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|  | ASIA-PACIFIC TELECOMMUNITY | **Document No:** |
| **The 22nd APT Policy and Regulatory Forum** **(PRF-22)** | **PRF-22/OUT-02** |
| 19 – 21 July 2022, Bangkok, Thailand | 14 September 2022 |

Secretary General

**SUMMARY RECORD OF**

**THE 22ND APT POLICY AND REGULATORY FORUM**

1. INTRODUCTION

The 22nd APT Policy and Regulatory Forum (PRF-22) was held in Bangkok, Thailand with hybrid format (both physical and virtual/online attendance through APT Zoom meeting) from 19 to 21 July 2022.

The Forum was attended by 219 participants from APT Members, Associate Members, Affiliate Members, International Organization and other organizations. 77 participants attended the meeting in-person. Document: PRF-22/ADM-03 contains the list of participants of the Forum.

1. OPENING SESSION (Tuesday, 19 July 2021, 09:30 – 10:00 hrs., UTC+7)
	1. **Welcome Remarks by Mr. Masanori Kondo, Secretary General, APT**

Mr. Masanori Kondo, Secretary General of APT, welcomed all delegates to the Forum. He highlighted the importance of PRF meeting under the new Strategic Plan of APT in 2021-2023. He mentioned the four features that illustrate PRF-22. In addition, he announced that there will be a joint APT-OECD workshop on ‘Connectivity for All: Insights for Asia Pacific’ scheduled back-to-back with PRF-22.

The full text of his address is provided in the Document: PRF-22/INP-01.

* 1. **Opening Remarks by Mr. Trieu Minh Long, Chair, PRF**

Mr. Trieu Minh Long, Chair, PRF, delivered his opening remarks. He mentioned that the Forum has now become one of the most important platforms for coordination and collaboration of regulators, policy makers, digital organization and digital industry in the Asia-Pacific region. Further, he emphasized that the Forum would focus on issues under five Strategic Pillars of the APT Strategic Plan: connectivity, innovation, trust and safety, inclusion and capacity building, collaboration, and partnership.

The full text of his address is provided in the Document: PRF-22/INP-02

1. SESSION 1 - PLENARY (Tuesday, 19 July 2022, 10:15 – 10:45 hrs. UTC+7)
	1. **Adoption of Agenda** (Document: PRF-22/ADM-01)

Mr. Trieu Minh Long, Chair of PRF, briefly introduced the Provisional Agenda of the Forum. The Chair then sought comments from the floor. Since there was no comment, the Agenda was adopted.

* 1. **Election of Chair of PRF** (Document:PRF-22/INP-04)

Mr. Trieu Minh Long, Chair of PRF, invited the Secretary General of APT to brief on the process and the nomination of the candidate.

The Secretary General informed that the 21st APT Policy and Regulatory Forum (PRF-21) adopted the revised Working Methods of APT Policy and Regulatory Forum (PRF) which was approved by the 45th Session of the Management Committee of the Asia-Pacific Telecommunity (MC-45). Based on the Working Methods of PRF, one Chair and two Vice-Chairs will be elected from APT members based on competency and interest to lead the work of the PRF with the term of two years. In accordance with the said Working Methods of PRF, APT Secretariat circulated a letter to APT members inviting nomination of suitable candidates for the positions of Chair and Vice-Chairs of PRF. It was informed that the Secretariat received nomination from the Republic of Maldives, Mr. Ilyas Ahmed, whose nomination letter, and curriculum vitae is attached for meetings further discussion and decision.

Since there were no objections from the floor, the Plenary of PRF-22 formally endorsed the election of Mr. Ilyas Ahmed (Maldives) as the new Chair of the PRF.

Mr. Trieu Minh Long congratulated Mr. Ilyas Ahmed for being elected as the Chair of PRF. Mr. Ilyas Ahmed thanked Mr. Trieu Minh Long for his invaluable contribution towards PRF and thanked all the delegates for electing him as the Chair of PRF.

The newly elected Chair, Mr. Ilyas Ahmed took over as the Chair and conducted the meeting further.

* 1. **Election of Vice-Chairs of PRF** (Document: PRF-22/INP-05)

Mr. Ilyas Ahmed, Chair of PRF, invited Secretary General of APT brief the floor on nomination of the Vice-Chair candidates.

Secretary General informed that the election of Vice-Chairs of PRF follows the same procedure that was adopted for election of Chair. It was informed that the Secretariat received nominations from Thailand, Ms. Thasawan Samorwong and from Vanuatu, Mr. Brian Winji for the post of two Vice-Chair positions.

As there were no objections from the floor, the Plenary of PRF-22 formally endorsed the election of Ms. Thasawan Samorwong (Thailand) and Mr. Brian Winji (Vanuatu) as the new Vice-Chairs of PRF.

The newly elected Vice-Chairs joined the Chair in conducting the meeting.

* 1. **Outcomes of the 45th Session of the Management Committee of the APT relevant to PRF** (Document: PRF-22/INP-03, INP-06)

Under this agenda, APT Secretariat introduced two documents. i.e, PRF-22/INP-03 and PRF-22/INP-06.

Based on the outcomes MC-45, the following actions that are to be undertaken by PRF were highlighted:

* Report the implementation of the Strategic Plan of the APT for 2021-2023 relevant to PRF to the next session of the Management Committee.
* Implement the Guidelines on APT Information/Document Access Policy.
* Review the Working Methods of the PRF for the inclusion of the gender-neutral language.

In addition, the Secretariat presented the Revised Working Methods of the APT Policy and Regulatory Forum. The meeting was informed that based on the outcome of MC-45 to adopt the usage of gender-neutral languages throughout the documents and Working Methods, the Secretariat proposed revision of the documents to replace terms such as ‘Chair’/ ‘Chair’ and ‘Vice-Chair’/ ‘Vice-Chair’ with the gender-neutral terms ‘Chair(s)’ and ‘Vice-Chair(s)’; and usage of gender-neutral singular ‘they’ when referring generically to a Chair or Vice-Chair, as opposed to gendered pronouns such as ‘he’ or ‘his’.

