Overall Progress Report of APMEN 2015-2018

APMEN Operational Center
April 2018

Table of Contents

EXECUTIVE SUMMARY

The initiative of establishing the Asia-Pacific Model E-Port Network (APMEN) was endorsed by APEC Leaders in the 22nd APEC Economic Leaders Meeting (AELM) held in Beijing in November 2014. In August 2015, APMEN and APMEN Operational Center (AOC) were officially inaugurated in Shanghai. Since its establishment, APMEN has been very active in promoting trade facilitation and supply chain connectivity in the Asia-Pacific region.

So far, 18 ports and E-Ports from 11 APEC member economies have joined APMEN. In accordance with the Strategic Framework of APMEN, a series of cooperative activities have been conducted, which include:

1. Held four meetings of APMEN Joint Operations Group (AJOG)
2. Organized three Public-Private Dialogues on Advancing Trade Facilitation & Supply Chain Connectivity through APMEN
3. Completed the *Review on Regulations and Policies for E-Port and Single Window in APEC Economies*
4. Completed the report *Practices on Using ICT Infrastructure for Cross-border Trade and Supply Chain Connectivity by APEC Economies*
5. Developed *APMEN Implementation Measures for SCFAP II*
6. Organized two Capacity Building Programs
7. Promoted pilot projects, including:
   - First batch: sea/air freight visibility, electronic certificate of origin
   - Second batch: Global Quality Traceability System(GQTS), FTA Application System

With joint efforts of member ports, APMEN has attained achievements in the following areas:
1. Establishing a preliminary communication and collaboration network
2. Helping to strenghthen economies' understanding and capacity of E-port development
3. Catalyzing the implementation of *Trade Facilitation Agreement*
4. Contributing to the regional supply chain connectivity

The work of APMEN has been welcomed by APEC Leaders and Ministers. For example, its positive contribution to supply chain connectivity has been recognized in the Da Nang Declaration issued by the 25th AELM. Based on the achievements already attained, APMEN will strive to strengthen the collaboration in depth and in breadth towards trade facilitation and supply chain connectivity of higher levels in the Asia-Pacific.

I. Background

1. Establishment

Cross-border supply chains have rendered economies more inter-connected and intra-dependent, especially within the context of regional economic cooperation, among others, the Asia-Pacific Economic Cooperation (APEC). In the meantime, the introduction and application of Information and Communication Technology (ICT) such as "Cloud Computing", "Big Data" and "Internet of Things", have created new opportunities for improving regional Supply Chain Connectivity (SCC) and studying Global Value Chain (GVC). One practical example that APEC economies could explore in the field of port management is E-Port.

To meet the imperatives of effective facilitation and seamless control of international trade, an E-port can provide: 1) effective infrastructural ICT solution to enable the realization of modernizing manual paper-based trade to "data-tized" paperless trade; 2) integrated trade facilitation measures, such as "one-stop shop" services; and 3) institutional guarantee through Public Private Partnership (PPP) for intra-agency, inter-agency, and inter-economy coordination on cross-border supply chain management. Within the context of GVC, all stakeholders, including government, enterprises, industrial association, consumers and other relevant parties can participate in the development, operation and implementation of the 3rd party E-Port platform through Public-Private Partnerships (PPPs).

At the 2014 Meeting of APEC Ministers Responsible for Trade (MRT), APEC Ministers recognized the importance of promoting supply chain connectivity through E-port development and collaboration efforts and welcomed the endorsement of the project proposal of Promoting Supply Chain Connectivity through a Model E-Port Initiative. Successful E-port frameworks could be one of the effective underlying solutions for helping our economies implement their Single Window programs. APEC Ministers endorsed the APEC Initiative on Asia-Pacific Model E-port Network (APMEN) and encouraged officials to identify APEC model E-ports and related best practices based on economies' nominations, with an aim to establishing an Asia-Pacific Model E-port Network on a voluntary basis in 2014.

