ANNEX

1.	Develop and Support ICT Innovation
The TEL WG will continue to promote infrastructure investment, connectivity and support the productive and innovative use of ICTs in line with technological trends. It will champion strategic opportunities for new ICTs and services, and will sponsor leadership on ICTs by bringing together ICT leaders from among stakeholder groups to share knowledge and form collaborative partnerships. TEL WG will explore ways ICTs can address emerging challenges such as disaster risk reduction and management, social responsibility, and help foster resilient, diverse, inclusive, and prosperous economies.	

No.	Objectives	Actions	Possible Initiatives
1.1	Promote innovation and value creation in ICTs	a) Strengthen cooperation in the field of research into new business models based on innovative use of ICTs.	▪ Study and share experiences on various citizen-centric ICT applications. ▪ Information sharing on mechanisms to address emerging challenges, e.g. disaster risk reduction and management, aging populations and Green ICTs.
		b) Facilitate cooperation with stakeholders.	
		c) Promote policy and regulatory cooperation to enable ICT innovation, economic growth and address convergence, new services and changes in use.	▪ Share experiences on policies to support transitions to next generation ICTs, e.g. 4K/8K, wearable devices and Artificial Intelligence (AI), transition to fiber, etc.
		d) Promote availability and use of open data.	▪ E.g. e-Gov, e-Learning, e-Health, e-Commerce, m-Gov, emergency communications, logistic, transportation, energy management, environment monitoring.
		e) Share experiences and best practices on social and economic benefits from investment and liberalization of ICT infrastructure and services.	

		f) Promote the use of ICTs to improve living standards of citizens, including disabled people and socially vulnerable groups.	
1.2	Continuous improvement in connectivity, including access to broadband	a) Exchange ideas and experiences on practical approaches for improving access to broadband services.	
		b) Explore ways to increase availability, accessibility and affordability of ICTs for the underserved or unserved groups.	▪ Share practical experiences in universal broadband access and use of new ICT services that focus on remote areas.
		c) Promote access to high-speed next generation broadband networks and services.	▪ Exchange experiences and best practices to establish policies and incentives to provide faster speeds with appropriate quality of service.
1.3	Enhanced digital literacy and improvement of citizens' capability to fully participate in the Digital Economy	a) Identify and share best practice approaches to improve digital literacy of citizens.	▪ Share information on awareness-raising activities regarding the importance of digital literacy
		b) Exchange policies on improving access to ICTs in schools, libraries, etc.	▪ Identify benefits and potential risks of new technologies and educate consumers accordingly.
		c) Promote the use of ICTs in all stages of education, training and human resource development.	
		d) Promote creativity among ICT users to encourage innovation.	
1.4	Greater adoption of ICTs within APEC economies	a) Identify and share best practices and strategies to encourage adoption of ICT services.	▪ Identify non-infrastructure barriers which prevent individuals and companies from utilizing ICTs. ▪ Explore or promote measures to mitigate barriers to ICT utilization.

		b) Explore ways to promote a culture or system that enable entrepreneurship and innovation.	
		c) Promote the development of entrepreneurship in the domain of internet.	▪ Enhance the use of Internet to provide entrepreneurial opportunities.

2. Promote a Secure and Trusted ICT Environment

The TEL WG will continue to work to enhance trust and confidence in the use of ICTs by promoting the importance of cyber security, collaboration and cooperation, as well as the dissemination of knowledge. These support the capacity of all relevant stakeholders in the APEC economies to manage risks, create resilient networks, and facilitate a trusted environment for transactions and communications.

No.	Objectives	Actions	Possible Initiatives
2.1	Enhanced resilience of critical domestic infrastructure	a) Promote understanding of the importance of how greater connectivity impacts critical domestic infrastructure and the approaches to enhancing the resilience of critical domestic infrastructure.	▪ Promote public-private partnership within economies for managing critical domestic infrastructure. ▪ Encourage APEC economies to exchange best practices towards raising the resilience of critical domestic infrastructure.
2.2	Greater capacity to enhance security and manage cyber risks	a) Support cyber security competency for ICT professionals and consumers. b) Encourage information sharing relating to emerging cyber security threats and challenges, and approaches for managing cyber risks.	▪ Share best practices on competency standards for ICT professionals. ▪ Sharing of knowledge among Computer Emergency Response Teams (CERT) or Computer Security Incident Response Teams (CSIRT) in APEC economies. ▪ Highlight emerging challenges and opportunities from the use of new technologies.
2.3	Increased awareness on cyber security	a) Engage governments, the private sector, other APEC fora as well as other relevant organizations to raise cyber security awareness. b) Promote awareness among the general public through activities such as the APEC Cyber Security Awareness Day.	