The Plenary noted the outcomes MC-45 relevant to the work of the PRF. Chair requested the delegates to provide their comments or feedback on the proposed revision of the Working Methods to APT Secretariat which will be discussed during the Closing Plenary of the meeting.

* 1. **Consideration of Input Documents** (Document: PRF-22/INP-07)

The Chair requested delegate from Indonesia to briefly introduce the document: PRF-22/INP-07 to the floor.

Indonesia explained that the PRF has covered many ICT issues in the past more than 17 (seventeen) years, and it will continue to share useful information. In this regard, Indonesia proposed to create a glossary that summarizes the presentations at the PRF so that APT member countries can find necessary information easily and keep track of the development of discussions on certain issues.

In response, the APT Secretariat proposed for offline consultation meeting with Indonesia to seek a way forward, which would be reported to the Closing Plenary accordingly.

The Plenary granted approval for offline discussion and agreed to seek the report on the outcome of offline consultation during the Closing Plenary.

1. SESSION 2 - MINISTERIAL SESSION : DIGITAL TRANSFORMATION AND iNNOVATION STRATEGIES FOR SUSTAINABLE DIGITAL SOCIETY (Tuesday, 19 July 2022, 11:00 – 12:30 hrs., UTC+7)

The session was moderated by Mr. Masanori Kondo, Secretary General, APT. He invited Excellencies to deliver their invaluable statements/presentations.

* 1. **Presentation by His Excellency Newin Chochaiyathip, Vice Minister, Ministry of Digital Economy and Society, Thailand** (Document: PRF-12/INP-12)

H.E. Newin Chochaiyathip, Vice Minister, Ministry of Digital Economy and Society, Thailand attended physically and presented on the digital transformation and innovation strategies for sustainable digital society. The presentation discussed important initiatives that are being undertaken to help drive digital economy in Thailand. His Excellency highlighted on the overall Thailand digital economy and society development plan (2018-2037) which is further subdivided into 4 different phases. Subsequently, various initiatives including Village broadband Internet project, 5G Improvement, Government Data Center and Cloud Services, Personal Data Protection Act and Thailand Digital Valley were highlighted. The detail presentation is provided in Document: PRF-22/INP-12.

* 1. **Presentation by His Excellency Hiroshi Yoshida, Vice-Minister, Ministry of Internal Affairs and Communications, Japan** (Document: PRF-22/INP-09)

H.E. Hiroshi Yoshida, Vice Minister, Ministry of Internal Affairs and Communications, Japan, joined virtually and presented on the Vision for a Digital Garden City Nation which primarily focusses on key cooperation between public and private sectors. Further H.E Yoshida highlighted on Infrastructure Programs including Optical fiber development, 5G deployment, Development of Data Centers, Submarine cables and Beyond 5G(6G). Subsequently, overall roadmap for the Digital Garden City Nation Infrastructure Plan was briefly outlined. The detail presentation is provided in Document: PRF-22/INP-09.

* 1. **Statement by His Excellency Lu Mon, Deputy Minister, Ministry of Transport and Communications, Myanmar** (Document: PRF-22/INP-11)

H.E. Lu Mon, Deputy Minister, Ministry of Transport and Communications, Myanmar, joined virtually and delivered his statement. He highlighted the challenging situation caused by the COVID-19 pandemic and emphasized on how digital transformation has become imperative and indispensable for global economies including countries in the Asia Pacific region. H.E Lu Mon expressed his anticipation to further strengthen regional cooperation and collaboration to facilitate the development of a conducive policy and regulatory environment in light of advancing the development of infrastructure, innovative services, digital skills and literacy. The full text of his statement is provided in Document: PRF-22/INP-11.

* 1. **Statement by His Excellency Zahidi Zainul Abidin, Deputy Minister, Ministry of Communications and Multimedia, Malaysia** (Document: PRF-22/INP-10)
	2. H.E Zahidi Zainul Abidin, Deputy Minister, Ministry of Communications and Multimedia, Malaysia, delivered the recorded statement. He mentioned that the pandemic and its subsequent lockdowns have changed the way our citizens interact, work, study, play and shop thus its effects will fundamentally change the social economic fabric of our societies as well as the government policy making. It was informed that Malaysia launched three national digitalization plans; namely, the Malaysian Digital Economy Blueprint (MyDIGITAL), the National 4th Industrial Revolution Policy (N4IR) and the Twelfth Malaysia Plan, which outlined Malaysia’s strategy to affirm the country’s leadership as a technologically advanced economy towards the Shared Prosperity Vision 2030. The full text of his statement is provided in Document: PRF-22/INP-10.
	3. **Statement by His Excellency Enkh-Amgalan Luvsantseren, Acting Minister, Ministry of Digital Development and Communications, Mongolia** (Document: PRF-22/INP-08)

H.E. Enkh-Amgalan Luvsantseren’s statement was presented by Mr. Gantogoo Zundui, Director General, Policy and Planning Department, Ministry of Digital Development and Communications, Mongolia. Mongolia’s vision to become a Digital Nation was highlighted. Various structural changes and new legal provisions that are targeted to accelerate and intensify Mongolia’s digital transformation were outlined. Policy documents that cover areas such as Digital Infrastructure, Cybersecurity, E-Governance, Innovation and Production amongst others were also highlighted. The detail presentation is provided in Document: PRF-22/INP-08.

* 1. **Statement by His Excellency Nguyen Huy Dung, Deputy Minister, Ministry of Information and Communications, Vietnam** (Document: PRF-22/INP-13)

H.E. Nguyen Huy Dung’s statement was presented by Mr. Trieu Minh Long, Director General, Ministry of Information and Communications, Vietnam. Vietnam’s strategies and approaches to speed up the digital transformation was highlighted in the areas of digital institutional framework, digital infrastructure, digital workforce, digital skills, digital enterprises, solutions from digital platforms. It was mentioned that 35 national digital platforms are being planned as an initiative to bring all activities of people and businesses to the digital environment. The detail presentation is provided in Document: PRF-22/INP-13.