At the 2014 APEC Ministerial Meeting (AMM), APEC Ministers recognized the importance of promoting supply chain connectivity through E-port development and collaboration efforts and endorsed the APEC Initiative on Asia-Pacific Model E-port Network and the Terms of Reference of the Asia-Pacific Model E-port Network (APMEN). At the same time, APEC Ministers applauded the nominations from Australia; Canada; China; Hong Kong, China; Mexico; Peru; Chinese Taipei; and Viet Nam as the first batch of APEC Model E-ports to join the APMEN.

In the 2014 APEC Leaders' Declaration, APEC Leaders agreed to establish the Asia-

Pacific Model E-port Network (APMEN) and welcomed the first batch of APEC Model E-ports nominated by the APEC economies. APEC Leaders endorsed the Terms of Reference of APMEN and agreed to set up the APMEN Operational Center (AOC) in Shanghai and instructed officials to make further efforts to contribute to regional trade facilitation and supply chain connectivity. In August 2015, APMEN and AOC were officially inaugurated in Shanghai.

2. Working mechanism of APMEN

According to the *Working Mechanism of APMEN* endorsed by the second Senior Official Meeting (SOM) in 2015, APMEN operates through a three-tier organizational structure.

APEC Committee on Trade and Investment (CTI): As APMEN's overseeing body, APEC CTI is responsible for overseeing the activities of APMEN, conducting periodic review on APMEN's detailed reports containing the progress and recommendations of APMEN to CTI, and providing guidance for the next year.

APMEN Joint Operational Group (AJOG): As a CTI ad-hoc working group, AJOG will be responsible for promoting and administrating the collaboration network, expanding and supervising the development and implementation of APMEN initiatives and projects, overseeing the activities of AOC, as well as submiting annual reports to CTI on APMEN related progress and policy suggestions. The AJOG will initially be formed by representatives from regulatory bodies of each participating economy, representatives as well as experts from operators of each member Model E-Port or cargo hubs, with China to act as the chair and the host economy. Concurrently as a CTI ad-hoc working group, AJOG will directly work with the APEC fora, and invite ABAC, PECC and other multilateral institutions and international organizations to participate in AJOG meetings as observers in line with the APEC non-member participation.

APMEN Operational Centre (AOC): AOC will play an important role as the coordination and supporting body of APMEN, undertaking general administrative activities and providing organizational support for concrete cooperative activities under APMEN. Besides acting as the main organizer of PPD and Capacity Building Programs, AOC will be responsible for putting forward the relavant researches, promoting pilot projects, preparing annual reports and developmental plans for AJOG's consideration. Rapporteurs, permanent units, permanent experts group and various task forces may be mobilized in AOC to support these types of operational activities.

In addition to the three-tier organizational structure, APMEN Expert Pool (AEP) has been set up to assist AJOG and AOC.

3. Strategic Framework of APMEN

The *Strategic Framework* has set forth the objectives of APMEN by 2018, which include:

1．Summarize and share the experience of APEC model E-Ports, advance the improvement of Information & Communication Technology (ICT) capability with an aim to promote trade facilitation and supply chain optimization in the APEC region.
2．Understand how to advance and extend the practices of model E-ports as well as other similar practices and associated challenges.
3．Identify solutions and enabling environment to enhance transparency of logistics and regulatory issues through data interconnectivity and interoperability, to improve logistics sub-providers capacity, land/air/sea and multi-modes transport efficiency and capabilities in Asia-Pacific region.
4．Compile knowledge on how to enhance coordination among border agencies through public-private partnership (PPP), to simplify customs documentation and other procedures; by more efficient clearance of goods at customs with ICT support, to improve performance of regional cross-border customs-transit arrangements.

According to the *Strategic Framework,* APMEN will conduct following actions:

1．Promote information sharing on model E-Ports and share experiences in developing, operating and promoting E-Ports.
2．Perform a review of existing literature and work on E-Ports to improve economies' understanding.
3．Carry out case studies on how economies are using ICT infrastructure in their different types' cargo hubs for trade facilitation and supply chain performance improvement
4．Carry out research of solutions to end-to-end supply chain data interconnectivity and interoperability as well as challenges.
5．Conduct targeted capacity building activities.
6．Explore pilot projects in specific areas of model E-Ports.
7．Collaborate with other APEC organizations as well as other regional or global organizations.