2.4	Intensified promotion of secure and trusted use of ICTs	a) Share information and develop strategies for the protection of vulnerable groups.	▪ In particular, in relation to child online protection.
		b) Identify and share best practices on the appropriate handling of user information related to ICT services.	
		c) Study and share experiences on countermeasures for spam.	
		d) Promote consumer confidence in the use of ICTs.	
2.5	Increased collaboration among APEC economies	a) Share domestic developments and best practices to support capacity building in the region.	▪ Encourage emergency response organizations with advanced network security capacity to provide training and technical assistance. ▪ Strengthen operational competence through Computer Emergency Response Team (CERT) collaboration.
		b) Foster a common understanding for counter measures to cyber threats and measures to protect privacy in the APEC region.	

3. Promote Regional Economic Integration

The TEL WG will continue to work in support of regional economic integration by promoting connectivity, regulatory coherence and technical harmonisation. This includes physical, institutional, and people-to-people as well as online connectivity to address relevant emerging issues. TEL will advance measures which promote interoperability and trans-border cooperation.

No.	Objectives	Actions	Possible Initiatives
3.1	Enhanced physical connectivity	a) Promote quality of ICT infrastructure.	▪ Promote best practice planning and implementation to enable long-lasting and effective financial support for network infrastructure projects. ▪ Strengthen access in rural areas. ▪ Encourage information sharing on mechanisms that enhance and streamline infrastructure approval processes, while also enhancing the expected durability and quality of ICT infrastructure.
		b) Promote diversity in the use of ICTs.	▪ Promote deployment of diversified systems, such as multi-language email address technology. ▪ Promote accessibility for vulnerable and disadvantaged groups including persons with disabilities.
3.2	Enhanced institutional connectivity	a) Promote conducive regulatory environments.	▪ Promoting measures to improve transparency and predictability. ▪ Share experiences concerning: ❖ Regulatory and policy making procedures and processes; ❖ Regulatory issues including the areas of competition and consumer policies; and

			❖ Free Trade Area (FTA)/Economic Partnership Agreement (EPA) issues. ▪ Explore and elaborate regulatory approaches on statistical evaluation of ICTs' social and economic effects.
		b) Promote interoperability between APEC economies.	▪ Promote technical conformity assessments and equivalence of technical requirements. ▪ Explore and elaborate on principles. ▪ Exchange information on new technologies and issues, and encourage participation in TEL WG MRAs. ▪ Engage with other fora on interoperability principles and consider applicability. ▪ Promote the development of common applications to support interoperability.
		c) Promote development and use of global data standards.	▪ Survey successful uses of data standards. ▪ Explore approaches to the development of data standards. ▪ Engage with other fora regarding meaningful applications of data standards. ▪ Collaborate with ECSG (e-Commerce Steering Group).
		d) Reduce mobile roaming rates between APEC economies.	▪ Explore the principles and measures to reduce mobile roaming rates among APEC economies.
		e) Research on promoting the free flow of information.	▪ Research and share experiences of network neutrality with a view of understanding how this

			impacts on free information flow. ▪ Identify and share experiences on how to promote the free flow of information.
3.3	Enhanced people-to-people connectivity	a) Promote a common ICT Skills Recognition Framework (ICT SRF) within the APEC region.	▪ Explore the development of a common ICT SRF for the APEC region to improve mobility opportunities for ICT-professionals.
3.4	Enhanced online connectivity	a) Promote open data in APEC region.	▪ Explore approaches to the development of open data policy, including common data format for open data.
		b) Promote development of cross-border e-commerce.	▪ Study issues concerning cross border e-commerce in the APEC region, including interoperability.
		c) Promote the Internet of Things (IoT) and application-to-application connectivity.	▪ Encourage APEC economies to discuss IoT development related issues such as policies and regulatory measures, technological innovation and standardisation development, innovative business models, etc. ▪ Study and share experiences on how to promote connectivity among applications used by different sectors, e.g. between disaster and e-health.
		d) Promotion of digital content within the APEC region.	▪ Promote exchange and development of digital content (e.g. broadcast programmes, video, games, applications, etc.) between member economies.
		e) Promote greater adoption of IPv6.	▪ Encourage implementation of the APEC TEL IPv6 Guidelines.