1. SESSION 3 – REGULATORS’ ROUNDTABLE: TOWARDS THE NEW CONCEPT OF THE REGULATORY FRAMEWORK (Tuesday, 19 July 2022, 14:00 – 15:30 hrs., UTC+7)

The session was moderated by Mr. Ilyas Ahmed, Chief Executive, Communications Authority of Maldives. He invited Panelists to make a short introductory remark on the new concept of the Regulatory Framework followed by questions and answers.

Mr. Shyam Sunder Sikder, Chairman, Bangladesh Telecommunication Regulatory Commission (BTRC) attended the session virtually. In his remark, he mentioned that ICTs are the foundation of today’s digital economy, and it is necessary to create condition for new economy to thrive globally. To prepare regulators for paradigm shift, a new regulatory framework known as Fifth Generation Regulation or a G5 regulation have been introduced, which is a digital destination point for ICT regulation worldwide. He said that it offers concepts, practical guidance, and approaches towards collaborative regulation as well as sound matrix for their journey to next generation regulations. He also highlighted on the various generations of regulations. Further, he emphasized that Regulators must work with all relevant stakeholders to stay ahead of technological developments. He also outlined some of the initiatives undertaken by the Bangladesh Government for collaborative approaches such as Digital Bangladesh Taskforce led by Hon’ble Prime Minister, Domestic Network Coordination Committee, Bangladesh National Digital Architecture for data sharing purposes with various agencies.

Dr. P. D. Vaghela, Chairman, Telecom Regulatory Authority of India (TRAI) attended the session virtually. In his initial remark he expressed his opinion on how unprecedented developments have taken place in the recent past in additional to witnessing digital transformation which as spread in all aspects of life. He pointed out how G5 regulation benchmark serves as a tool for policymaker and regulators that captures essence for new regulation. Subsequently, he added that it is critical for regulators to collaborate with all stakeholders including policymakers, authorities to effectively harness technological progress including digital inclusion. He informed that India is second largest telecom consumer market in the World and has embarked on initiatives such as Digital India, Digital Literacy, Smart city etc. Additionally, he also highlighted on some of the projects such as Common ducts and Post Authority, National Policy for collaboration on infrastructure co-sharing, national policy on right of way. As TRAI has completed 25 years of existence an international event centered around theme of collaboration was recently organized. He commended APT to have chosen very relevant topic for this session.

Mr. Amir Azeem Bajwa, Chairman of Pakistan Telecom Authority (PTA) attended the session virtually. In his remark, he provided insights on how the Fifth Generation or G5 Regulation encourages fast track collaboration among the Regulators and Policymakers to drive the digital transformation through efficiency in public service delivery. He stressed that it is concept of continuous technological development, and it is much more than scores and ranks. It is a set of standards where Regulators can measure progress to the path of digital excellence. It ensures stakeholders to analyze modern regulations towards harmonized approach. He highlighted that PTA has always been progressive Regulator which aims for open, competitive, fair, and well-regulated ICT sector. He further informed PTA has been ranked as advanced level under G5 matrix by ITU and shared PTA’s experience in this domain. He emphasized on importance of establishing cross sectoral platforms to share concepts and plans to curb future challenges. Finally, he offered any kind of assistance to APT countries regarding G5 benchmarks related research carried out by PTA.

Mr. Sutisak Tantayotin, Deputy Secretary General, Office of The National Broadcasting and Telecommunications Commission, Thailand attended the session virtually. In his remark, he shared on the policy approach and experience of G5 regulation in Thailand. It was mentioned that concept of G5 regulation has been adopted in regulatory system, stipulating in Telcom Masterplan (2019-2023). It was informed that Thailand conceptualized ideas of digital ecosystem development by focusing on four policy areas which are sufficient spectrum allocation, telecom infrastructure development, consumer empowerment in adopting digital services, and collaborative regulation. Subsequently, it was stressed that G5 regulation requires consistency of policies and more open, collaborative, and agile regulations that will bring stakeholders to work together. Lastly, it was informed that with trust-building process a trusted network and trustworthy ecosystem to seek fast forward digital transformation for all can be developed.

Mr. Brian Winji, Telecommunications, Radiocommunications and Broadcasting Regulator, Vanuatu attended the session in-person. In his remark, he highly about what Vanuatu is doing to unlock collaboration. He informed the floor that Vanuatu have not yet reached the Fifth Generation of regulation and informed that there are lot of work to do improve generation of regulation. He underscored the importance of G5 regulations that will help transform how citizens do business, bring about technological evolution, to shape a way to define gaps in regulations. He provides some background on the People’s 2030 plan of Vanuatu. He also highlighted on the national ICT policy which sets policy roadmap for the country. Data Protection Legislation is currently at development stage. He informed that the Cyber security Act is being implemented, and Ecommerce Strategy have been launched. Amongst other, Digital Financial service legislation is currently under development. In terms of broadband coverage, he informed that Broadband connection is reaching almost 98 percent of population. He also highlighted on some of the initiatives including the Smart Island initiative from ITU. And Universal service access policy undertaken by Vanuatu Government.

In the Q&A session, the moderator asked whether Bangladesh have any evidence based regulatory tools in Bangladesh. In response, it was informed that evident based regulatory tools are digital systems such as Central Biometric Verification Monitoring Platform to ensure accountability of end user recognition to prevent criminal activities.

In response to “what are the initiatives taken in terms of collaboration among various entities and stakeholders?”, India highlighted various recommendations such as National Policy of collaboration. It was informed that India is recognized as one of the countries fulfilling G5 regulation benchmark by ITU. Collaboration between power company and telecom company can benefit everyone, which is one of the ambitious projects of TRAI. This is going to be radical approach to take 5G services to every corner of the country. He also explained about joint forums to tackle financial frauds, spams, cybercrimes. Some of other projects included Transport and Highway Authority and collaboration with Power Grid Corporation India Limited (PGCIL) to use their infrastructure to take connectivity to rural areas.