II.　Working progress

1.　Expanding membership

Since its establishment, APMEN has been open to ports and E-ports from APEC economies, including but not limited to:

● Public Sector: units or sectors in charge of international trade in APEC economies; units or sectors in charge of Single Window System or E-Port in APEC economies.
● Private Sector: management companies on E-Port; Port operation companies; cargo hubs operation companies, service providers for Single Window System or E-Ports.

The procedure for joining APMEN is as follows:

- Step 1: The CTI representative of the applicant's economy sign a letter to China's CTI representative on the formal nomination of the applicant.
- Step 2: China's CTI Rep, will inform APMEN AJOG Chair of the nomination.
- Step 3: AJOG Chair will circulate a message to notify all APMEN members about the admittance of the new member.
- Step 4. The new membership will be announced at CTI plenary meeting.

In the beginning, APMEN had 11 member ports from 8 APEC economies. The port of Klang from Malaysia joined APMEN in August 2015. In February 2017, Chile became the 10th APMEN member and nominated Lirquen Port and Coronel Port to join APMEN. Xiamen E-port from China joined the network in September 2017. At the end of February 2018, the Philippines nominated the Cebu Port as APMEN members. On April 17, 2018, Peru nominated the Callao Port. On April 27, Malaysia nominated DNeX.

So far, APMEN has 18 members from 11 APEC economies, the export volume of which exceeds 25% of global export volume.[1]

Figure 1: List of APMEN member economies and member ports

Member Economies	Member Ports	Accession
Australia	NSW Ports (Ports of Botany and Kembla)	November 2014
Canada	Port of Vancouver	November 2014
China	Shanghai	November 2014
	Xiamen	September 2017
Chinese Taipei	Kaohsiung	November 2014
Chile	Lirquen Port	February 2017
	Coronel Port	February 2017
Hong Kong, China	TradePort	November 2014
	OnePort	November 2014
	GLSHK	November 2014
Malaysia	Port of Klang	August 2015
	DNeX	April 2018
Mexico	Port of Manzanillo	November 2014
	Port of Lázaro Cárdenas	November 2014
Philippines	Cebu Port	February 2018

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[1] Calculation with the statitcs abstracted from
<https://comtrade.un.org/db/dqQuickQuery.aspx?px=HS&cc=841821&r=348&p=0&rg=2&y=2016&so=8>, accessed April 13, 2018.

Peru	Callao Port	November 2014[2]
Vietnam	Ho Chi Minh	November 2014
	Hai Phone	November 2014

2. Organizing Three Public-Private Dialogues on Advancing Trade Facilitation & Supply Chain Connectivity through APMEN[3]

In accordance with the *Strategic Framework,* one of APMEN's actions is to hold seminars with the objective of raising the understanding of E-ports as exploratory solutions to realize the goals of regional supply chain connectivity in the Asia-Pacific region. Therefore, in addition to AJOG meetings, APMEN has held three Public-Private Dialogues (PPDs) on Advancing Trade Facilitation & Supply Chain Connectivity through APMEN, which had broad participation from public and private sectors.

(1) The first PPD

On August 21, 2015, the first APMEN Public-Private Dialogue was held in Shanghai with over 200 participants and 7 speakers.

The first PPD had two sessions:

● Session One: Exploring Pilot Projects & Conducting Solution Studies on Cross-Border Data Collaboration for Supply Chain Connectivity in the Asia-Pacific Region
● Session Two: Exploring the Pilot Projects & Conducting Solution Studies on Cross-Border Data Collaboration for Trade Facilitation in the Asia-Pacific Region

The presentation topics included:

● Insights of Cross-Border E-commerce
● Mutual Recognition of Electronic Certificate of Origin
● Cross-Border End-to-End Supply Chain Visibility
● Air Cargo Cloud Platform for Cross Border Supply Chain Connectivity
● Shipping Big Data Applications Solutions Research
● Australian Port Community Systems Project

Also, at this PPD, APMEN and APMEN Operational Center (AOC) were officially inaugurated in Shanghai.

