amateur-satellite services	
ITU-T SG	**ITU-T SG Questions**
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 Q3/20: Architectures, management, protocols and Quality of Service Q4/20: e/Smart services, applications and supporting platforms Q6/20: Security, privacy, trust and identification

WP 5B: Maritime mobile service including Global Maritime Distress and Safety System (GMDSS); aeronautical mobile service and radiodetermination service	
ITU-T SG	**ITU-T SG Questions**
SG2	Q1/2: Application of numbering, naming, addressing and identification plans for fixed and mobile telecommunications services
SG5	Q3/5: Human exposure to electromagnetic fields (EMFs) from information and communication technologies (ICTs) 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)

WP 5C: Fixed wireless systems; HF and other systems below 30 MHz in the fixed and land mobile services	
ITU-T SG	**ITU-T SG Questions**
SG2	Q3/2: Service and operational aspects of telecommunications, including service definition
SG5	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 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	Q10/9: Work programme, coordination and planning
SG12	Q1/12: SG12 work programme and quality of service/quality of experience (QoS/QoE) coordination in ITU-T Q12/12: Operational aspects of telecommunication network service quality Q17/12: Performance of packet-based networks and other networking technologies

WP 5C: Fixed wireless systems; HF and other systems below 30 MHz in the fixed and land mobile services	
ITU-T SG	**ITU-T SG Questions**
SG13	Q5/13: Applying networks of future and innovation in developing countries
	Q16/13: Knowledge-centric trustworthy networking and services
	Q20/13: IMT-2020: Network requirements and functional architecture
	Q23/13: Fixed-Mobile Convergence including IMT-2020
SG15	Q1/15: Coordination of access and home network transport standards
	Q4/15: Broadband access over metallic conductors

WP 5D: IMT Systems	
ITU-T SG	**ITU-T SG Questions**
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
	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	Q1/9: Transmission and delivery control of television and sound programme signal for contribution, primary distribution and secondary distribution
	Q7/9: Cable television delivery of digital services and applications that use Internet protocol (IP) and/or packet-based data over cable networks
	Q10/9: Work programme, coordination and planning
SG11	Q6/11: Protocols supporting control and management technologies for IMT-2020
	Q7/11: Signalling requirements and protocols for network attachment including mobility and resource management for future networks and IMT-2020
	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
	Q10/11: Testing of emerging IMT-2020 technologies

WP 5D: IMT Systems	
ITU-T SG	**ITU-T SG Questions**
SG12	Q7/12: Methods, tools and test plans for the subjective assessment of speech, audio and audiovisual quality interactions Q9/12: Perceptual-based objective methods for voice, audio and visual quality measurements in telecommunication services Q10/12: Conferencing and telemeeting assessment Q13/12: Quality of experience (QoE), quality of service (QoS) and performance requirements and assessment methods for multimedia Q14/12: Development of models and tools for multimedia quality assessment of packet-based video services Q17/12: Performance of packet-based networks and other networking technologies
SG13	Q5/13: Applying networks of future and innovation in developing countries Q16/13: Knowledge-centric trustworthy networking and services Q20/13: IMT-2020: Network requirements and functional architecture Q23/13: Fixed-Mobile Convergence including IMT-2020
SG15	Q1/15: Coordination of access and home network transport standards Q4/15: Broadband access over metallic conductors Q12/15: Transport network architectures
SG16	Q1/16: Multimedia coordination Q13/16: Multimedia application platforms and end systems for IPTV Q21/16: Multimedia framework, applications and services
SG17	Q6/17: Security aspects of telecommunication services, networks, and Internet of Things
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 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-R SG 6 Working Parties 6A, 6B, 6C vis-à-vis ITU-T Questions

WP 6A: Terrestrial broadcasting delivery	
ITU-T SG	**ITU-T SG Questions**
SG5	Q3/5: Human exposure to electromagnetic fields (EMFs) from information and communication technologies (ICTs)
SG9	Q1/9: Transmission and delivery control of television and sound programme signal for contribution, primary distribution and secondary distribution Q7/9: Cable television delivery of digital services and applications that use Internet protocol (IP) and/or packet-based data over cable networks Q10/9: Work programme, coordination and planning

WP 6A: Terrestrial broadcasting delivery	
ITU-T SG	**ITU-T SG Questions**
SG15	Q1/15: Coordination of access and home network transport standards Q4/15: Broadband access over metallic conductors Q15/15: Communications for Smart Grid Q18/15: Broadband in-premises networking

WP 6B: Broadcast service assembly and access	
ITU-T SG	**ITU-T SG Questions**
SG9	Q1/9: Transmission and delivery control of television and sound programme signal for contribution, primary distribution and secondary distribution 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) 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 Q7/9: Cable television delivery of digital services and applications that use Internet protocol (IP) and/or packet-based data over cable networks Q8/9: The Internet protocol (IP) enabled multimedia applications and services for cable television networks enabled by converged platforms
SG12	Q13/12: Quality of experience (QoE), quality of service (QoS) and performance requirements and assessment methods for multimedia Q17/12: Performance of packet-based networks and other networking technologies
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 Q4/15: Broadband access over metallic conductors Q12/15: Transport network architectures Q18/15: Broadband in-premises networking
SG16	Q1/16: Multimedia coordination Q6/16: Visual coding Q8/16: Immersive live experience systems and services Q13/16: Multimedia application platforms and end systems for IPTV

WP 6C: Programme production and quality assessment	
ITU-T SG	**ITU-T SG Questions**
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
SG12	Q7/12: Methods, tools and test plans for the subjective assessment of speech, audio and audiovisual quality interactions Q9/12: Perceptual-based objective methods for voice, audio and visual quality measurements in telecommunication services Q14/12: Development of models and tools for multimedia quality assessment of packet-based video services 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
SG16	Q1/16: Multimedia coordination Q8/16: Immersive live experience systems and services Q26/16: Accessibility to multimedia systems and services