In response to question “What are challenges to move to 4th and 5th Generation” posed to Vanuatu, Mr. Brian told that to leapfrog to G5 we should have solid foundation of G3 or G4 regulations. For smaller countries which are still part of global economy, and to keep up with global trends clear understanding of G5 is important. In terms of challenges, lack of understanding is a challenge for policymakers. Political role is important to move ahead. Without political will, there will not be clear direction. Therefore, awareness and education are important. If this concept is well understood, it will help digital transformation to benefit the countries.

While asking “How has G5 benchmark helped Pakistan?”, Mr. Amir responded that Pakistan considers G5 benchmark seriously as it provided roadmap towards collaborative regulation and help other sectors as well. G5 has assisted to reaching out other stakeholders and facilitating in lot of cases such as organizing workshops and highlighted importance of this. He explained that it has helped in achieving ultimate goal of achieving Digital Pakistan through synchronizing regulatory frame works and stakeholders.

In response to “What are key challenges in collaborative regulation to develop digital ecosystem in Thailand?”, Mr. Sutisak informed that first challenge is to how to build common understanding. He explained that Regulatory body also needs to adopt innovation policy and mindset. He also stressed that to promote digital services, it is of utmost importance to cooperate with other areas. Cross-sectoral collaboration is important.

In the final round, moderator posed common question to all the panelist “What is future of regulation?”

Mr. Brian remarked that future is about collaboration, ensure regulation and policies and support and more collaboration among sectors. It should be conducive for all the sectors.

Mr. Sutisak informed that key thing is data utilization and analytics. To manage data, and support , security and privacy of data, a cross-sector collaboration is necessary.

Mr. Amir expressed that muti-sector collaboration is important. He foresees that Regulators will evolve in full-fledged digital regulator. Regulation will be more participative, agile and enable the ICT/telecom industry to evolve progressively. Moreover, future regulation should deal with Data and Cyber security, Content regulation on the platforms, like OTT etc.

Dr. Vaghela stressed that in light of technological disruption, lot of conflict with regard to various players is anticipated. Collaboration is the right way to go forward. He expressed that telecom regulation should be multidisciplinary which should take a contingency approach. In all, there must be different regulation for different kind of situation. Digital inclusion should be considered. Cyber security, content regulation, privacy is important for which everyone should be prepared.

Mr. Shyam exclaimed that collaborative approach is the best approach and participatory approach. It can bring all stakeholders on the same platform. Regulatory tools need to updated time and again in light of the evolution of technology. To have harmonized and transparent regulation system, collaboration regulation is extremely important.

In conclusion, moderator thanked all the speakers for their wonderful perspectives and called for a big round of applause from the floor.

1. SESSION 4 – BUSINESS DIALOGUE: DEVELOPING THE 5G ECOSYSTEM (Tuesday, 19 July 2021, 15:45 – 17:15 hrs., UTC+7)

The session was moderated by Mr. Brig. Gen. Nasim Parvez, Director General, Systems and Services Division, Bangladesh Telecommunication Regulatory Commission (virtual). He requested the Panelists to share their insights and experiences on 5G ecosystem.

Ms. Jeanette Whyte, Head of Public Policy, APAC, GSMA attended the session in-person. In her initial remark, she informed that APAC is home to some of the developed market of 5G. By 2025 67% penetration of 5G in developed APAC[[1]](#footnote-1). For many market 4G is still a very good technology of choice. Lot of money is going on investment in network with major portion in 5G. Collaboration is very important. GSMA work collaboratively with the regulators. There are 8 policy levers to accelerate the rollout of 5G infrastructure. Detailed presentation can be found in Document: PRF-22/INP-15.

Mr. Chee Kheong Foong, Group Head of Regulatory Affairs, Axiata Group attended the session in-person. He highlighted some statistics that explained the average revenue per user in some of the economies in Asia. 5G is important as it helps to shift cost curve to cheaper by four times though various strategies. As in some countries where handset penetration of 5G is not ready. He also mentioned that there is a tipping point of 53-5 percent. For example, if 4G adoption is 54 percent, then it is time for adoption of 5G. He also highlighted spectrum issue.

Mr. Christian Gomez, Senior Director, Viasat attended the session in-person. In his initial remark he highlighted three key topics - affordability, traffic, and coverage. He explained about the linkages between these three things. He urged the need to look at infrastructure in terms of the final objective. He emphasized that there is a need to ensure that our broadband is inclusive. Space based broadband provide massive contribution broadband penetration because satellites will provide full national coverage. The government should take action to ensure spectrum resource allocation is balanced. Further he highlighted on millimeter wave of 5G spectrum which is a building block of 5G. He also stressed the importance of making a balanced decision of using ITU allocation and harmonized allocation. Finally, he remarked that the developing any communication ecosystem is important for future inclusive access.

Mr. Alex Orange, Vice President, Technology and Spectrum, Omnispace Australia Limited attended the session in-person. He talked about expanding the 5G ecosystem with non-terrestrial networks. He highlighted the advantage of using a satellite component which can expand the reach of mobile connectivity. He also highlighted industry vision for satellite integration in the 5G ecosystem. He also stated that 6G envisages truly unified satellite network and technology. 5G non-terrestrial will play important role in widespread role in narrowing digital divide. Detailed presentation can be found in Document: PRF-22/INP-16.

Mr. Guillaume Mascot, Head of Government Relations APJ, Nokia Pte Ltd. attended the session in-person. He talked about 5G and the future of growth. He stated that 5Gs demand is picking up. He also provided statistics on 5G adoption across the world, which saw exponential growth every month. He informed that pandemic did not slow down the demand for network. He also discussed about case study where there is strong growth in 5G subscribers and traffic in south Korea. He informed that Nokia is preparing for the 4th Industrial revolution. He stressed that it is time to think out of the box. Policy makers should think beyond connectivity to modernize the sector. He encouraged usage of technology to all the sector and focus on critical sectors. Detailed presentation can be found in Document: PRF-22/INP-17.