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[2] Peru has become the member economy since the establishment of APMEN and nominated the Callao Port in April 2018.
[3] See Item 1 in the Compilation of APMEN Main Achievements (2015-2017)

(2) The second PPD

APMEN hosted the second APEC Public-Private Dialogue on Advancing Trade Facilitation and Supply Chain Connectivity through APMEN in Shanghai on July 25, 2016. Over two hundred representatives from APMEN members and observers, other interested APEC economies, international organizations, government departments, companies and academia, as well as media attended the event.

The 2nd Public Private Dialogue was comprised of four sessions:

- Opening Session
- Session one: Regulations and Policies for E-Port and Single Window System in APEC Economies
- Session Two: Cases on E-Port, Single Window System and Other Related Best Practices of Trade Facilitation as well as Supply Chain Connectivity
- Session Three: Conduct Pilot Projects of Trade Facilitation and Supply Chain Connectivity through APMEN

Prior to this PPD, APMEN had circulated two reports to faciliatet the discussion, the *Review on the Regulations and Policies for E-Port and Single Window in APEC Economies* and the *Practices on Using ICT Infrastructure for Cross-border Trade and Supply Chain Connectivity by APEC Economies*.

(3) The third PPD

APMEN hosted the third APEC Public-Private Dialogue (PPD) on Advancing Trade Facilitation and Supply Chain Connectivity in Hanoi on May 19, 2017. The third PPD focused on the implementation of Suggested Framework for Phase Two of the Supply-Chain Connectivity Framework Action Plan 2017-2020(SCFAP II) and Trade Facilitation Agreement (TFA). Over 150 delegates from APEC economies' authorities, APMEN member E-ports, international organizations and private sectors attended the PPD.

The PPD had four sessions:

- Opening session
- Session One: APMEN's role in the implementation of Suggested Framework for Phase Two of the Supply-Chain Connectivity Framework Action Plan 2017-2020 (SCFAP II) and Trade Facilitation Agreement (TFA)
- Session Two: Trade facilitation from the business community's perspective
- Closing session

The delegates at this PPD have given following suggestions:

- Coordinate border management and border clearance procedures, improve

infrastructure and services, thus strengthening regulatory collaborationand supply chain connectivity.

● Continue to promote Single Window and ICT infrastructure facilities and improve coordination among key stakeholders.

● Better utilize supporting tools provided by WCO in the implementation of the TFA.

● Improve logistics to better facilitate global trade, particularly in simplifying clearance procedures, and improving traceability and visibility.

● Lower barriers for SMEs in global trade by improving accessibility of financing and quality logistics.

3. **Completing the *Review on the Regulations and Policies for E-Port and Single Window in APEC Economies*[4]**

According to the *Strategic Framework* and *ToR* of APMEN, one of APMEN's main tasks is to conduct a review of existing literature and work on E-Ports. APMEN has thus completed the *Review on the Regulations and Policies for E-Port and Single Window in APEC Economies* in 2016 and submitted to the 3rd AJOG meeting. The report was updated in 2017 to include the updates of the laws and policies in more economies.

Since favorable legal and political conditions are essential to the effective operation of E-Port, APMEN has focused on the international conventions, as well as domestic laws and regulations of APEC economies in this field. The *Review* consists of two parts. The first part introduces the international rules related to Single Window. The second part introduces APEC economies' respective regulations and policies for E-Port and other ICT infrastructures, citing articles from relevant laws, acts and administrative rulings.

For international laws and policies on E-port, there are both international usages with only advisory effects and international conventions with binding force. Many international organizations have elaborated useful guidelines and recommendations on E-Port practices. For example, the United Nations Centre for Trade Facilitation and Electronic Business has developed two Recommendations on Single Window. Besides, some other international organizations have their members concluded international conventions that have impacts on E-port, among others, the *International Convention on the Simplification and Harmonization of Customs Procedures*（*Kyoto Convention*）.

As to the domestic legislation and policies related to E-port, many APEC economies have not only amended existing legislation and elaborated new legal instruments in electronic transactions, digital signature and customs laws. In parallel, many APEC members have promoted these policies supporting their legal framework for E-port

and Single Window.