4.	Enhance the Digital Economy and the Internet Economy		

The TEL WG will continue to work in support of the development of a vibrant Digital Economy with a focus on the Internet Economy. In order to promote smart, green, creative, inclusive and sustainable development of the economy, the TEL WG also supports raising the overall level of ICT industry development and the extensive integration of ICTs with other industries.

No.	Objectives	Actions	Possible Initiatives
4.1	Enhanced ICT industry ecosystem	a) Promote the enhancement of ICT hardware, software and networks.	
		b) Promote the development of sustainable smart cities in the APEC region.	
		c) Promote business use of new-generation mobile communication.	
		d) Promote efficient use of spectrum resources.	
		e) Promote measures that are conducive to the ICT industry to support a robust Digital Economy.	▪ Encourage developments that promote the market, including innovative ICT applications.
4.2	Accelerated evolution of traditional industries through comprehensive use of ICTs	a) Encourage the use of ICTs to transform business practices in traditional industries.	
		b) Foster the exchanges between communication and other industries.	
		c) Share policy experiences on ICT application.	
4.3	Development of new industries	a) Promote the development of new industries through the application of ICTs.	▪ E.g. the use of sensor networks, smart grids, big data and data analytics, digital identity authentication, etc.
		b) Promote the development of sustainable smart cities.	
4.4	Enhanced application of ICTs in services	a) Promote the development of ICT-enabled commercial and social services.	▪ E.g. internet banking, e-commerce, logistics, medical services, education services, culture services, etc.
		b) Promote a favourable environment for innovation in	

		new economic sectors.	

5.   Strengthen Cooperation

The TEL WG will engage with groups within APEC and other fora to consider how to apply digital technologies and issues arising from their application. The TEL WG will engage with groups outside APEC to maximise synergies, harness resources and minimize duplication between the work of these groups and that of TEL.

No.	Objectives	Actions	Proposed Initiatives
5.1	Collaboration within the APEC groups- provide thought leadership and coordination of, as well as secondary advice on ICTs related activities within APEC	Engage and collaborate with relevant APEC groups including the: a) Committee on Trade and Investment- to strengthen and contribute to regional economic integration; b) Ad-Hoc Steering Group on the Internet Economy; c) Electronic Commerce Steering Group and the Counter Terrorism Taskforce- to promote a trusted ICTs environment; d) Emergency Preparedness Working Group- to promote the benefits of and share policy options for using ICTs for emergency preparedness and disaster prevention/ mitigation; e) Health Working Group- to identify effective e-Health applications; f) Group on Services- to promote trade and investment liberalisation and facilitation (TILF) issues related to trade in ICTs services; g) Finance Ministers' Process (FMP)- to foster awareness of mobile banking activities to better reach the unserved population due to geographic or economic/ financial barriers; and h) SME Working Group- to promote the development of SMEs by increasing the	▪ Encourage the development of information resources to assist SMEs. ▪ Share best practices on informatization.

		opportunity of SMEs to access the Internet and reduce the cost of using it.	
5.2	Collaboration with groups external to APEC to maximise synergies, harness resources and minimise duplication of work undertaken by APEC TEL	a) Gather ICT leaders from among stakeholders to share knowledge and form cross-regional collaborative partnerships.	
		b) Collaboration with the ICT industry, relevant multilateral organisations and Internet-related technical and administrative bodies on issues.	▪ Including: ❖ Developing, implementing and promoting relevant cyber security initiatives; ❖ Promoting ICTs for Corporate Social Responsibility; ❖ Reducing international communications cost; and ❖ Data protection and privacy.