Ms. Ye Min, Senior Manager, Spectrum and Policy, Huawei Technologies Co. Ltd. attended the session virtually. She made a presentation on “5G Deployment: Gear Up Now”. She stated that 5G is not only for connectivity. Some APAC countries have much higher data usage. With deployment of 5G, some operators have seen an increase in data uptake. She highlighted on Use cases on smart hospital in Thailand where 5G smart hospital network was implemented which was a successful project. She remarked that harmonized spectrum policy is fundamental for 5G success. She highlighted how 5G ecosystem growing globally. Detailed presentation can be found in Document: PRF-22/INP-18

In response to the question “What are the best practices of 5G roll out?”, Ms. Jeanette mentioned that collaboration between government and private sector is the key. Policy initiatives on supply side such as tax incentives and demand side - implementation of government services on 5G (south Korea). She highlighted that Singapore have good roll out strategy.

In response to “View of 5G deployment in terms service provider readiness and consumer readiness?”, Mr. Chee emphasized on understanding number of 5G handsets in the market, and level of 4G growth in the market. One of the critical matrices is to watch 5G handsets and 4G penetration rate.

In response to “How a country with low fiber deployment should plan for 5G?”, Mr. Gomez stated that a lot of 5G success depends on fibers. However, there are some countries where there is very less fiber. One of the solutions is to invest in satellite because a satellite can be deployed in a very short time frame in comparison to fiber deployment. Using bands with largest footprints in terms of spectrum to have greater coverage.

In response to “ What kind of role of intergovernmental agency such as APT and ITU can play in enhancing 5G ecosystem?” , Mr. Alex stated that 3GPP is industry focused. As there is lack of widespread understanding, it is important for APT and ITU to feed that information. He also explained the roles of Working Parities of ITU. Lastly, he emphasized the need of parallel component activity in APT to create awareness to have unified understanding among the members.

In response to “ Prediction of market share? And What would be the business model for different sectors and industries?”, Mr. Guillaume emphasized on the need to be aware of new challenges when dealing with new customers. There is a need to understand the requirement of different customers including SLAs, bandwidth, latency, and focus on quality of services. He mentioned that it is important to support new sectors by creating awareness regarding 5G.

In response to “Given that Asia Pacific is a diverse region, is there any common practice for deploying 5G?”, Ms. Ye Min highlighted on the need to define harmonized spectrum for deployment of 5G. She encouraged regulators to harmonize the spectrum as much as possible to use the same frequency bands. Further, she encouraged regulators and administration to adopt 3GPP standards as unified standards to get more harmonized standards to enjoy economy of scale.

1. SESSION 5: RESILIENT NETWORK AND DISASTER MANAGEMENT

(Wednesday, 20 July 2022, 09:00 – 10:30 hrs., UTC+7)

The session was moderated by Mr. Notachard Chintakanond, Executive Director, International Affairs Bureau, Office of the National Broadcasting and Telecommunications Commission. He requested the Speakers to deliver their presentations.

* 1. **Presentation by Mr. Sanjay Shrivastava, Chief, Disaster Risk Reduction, ICT and Disaster Risk Reduction Division, United Nations Economic and Social Commission for Asia and the Pacific** (Document: PRF-22/INP-19).

Mr. Sanjay presented on the emerging risks and global megatrends. He highlighted on the risk scenario exposure of risk for people living in Asia-Pacific in comparison to other regions. He mentioned about the exposure of ICT infrastructure to cyclone, earthquake, and landslides. Further, he mentioned about the five critical infrastructure that must be a disaster resilient to avoid cascading impacts, supply chain disruptions. He also provided a classic example of Tonga eruption. Subsequently, he touched upon technology ecosystems for disaster risk management and provided some important take away messages in light of making critical infrastructure resilient.

* 1. **Presentation by Mr. Kaushal Kishore, Advisor, Telecom Regulatory Authority of India.**

Mr. Kaushal presented on Resilient Network and Disaster Management. He explained about the necessity of coordinated response of all stake holders including public policy makers and public administrators for proper policy making and execution to ensure resilient network to meet the requirements of disaster management. He also highlighted on how pandemic and lockdown conditions accelerated digital transformations. Further, he highlighted on various initiatives including Project WANI, India Stack, FTTH Proliferations. Outlined priority areas in the post covid Phase.

* 1. **Presentation by Mr. Nakajima Mutsuharu, Director for Technical Cooperation, International Digital Infrastructure Promotion Division, Global Strategy Bureau, Ministry of Internal Affairs and Communications, Japan.**

Mr. Nakajima presented on ICT Disaster Management. He provided a snapshot of climate and weather-related disasters and their impacts. He highlighted on recent significant disasters in the Asia Pacific region along with the lessons learnt from the great east Japan earthquake, followed by disaster reduction activities to reduce damage. Also, he mentioned about roles of ICT for disaster reduction activities. Further, he explained about concept of 3S: Feature of ICT for Disaster Management.

* 1. **Presentation by Mr. Tare Brisibe, Senior Legal and Regulatory Counsel, SES World Skies Singapore Pte. Ltd.**

Mr. Tare presented on Satellites for resilient networks and disaster management. He highlighted on the role of satellite. He explained how satellite plays a critical role in ensuring the resiliency and reliability of fixed and mobile networks. Further, he explained about the on-demand connectivity including seamless communication, global coverage and proven experience with leading emergency communication platforms. In addition, he recommended that satellite system should have sufficient access to harmonized spectrum resources and invest in satellite infrastructure before it is needed and finally to incentivize broadband network providers build satellite-based backhaul into network design and disaster recovery plans.

1. SESSION 6 (BUSINESS DIALOGUE): EMERGING TECHNOLOGIES – REGULATORY IMPLICATIONS AND IMPACTS ON ECONOMY AND ICT LANDSCAPE (Wednesday, 20 July 2022, 10:45 – 12:15 hrs., UTC+7)

The session was moderated by Mr. Gantogoo Zundai, Director-General, Policy and Planning Department, Ministry of Digital Development and Communications, Mongolia. He requested the Speakers to deliver their presentations.