Inter-Sector Rapporteur Groups	
SG9 SG16	IRG-AVA: Intersector Rapporteur Group Audiovisual Media Accessibility Q1/16: Multimedia coordination
SG9 SG12	IRG-AVQA: Intersector Rapporteur Group Audiovisual Quality Assessment
SG9 SG16	IRG-IBB: Integrated Broadcast-Broadband (IBB) Q1/16: Multimedia coordination

ITU-R SG 7 Working Parties 7A, 7B, 7C, &d vis-à-vis ITU-T Questions

WP 7A: Time signals and frequency standard emissions: Systems and applications (terrestrial and satellite) for dissemination of standard time and frequency signals	
ITU-T SG	**ITU-T SG Questions**
SG15	Q13/15: Network synchronization and time distribution performance

WP 7B: Space radiocommunication applications: Systems for transmission/reception of telecommand, tracking and telemetry data for space operation, space research, Earth exploration-satellite, and meteorological satellite services	
ITU-T SG	**ITU-T SG Questions**

WP 7C: Remote sensing systems: active and passive remote sensing applications in the Earth exploration-satellite service and systems of the MetAids service, as well as space research sensors, including planetary sensors	
ITU-T SG	**ITU-T SG Questions**

WP 7D: Radio astronomy: radio astronomy and radar astronomy sensors, both Earth-based and space-based, including space very long baseline interferometry (VLBI)	
ITU-T SG	**ITU-T SG Questions**

Table 2 – Matrix of ITU-R WPs and ITU-T Questions

		ITU-R SG1			ITU-R SG3				ITU-R SG4			ITU-R SG5				ITU-R SG6			ITU-R SG7			
		WP 1A	WP 1B	WP 1C	WP 3J	WP 3K	WP 3L	WP 3M	WP 4A	WP 4B	WP 4C	WP 5A	WP 5B	WP 5C	WP 5D	WP 6A	WP 6B	WP 6C	WP 7A	WP 7B	WP 7C	WP 7D
ITU-T SG2	Q1/2											X	X									
	Q3/2										X			X								
ITU-T SG3	Q2/3		X																			
	Q3/3		X																			
	Q4/3		X																			
ITU-T SG5	Q2/5														X							
	Q3/5	X		X					X			X	X	X	X	X						
	Q4/5	X		X								X		X	X							
	Q6/5	X	X												X							
	Q9/5		X										X									
ITU-T SG9	Q1/9			X					X						X	X	X					
	Q2/9																X					
	Q5/9																X					
	Q7/9								X						X	X	X					
	Q8/9																X					
	Q10/9				X	X	X	X			X			X	X	X						
ITU-T SG11	Q6/11														X							
	Q7/11														X							
	Q8/11														X							
	Q10/11														X							

		ITU-R SG1			ITU-R SG3				ITU-R SG4			ITU-R SG5				ITU-R SG6			ITU-R SG7			
		WP 1A	WP 1B	WP 1C	WP 3J	WP 3K	WP 3L	WP 3M	WP 4A	WP 4B	WP 4C	WP 5A	WP 5B	WP 5C	WP 5D	WP 6A	WP 6B	WP 6C	WP 7A	WP 7B	WP 7C	WP 7D
ITU-T SG12	Q1/12									X		X		X								
	Q7/12														X			X				
	Q9/12														X			X				
	Q10/12														X							
	Q12/12									X		X		X								
	Q13/12														X		X					
	Q14/12														X			X				
	Q17/12									X		X		X	X		X					
	Q18/12																	X				
	Q19/12																	X				
ITU-T SG13	Q5/13									X		X		X	X							
	Q2/13		X														X					
	Q16/13											X		X	X							
	Q20/13													X	X							
	Q21/13		X																			
	Q22/13																					
	Q23/13									X		X		X	X							

		ITU-R SG1			ITU-R SG3				ITU-R SG4			ITU-R SG5				ITU-R SG6			ITU-R SG7			
		WP 1A	WP 1B	WP 1C	WP 3J	WP 3K	WP 3L	WP 3M	WP 4A	WP 4B	WP 4C	WP 5A	WP 5B	WP 5C	WP 5D	WP 6A	WP 6B	WP 6C	WP 7A	WP 7B	WP 7C	WP 7D
ITU-T SG15	Q1/15	X												X	X	X	X					
	Q4/15	X												X	X	X	X					
	Q12/15														X		X					
	Q13/15																		X			
	Q15/15	X										X				X						
	Q18/15	X														X	X					
ITU-T SG16	Q1/16									X	X	X			X	X̶	X	X				
	Q6/16																X					
	Q8/16																X	X				
	Q13/16									X					X		X					
	Q21/16														X							
	Q24/16										X	X										
	Q26/16																	X				
	Q27/16											X										
ITU-T SG17	Q6/17											X			X							
	Q13/17											X										

		ITU-R SG1			ITU-R SG3				ITU-R SG4			ITU-R SG5				ITU-R SG6			ITU-R SG7			
		WP 1A	WP 1B	WP 1C	WP 3J	WP 3K	WP 3L	WP 3M	WP 4A	WP 4B	WP 4C	WP 5A	WP 5B	WP 5C	WP 5D	WP 6A	WP 6B	WP 6C	WP 7A	WP 7B	WP 7C	WP 7D
ITU-T SG20	Q1/20									X		X			X							
	Q2/20									X		X			X							
	Q3/20									X		X			X							
	Q4/20									X		X			X							
	Q5/20		X												X							
	Q6/20									X		X			X							
	Q7/20		X												X							

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