4. Studying the *Practices on Using ICT Infrastructure for Cross-border Trade and Supply Chain Connectivity*[5]

In line with APMEN's *Terms of Reference*, APMEN has carried out the case studies on existing practices of using ICT infrastructure for trade facilitation and supply chain connectivity in thirteen APEC member economies, reviewing each one's development and achievements. By summarizing common success factors and lessons learned, this report is aimed to help economies learn the various paths to realizing paperless trade systems and single window schemes. The study findings have been briefed at the 2nd PPD and a report was submitted to the 3rd AJOG meeting in 2016. The report has since been updated in 2017 to include the case studies of more economies.

Though economies are at different development stages, there are some common experiences and lessons for future reference. The success factors can be summarized as below:

(a) The commitment made by the government with high-level strategic planing and institutional arrangement.
(b) Alignment among regulatory agencies. Such projects are not merely IT programs but are cross-functional.
(c) International and domestic standardization.
(d) Legislation infrastructure about single window.
(e) A phased development plan with involvement of private sectors.

Based on this study, it can be expected that ICT and single window systems in the paperless trade and border activities will develop in two directions: (1) deepen the ongoing implementation in individual economies, (2) seek regional integration and collaboration.

The interconnection among different economies' systems will be a key agenda for the further cross-border integration. This will require an even higher degree of alignment and a closer collaboration amongst stakeholders in all APEC economies involved, which can be hopefully realized through APMEN.

5. Organizing APMEN Capacity Building Programs[6]

Both the *ToR* and *Strategic Framework* have set out that one of APMEN's actions is to conduct long-term and sustainable capacity building programs. The private sector, relevant international institutions and other interested stakeholders will be

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[5] See Item 3 in the Compilation of APMEN Main Achievements (2015-2017)
[6] See Item 5 in the Compilation of APMEN Main Achievements (2015-2017)

encouraged to contribute to this process.

APMEN has been conducting annual capacity building programs for two consecutive years, which were organized by AOC and funded by China's Ministry of Commerce (MOFCOM).

(1) The First APMEN Capacity Building Program

In accordance with the Work Plan of APMEN 2016 endorsed by APEC Ministers Responsible for Trade Meeting (MRT) in Arequipa, Peru in May 2016, the First Capacity building program was held from July 14th to 27th in Shanghai.

In total, 26 participants from 12 different economies attended the project. Among them, four were APMEN members, including Malaysia, Mexico, Peru and Viet Nam; seven were interested APEC economies including Russia, the Philippines, Chile, Singapore, Brunei Darussalam, Papua New Guinea, and Thailand. Myanmar attended as an interested non-APEC member economy. Most of participants were from Customs Administration, Port Authority, and Ministries responsible for international trade. Their expertise fell into categories of policy-making, legal consultation, port operation, ICT application, and economic research.

The project lasted 14 days with a comprehensive project agenda including lectures, field trips, and the APMEN Public-Private Dialogue.

(a) **Lectures:** Up to 11 lectures centered on E-Port and trade facilitation were arranged. Topics included:

- Concept and development of E-Port
- Process standard of global supply chain
- Solution of paperless sea freight
- Introduction of Shanghai shipping collection and distribution system
- Cross-border e-business and its development
- Block chain and its application, etc.

 Lecturers were from the China Institute of Logistics and Supply Chain, the Shanghai International Shipping Research Center, Shanghai E-Port, Alibaba Group, PwC, as well as AOC.

(b) **Field trips:** To help participants acquire hands-on knowledge of E-Port and trade facilitation practice, the program offered field trips to Shanghai E-Port, Xiamen Pilot Free Trade Zone and E-Port. Through the field trips, participants learned how E-Port system operated and how the implementation of E-Port system could improve the supply chain connectivity and hence reduce trade costs.

(c) **APMEN Public-Private Dialogue**: Participants attended the 2nd Public-

Private Dialogue (PPD) on Advancing Trade Facilitation and Supply Chain Connectivity through APMEN, where they exchanged ideas with more than 200 experts and professionals on topics of E-port legal framework, best practices and pilot projects for trade facilitation through APMEN.