**8.1 Presentation by Mr. Peng Zhao, Vice President, Government Affairs and Policy, OneWeb Asia Pte. Ltd.** (Document: PRF-22/INP-24)

Mr. Peng highlighted challenges and best practices of Low Earth Orbit(LEO) satellite. He also mentioned about status where 428 satellites cover mostly northern part of the globe. It was informed that LEO satellites will also fulfill the 4G and 5G backhaul requirement. He mentioned that Ku and Ka bands are vital bands for satellite industry and V-band is the future of satellite. In addition, he talked about spectrum sharing. It was informed that ITU’s framework and coordination procedures helped 99.95% of spectrum assigned to satellite networks was free from reported harmful interference. Licensing polices should facilitate efficient rollout. Lastly, he informed that for a satellite broadband to reach rural connectivity, affordability is the key. Therefore, it was urged that administrative requirements and fees should be reasonable. Detailed presentation is provided in the Document: PRF-22/INP-24.

**8.2 Presentation by Mr. Cristian Gomez, Senior Director, Viasat** (Document: PRF-22/INP-25)

Mr. Cristian presented on Impact assessment of Non-Geo Stationary Satellite Orbit(NGSO) mega-constellations on national economies. He informed that there is an urgent need to manage LEO resources given the emerging uses of LEO that are beneficial to all societies, but only if the globally shared and limited LEO resource is used equitably and sustainably. He exclaimed that LEO resources are under serious risk by some who are not willing to observe or help government develop norms for equitable and sustainable use of LEO. Therefore, it was urged that policy makers to understand the risk. In all, he informed that LEO satellite is getting crowded. Detailed presentation is provided in the Document: PRF-22/INP-25.

**8.3 Presentation by Dr. Syed Ismail Shah, Head of Connectivity and Access Policy APAC, Meta**

Dr. Ismail talked on how Metaverse integrates many technologies. In light of combination of many different technologies, he highlighted on whether there should be a separate regulation for each of the technology or whether an analysis of the benefit need to be carried out or to look at integrated approach. He mentioned that it should be considered in a collective and combined way. Metaverse as example of Emerging technologies. Would it be better to analyze the uses and benefits of these integrated technologies and collectively see what regulations might be required? He emphasized on taking the regulatory model to the next level as new use cases and dimensions are emerging where in many scenarios collaborative model is still not there. Further, he remarked that new technologies will continue to evolve and there cannot be a technology specific regulation. The way forward is to have the integrated approach to have co-regulations/self-regulations. Hence, Regulators, Policymakers, industry, APT, ITU and other relevant organizations need to work together for the use of technologies and platforms for development ahead.

**8.4 Presentation by Ms. Jeanette Whyte, Head of Public Policy, APAC, GSMA** (Document: PRF-22/INP-27)

Ms. Jeanette highlighted the current ICT landscape. She also highlighted how mobile ecosystem directly generated more than USD 200 billion of economic value in 2021. She remarked that mobile data traffic is increasing while Average Revenue Per User (ARPU) remain flat. Further, it was also highlighted on structural issues impacting connectivity gap including less developed regulatory framework, lack of fiber infrastructure for backhaul, availability of additional affordable spectrum amongst others. Internet Value chain is growing exponentially. Policy makers will need to take steps to establish a forward-looking regulatory regime that supports the financial sustainability of industry and provide non-discriminatory conditions to drive new innovations such as Metaverse/Web3.0. She concluded her presentation with overview of Metaverse. Detailed presentation is provided in the Document: PRF-22/INP-27.

**8.5 Presentation by Mr. Chee Kheong Foong, Group Head of Regulatory Affairs, Axiata** **Group** (Document: PRF-22/INP-28)

Mr. Chee highlighted on exponential mobile traffic growth in recent years, especially during the pandemic lockdowns. New technology and digital services will continually push mobile networks to carry much more traffic. Policy makers can help by encouraging investments and introducing balanced regulations. Technology has fostered innovation and socio-economic growth, but the gains must be outweighed by the harms. Detailed presentation is provided in the Document: PRF-22/INP-28

1. SESSION 7: QUALITY OF SERVICE AND QUALITY OF EXPERIENCE – CHALLENGES AND WAY FORWARD (Wednesday, 20 July 2022, 14:00 – 15:30 hrs., UTC+7)

The session was moderated by Mr. Alex Orange, Vice President, Technology and Spectrum, Omnispace Australia Limited. He requested the Speakers to deliver their presentations.

**9.1** **Presentation by Dr. Yang Bo, Senior Engineer, China Academy of Information and Communications Technology** (Document: PRF-22/INP-29)

Dr. Yang Bo presented on Evaluating Network Quality Based on User Experience. He provided background of 5G development in China. He explained that there is increasingly growing demand for the Quality of Service (QoS) and Quality of Experience (QoE) of the network by the people and various industries. He further highlighted on current research works in the areas such as technical research and standard formulation and network QoE test and evaluation for both the public and industrial networks.

**9.2 Presentation by Mr. Asit Kadayan, Advisor, Quality of Services, Telecom Regulatory Authority of India** (Document: PRF-22/INP-30)

Mr. Asit Kadayan presented on Rating of Building from the perspective of Digital Connectivity. He highlighted on the challenge in the assessment of QoS considering the existing approaches to assess performances as well as perceived QoS and QoE. He also mentioned about the various approaches to address the issue. He remarked that new ecosystem and platforms are likely to trigger collaboration among stakeholders and race among property managers to achieve best QoS and QoE.

**9.3 Presentation by Mr. Deepal Nishantha Wijensinghe, Assistant Director (Compliance), Telecommunications Regulatory Commission of Sri Lanka.** (Document: PRF-22/INP-31)

Mr. Deepal Nishantha Wijensinghe presented on Quality of Services and Quality of Experience- Challenges and Way forward. In particular, he highlighted on Key Performance Indicators for both technical and non-technical categories that Telecommunication Regulatory Commission of Sri Lanka have published. TRCSL has provided examples of computation methodology and target values along with the reporting templates for each quarter. In case of technical parameters, network KPI include call drop rate, call setup success rate, network availability amongst others. He then highlighted challenges and way forward.

**9.4 Presentation by Ms. Chris Perera, Senior Director, International External and Regulatory Affairs, Asia Pacific, AT&T Global Network Services Hong Kong Limited,** (Document: PRF-22/INP-32)

 Ms. Chris Perera presented on Quality of Service and Quality of Experience – Challenges and Way forward. She highlighted on how QoE or QoS matters or differs from Telecom Operator’s point of view. She explained that both are equally important for all kind of services. She also provided examples of how the technology improves customers experiences with the evolving technologies. She explained that 5G is improving network latency by shifting the network closer to the edge. Some examples of virtual reality where 5G technology has helped power studies and other groundbreaking experiences in the virtual reality and gaming sphere were shared.

1. SESSION 8: AWARENESS AND PROMOTE NATIONAL CYBERSECURITY

(Wednesday, 20 July 2022, 15:45 – 17:15 hrs., UTC+7)

The session was moderated by Ms. Lauren Crean, Policy Analyst, Organization for Economic Co-operation and Development (OECD). After a brief introduction, she requested Mr. Sebastian Madden, Chief Corporate Development Officer at the Protection Group International to deliver the keynote presentation.

Mr. Madden presented the APT Expert Mission on National Cybersecurity Skills Development (Document: PRF-22/INP-33). He shared PGI’s experiences, highlighting some of the major projects that have been carried out over the past 8 years in 50 countries. Furthermore, he outlined the importance of National Cybersecurity Skills Development Plans and provided background on the Expert Mission that was conducted for the Government of Thailand, following a request for assistance to provide recommendations and guidelines for developing a national cybersecurity personnel development plan. Mr. Madden stressed the focus areas of the Expert Mission including strategy and policy, legislation and standards, and critical assets and operators, amongst others, and mentioned cybersecurity job requirements. Finally, he provided recommendations, lessons, and approaches to address national cyber security skills development over the long term.

The moderator requested the Speakers to provide their insights and experiences on national cybersecurity.

Air Vice Marshal Amorn Chomchoey, the Deputy Secretary General of the National Cyber Security Agency of Thailand (NCSA), provided an overview of his agency. He informed that the agency’s main task is to prepare and prevent cyber warfare that may be directed to the critical national infrastructure in Thailand. He said it requires lot of effort in terms of governance, risk and compliance, people and technology to defend against these risks. He presented the NCSA’s intensive capacity building project, whose goal is to educate 2,250 persons in fundamental cybersecurity, with materials in the Thai language to increase local accessibility. He also talked about different kinds of training programs to recruit cybersecurity personal including the importance and accountability within the whole level of organization structure. Finally, the Air Vice Marshal highlighted the process of building the cybersecurity talent pool right from the school by educating younger generations.

Ms. Jeeyoung Hong, Deputy General Researcher at Korea Internet and Security Agency (KISA), introduced the Korean National Strategy in the Digital Age. She highlighted the objective of establishing cyber security strategy in light of the pandemic, where digital transformation was accelerated by the Covid-19 pandemic. She also outlined different kinds of cybercrime scenarios that have now evolved to Crime-as-a-Service and Advanced Persistent Threats (APTs). She also presented the cyberthreat landscape of 2022. Considering paradigm shift in the cybersecurity landscape, Ms. Hong briefly introduced the new National Cybersecurity Strategy established by the Korean Government to tackle new challenges and issues.

Dr. James Boorman, Head of Research and Capacity Building, Oceania Cyber Security Centre started his presentation with a question "Where to start on the journey to promote national cybersecurity and build awareness?" He stressed that the best place to start the journey is to understand where you stand now. He exclaimed that cybersecurity is a complex problem that IT alone cannot solve. In fact, it is everyone's problem. It requires a multi-stakeholder and multi-dimensional approach to tackle. The CMM considers effective national cybersecurity to require developing cybersecurity policy and strategy; encouraging responsible cybersecurity culture within society; building cybersecurity knowledge and capabilities of the existing and future workforce; creating effective legal and regulatory frameworks; and controlling risks through standards and technologies. The CMM review process has been carried out in over 87 countries so far, 8 in the Pacific, including an APT Expert Mission to FSM. The CMM review engages with multiple stakeholders to discuss different dimensions of cybersecurity to help countries understand where they are on the journey and identify their own priorities for next steps.

In addition, the APT Secretariat informed about the upcoming APT Web Dialogue on the topic, “Lessons and Opportunities for countering dis/mis information in the Asia-Pacific” to be webcasted on 9 August 2022 at 12.00 hours, Bangkok Time. The Secretariat requested all interested delegates to register for the session.

1. SESSION 9: INCLUSIVE NATIONAL DIGITAL POLICY

(Thursday, 21 July 2022, 09:00 – 10:30 hrs., UTC+7)

The session was moderated by Mr. Chris Perera, Senior Director, International External and Regulatory Affairs – Asia Pacific, AT&T Global Network Services Hongkong Limited. She requested the panelists to provide their insights and experiences on inclusive national digital policy.

Ms. Inmaculada Cava Ferreruela, Policy Analyst, Organization for Economic Co-operation and Development (OECD) presented on the Inclusive National Digital Policy: Connect the unconnected. She highlighted the benefits of high-quality connectivity and shared with delegates how access to high-speed connectivity can have spill-over effects into all sectors of the economy. Ms. Cava Ferreruela presented where OECD countries stand in terms of high-quality connectivity, discussed persisting digital divides and finally deliberated on the policies to promote high-quality connectivity. Her detailed presentation is provided in Document: PRF-22/INP-36.

Ms. Anju Mangal, Head of Asia-Pacific Region, Alliance for Affordable Internet briefly provided background of what they do. She encouraged adoption of affordable and meaningful connectivity. She discussed on how to be inclusive in designing inclusive national digital policy. She also cited examples close collaboration with BTRC where they helped development of new Broadband Policy. Similarly, they are engaged with all the education sectors to reduce the gender divide. They are also working closely with people who are directly affected by the policies including the women entrepreneurs and others key stakeholders.