(2) The Second APMEN Capacity Building Program

In accordance with the Work Plan of APMEN 2017, which was endorsed by the First Senior Officials' Meeting (SOM1) in Hanoi, Vietnam in February 2017, the 2nd Capacity building program was held from September 10th to 30th, 2017 in Shanghai.

In total, sixteen participants from eight economies participated in the project, among which there were two APMEN members (Peru and Viet Nam), and one APEC economy (Thailand) that is interested in joining APMEN. Brazil, Georgia, Myanmar, Laos and Cambodia attended as interested non-APEC member economies.

Most of the participants came from Customs Administration, Port Authority, and various Ministries that are responsible for international trade, with diverse expertise and backgrounds in policy-making, legal consultation, port operation, ICT application, and economic research.

The project lasted 21 days following a comprehensive project agenda including lectures and field trips.

(a) Lectures: The project arranged up to 17 lectures focusing on E-Port and trade facilitation. Topics include:

- Concept and development of E-Port
- WTO Agreement on Trade Facilitation
- China's Economic Reform
- New Model of Supervision of China Pilot Free Trade Zone
- Cross-border e-business and its development
- Block chain and its application……

The project invited lecturers from Shanghai Customs, Shanghai Entry-Exit Inspection and Quarantine Bureau, Shanghai Customs College, Shanghai E-Port, Alibaba Group, PwC, and AOC.

(b) Field trips: To help participants acquire hands-on experiences of E-Port and trade facilitation practices, the project arranged field trips to Shanghai E-Port, Shanghai Yang Shan Port, Xiamen Pilot Free Trade Zone and E-Port. The field trips gave participants the exposure to the operation mechanism of E-Port system and the role of E-Port system in promoting the supply chain connectivity

and reducing trade cost.

6. Promoting APMEN pilot projects[7]

According to the *ToR*, one of APMEN's activities is to "Explore pilot programs in specific areas of the model E-port" with a focus on the use of Single Window system, One Stop Shop systems, production end to consumption end traceability of products, "Data-tized" paperless trade, Green Supply Chain and the promotion of global value chains.

As reinforced in the *Strategic Framework*, APMEN will explore pilot projects in specific areas of model E-ports. The optional areas include:

- Production end to consumption end traceability of products
- Paperless trade
- Green freight, logistics and supply chain, etc.

In 2015, AJOG approved the *Proposal on Pilot Projects and Solution Studies on Advancing Trade Facilitation and Supply Chain Connectivity Through APMEN*, which was submitted to the third meeting of Committee on Trade and Investment (CTI3). The proposed activities include:

(a) Advancing the use of digital certificate of origin and achieve mutual recognition of paperless certificate of origin between or among the partners.
(b) Establishing technical framework on the end-to-end data visibility for sea freight between or among the partners.
(c) Establishing technical framework on the end-to-end data visibility for air freight between or among the partners.
(d) Realizing cross-border connectivity for e-commerce through E-port between or among the partners
(e) Developing application solution on E-port's ICT infrastructure based on cloud computing and big data by members of APMEN and other interested APEC economies.

At the second PPD, APMEN members introduced three pilot projects:

- Global Visualization of Sea Freight Logistics
- Interchange of Electronic Certificate of Origin
- Visualization of Paperless Air Freight Logistics

By the end of 2017, AOC proposed to AJOG to include the Global Quality Traceability System (GQTS) into the second batch of APMEN pilot projects. In January 2018, the FTA Application System, another pilot project, was proposed. At

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[7] See Item 6 in the Compilation of APMEN Main Achievements (2015-2017)

the fourth meeting of AJOG, held on March 16 in 2018, AJOG agreed to launch the second batch of pilot projects, including the GQTS and the FTA Application System.

(1) The first batch of pilot projects

(a) Visualization of Sea Freight Logistics

APMEN member ports can collaborate on the data exchange to realize end-to-end data visibility for sea freight. The pilot project starts with the port-to-port information sharing on product location/situation, including arrival, discharge, inspection, clearance, departure, etc. The real-time Track and Trace Service can render the logistics supply chain more transparent in the Asia-Pacific and contribute to the integration of logistics supply chain information in the region.

At the second AJOG meeting, Australia and China had reached consensus on establishing the technical framework on the end-to-end visibility for sea freight. APMEN members have been researching on solutions and discussing the collaboration mechanism for this project through regular teleconferences. On March 15, 2018, APMEN held a Workshop on the Pilot Project of Sea Freight Visibility, which convened more than 30 delegates from APMEN member ports, regulatory authorities and champion enterprises in the sea freight sector. The participants had discussions on how to improve the transparency and data interconnectivity of the sea freight logistics.

On March 16, 2018, Shanghai E-port and Xiamen E-port have respectively signed MoUs with NSW Ports on the Pilot Project of Sea Freight Visibility. The parties are discussing data exchange formats and interfaces, and exploring solutions for the interconnection and data exchange of E-port systems through regular teleconferences.

(b) Visualization of Air Freight Logistics

In 2016, Global Logistics System HK (GLSHK), Shanghai E&P International Inc., and Cathay Pacific Airways Limited have jointly conducted solution studies on the visualization of air freight logistics. At the second meeting of AJOG, China noted that Shanghai E-port and GLSHK had agreed to establish the technical framework on the end-to-end visibility for air freight. Interested parties from APEC economies are making joint efforts to implement this project.

(c) Interchange of Electronic Certificate of Origin

The Certificate of Origin (CO) is an important document in the process of customs clearance in the international trade. The CO provides the basis for the law enforcement by regulatory authorities and product traceability for the enterprises in all economies. As more and more FTAs are concluded in the Asia-Pacific, the

information sharing, data exchange and mutual recognition of CO has drawn increasing attention from APEC economies.

Currently, most developed economies in the world, such as the United States and the European Union, have already put into place the electronic certificate of origin (ECO). Some FTAs have provided for network-combined monitoring of ECO (e.g. Closer Economic Partnership Arrangements between Mainland China and Hong Kong, China-Korea Free Trade Arrangement, etc.). As to the COs used for other FTAs, enterprises can only make self-declaration. The customs mainly conduct post-verification through customs cooperation. The broad application of ECO will greatly boost the efficiency of international trade.

AOC has signed a MoU with Dagang NeXchange Berhad (DNeX), operator of Malaysia National Single Window system to collaborate on the data exchange of ECO between China and Malaysia.

(2) The second batch of pilot projects

(a) Global Quality Traceability System

With the support of the "smart port" platform, the Global Quality Traceability System (GQTS) gathers fragmented quality information during the full life cycle of a product, which will be processed by big data analysis and cloud computing, forming a fully-chained and closed-loop quality management system. The GQTS provides a platform to share product information from manufacturer-end to consumer-end, thus can significantly reduce forgery and be particularly beneficial to parties in cross-border e-commerce. For consumers, they can be better assured of the product authenticity. For enterprises, they can enhance their brand protection. For regulators, they can improve regulatory efficiency and accelerate customs clearance. Therefore, the cross-border information sharing on consuming goods through the GQTS can contribute to the supply chain connectivity in the Asia-Pacific.

(b) FTA Application System

The FTA Application System is based on functional modules with a user-friendly interface, which include:

- Inquiry of HS Code
- Inquiry of tariff rate
- Inquiry of origin criteria
- Calculation of duty savings
- Certification requirement

With this system in place, enterprises can get convenient access to all the relevant

information on the policies, tariff rate, customs procedures, documents and rules of origin set by the preferential treatment under FTAs, as well as other related laws and regulations. Therefore, they can take better advantage of the preferential tariffs to decrease their trade costs.

The FTA Application System is a Browser/Server (B/S) application deployed on a cloud platform, which will allow users to access the system through any Internet connection and conduct inquiries or verification of FTA information whenever and wherever they are. In addition, with the use of cloud technology, this system can improve the accuracy, integrity and confidentiality of data.

AOC and DNeX from Malaysia have agreed to collaborate on the implementation of FTA Application System on the single window of Malaysia.

7. Developing *APMEN Implementation Measures for SCFAP II*[8]

According to the *Strategic Framework*, APMEN can carry out research of solutions to end-to-end supply chain data interconnectivity and interoperability as well as challenges, which can include "end-to-end supply chain data standards, data privacy and security" and "lifecycle supply chain data visibility to enable improvement of supply chain performances."