Mr. Peng Zhao, Vice President, Government Affairs and Policy, OneWeb Asia Pte Ltd.

presented on industry perspective of how to connect the unconnected. He informed that most of connectivity today is through mobile broadband which is due to greater success of mobile industry. He also highlighted that cost of backhaul connectivity in rural area is much higher compared to urban area. From satellite perspective, cost of connectivity to satellite remains same while cost of Connecticut to fiber differs. In conclusion, he provided policy recommendations where government policies can play a key role. Detailed presentation is provided in Document: PRF-22/INP-35

1. SESSION 10 – PLENARY (Thursday, 21 July 2022, 11:00 – 12:00 hrs., UTC+7)
	1. **Way Forward**

APT Secretariat reported the outcome of the offline discussion on the proposal by Indonesia about Document: PRF-22/INP-07. The meeting was attended by the management team of PRF including Chair, Vice-Chairs, Secretariat, and representative from Indonesia. It was informed that the offline discussion acknowledged that the current arrangement and layout of the relevant information and/or materials on the APT website is not user-friendly to access. Therefore, it was agreed to organize the existing information of PRF by categorizing materials by topics such as 5G, OTT, Cybersecurity, etc. which will be made accessible under PRF page of APT website. The compiled information will cover relevant information from 2005 onwards. In addition, it was suggested having a summary of each presentation in the future as much as possible to make it easy to understand the content of each presentation. It was informed that Summary Record of a meeting would provide necessary and useful information about the substance of the meeting. It was also suggested that the idea will be accommodated in the upcoming new APT website as much as possible which is under development now and will be available before the next APT PRF meeting.

Indonesia expressed their appreciation to the APT Secretariat, Chair and Vice-Chairs for positive response for Indonesia’s proposal. Indonesia also proposed to think about a good naming of that piles of information such as “repository”, “directory” or something that illustrates it appropriately. The Chair suggested leaving it to the APT Secretariat and work with the proponent country as necessary. The Chair took note of this discussion and informed that it would be reported to the MC from PRF.

The Chair sought some feedback on Working Methods of PRF particularly referring to the clause indicating institution of Rapporteur Groups for discussion on additional topics. As there has been no concrete proposal so far, the Chair suggested that the office bearers of PRF and the APT Secretariat could discuss and collaborate on this matter in order to move forward, including possible ToR of the group. The Chair also asked the floor to provide any suggestions or policy issues to be discussed at the group. It was agreed that the outcomes of the work shall be provided in the next PRF meeting.

Indonesia enquired whether there is any existing ToR for the Rapporteur Group and if there is no ToR when it will be developed and endorsed. The Secretariat clarified that while there is no separate ToR document, the Working Method provides a basic skeleton on this matter. As suggested by the Chair, the Secretariat and the office bearers of PRF will discuss the matter and report the outcome at the next PRF meeting.

Viet Nam raised questions regarding the G5 regulation. Viet Nam asked whether PRF supports designing templates for members so that each member can understand how to prepare for the requirements in order to move from one generation to the next generation of regulation. In response, the Secretariat informed that the idea proposed by the Viet Nam is already being undertaken by the ITU. However, if there is anything that APT could assist APT members pertaining to G5 regulations, then APT might propose any at the next meeting, if required.

Since there were no additional requests from the floor, the Plenary took note of the decisions.

* 1. **Date and Venue of PRF-23**

Secretary General mentioned that APT Secretariat had received proposal from Fiji to host the next PRF meeting, for which he expressed his gratitude for the proposal. The dates and the exact location will be disseminated to the members in due course in consultation with the host country.

Chair invited representative from Fiji to kindly provide some updates. Fijian Government welcomed and looked forward to seeing all the delegates in the next the PRF-23 meeting.

* 1. **Any other matters**

The APT Secretariat highlighted four points under this agenda for consideration of the Plenary:

1. The secretariat referred to Revised Working Method of PRF, Temporary Document PRF-22/TMP-01 which was posted on the website to seek feedbacks from the delegates. Since there were no comments or feedback from the participants, Secretariat proposed the Plenary to endorse the document as Output Document No. PRF-22/OUT-01. Subsequently, the Plenary endorsed the document as an Output Document to be made available on the website.
2. The floor was also informed about the upcoming PRFP-15 meeting. In this regard, the Secretariat encouraged all interested participants to join either in person or virtually.
3. The Secretariat informed that there would be an APT Web Dialogue on the topic “Lessons and Opportunities for countering dis/mis information in the Asia-Pacific” on 9 August 2022 at 12.00 hours, Bangkok Time and encouraged all participants to register.
4. Requested all participants to provide feedback through the survey link and QR code.
	1. **Closing**

Mr. Masanori Kondo, Secretary General of APT, delivered his closing remarks. He summarized features of PRF-22 by using 3 ‘S’s. First, it was ‘Strategical’. PRF-22 functioned well in line with the action items of the strategic pillars adopted by the15th Session of the General Assembly (GA-15). Second, it was ‘Structured’. Third, it was ‘Stimulative’. As the ICT industry is changing rapidly and needs for ICT innovations and services have been increasing, especially under the COVID-19 pandemic situation, the sharing of information and discussions at the Ministerial session, the Regulator’s Roundtable, Business Dialogue, and several thematic sessions provided a good knowledge of the current situation and identified issues to be tackled. Thanked all the speakers and panelists for their valuable contributions. He reminded about the joint APT-OECD workshop on “Connectivity for all: Insights for Asia-Pacific”. In conclusion, he thanked the Excellencies, Head of Regulators, Chair and Vice-Chairs and all the delegates, and wished everyone good health and looked forward to seeing in future meetings.

Mr. Ilyas Ahmed, Chair of PRF delivered his closing remarks. He informed that the overall the meetings proved to be very successful. He remarked that henceforth PRF will not just be an annual event, but it will now be a continuous process which will see lot of works in between in line with the new ToR. He also expected more physical participants in the upcoming PRF meetings. Lastly, he thanked all the participants for making the event very lively. Subsequently he thanked APT Secretariat and event managers for all the support and coordination effort in making the hybrid event a successful one. Lastly, he expressed his gratitude to Fiji for their kind offer to host the next PRF meeting.

The Chair declared PRF-22 closed.

1. Australia, Japan, Singapore and South Korea. [↑](#footnote-ref-1)