The 24th AELM in 2016 further endorsed the Suggested Framework for Phase Two of the Supply-Chain Connectivity Framework Action Plan 2017-2020 (SCFAP II). The SCFAP II sets out one objective under Chokepoint 2 ("Inadequate Quality and Lack of Access to Transportation Infrastructure and Services") to be "establish an electronic data exchange network between ports and port/logistics operators and their collaboration, such as APMEN".

Drawing on extensive and in-depth discussions with both the public and private sectors from APEC economies, APMEN drafted the *APMEN Implementation Measures for SCFAP II* and completed the instrument progressively while receiving suggestions from the relevant parties. The *Implementation Measures* have been endorsed by APEC CTI before the 29th APEC Ministerial Meeting in November 2017.

Considering the overarching goal of SCFAP II, together with the Strategic Framework and 2017 work plan of APMEN, the *Implementation Measures* are envisioned to address the Chokepoints 1, 2 and 4 of SCFAPII. For Chokepoint 1 "Lack of Coordinated Border Management and Underdeveloped Border Clearance and Procedures," APMEN conducts an in-depth study on the WTO Agreement on Trade Facilitation (TFA) and design a TFA indicator system for evaluating the level of trade facilitation. To solve the Chokepoint 2 ("Inadequate quality and lack of

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[8] See Item 4 in the Compilation of APMEN Main Achievements (2015-2017)

access to transportation infrastructure and services"), APMEN is developing a software to assist the cross-border data exchange among APMEN members. To address Chokepoint 4 ("Limited regulatory collaborationand best practices"), APMEN has been researching the possibility of establishing an "information sharing platform for the full supply chain," providing "manufacturer to consumer" traceability information for major consumer products (such as seafood, fruit, wine and beverages), which can help to achieve the interconnection and interoperability among trade stakeholders in the supply chain.

8. Holding Four Meetings of APMEN Joint Operational Group

To catalyze the development of APMEN and share experiences in developing E-port among APMEN member ports, the APMEN Joint Operational Group (AJOG) has convened four meetings.

(1) The first meeting of AJOG

The 1st meeting of AJOG was held on May 11, 2015 in Boracay, the Philippines. The participants included representatives from APMEN members (Australia, People's Republic of China, Chile, Mexico, Peru and Vietnam). Japan, Republic of Korea, Malaysia, the Philippines, Singapore, Thailand and the United States attended the meeting as observers. The meeting discussed the following issues:

(a) Exchange of information on developing and operating E-ports to better understand how APMEN would be beneficial for trade facilitation and supply chain connectivity.
(b) Approval of the *Strategic Framework of APMEN* and the *Working Mechanism of APMEN.*
(c) China's circulation of the APMEN pilot projects draft proposal and solution studies.
(d) China's introduction of the APEC Concept Note regarding the APEC funding
(e) Agreement on the expected outcomes/deliverables for 2015/2016

The *Strategic Framework of APMEN* and the *Working Mechanism of APMEN* were approved by the meeting and then submitted to the consideration of APEC CTI, which were endorsed by the SOM2 in 2015.

(2) The second meeting of AJOG

On August 21, 2015, the 2nd AJOG was held in Shanghai, China. Australia, Canada, China, Hong Kong, China, Malaysia, Peru and Viet Nam sent representatives to attend the meeting. Some observers such as Japan, Papua New Guinea, the Philippines, Singapore and Thailand, assigned representatives. The meeting had discussions on the following five topics:

(a) Welcoming Malaysia to join APMEN.

(b) Discusssing the way of conducting a literature review on E-ports to improve economies' understanding, including collaboration with the Sub-Committee on Customs Procedures (SCCP), and collaborationwith the SCCP on the review of existing literature and work on E-ports.

(c) Discussing the implementing of case studies on how economies use ICT infrastructure in their ports and single window programs.

(d) Discussing the exploration of pilot projects and solution studies in specific areas of model E-ports.

(e) Discussing how to implement APMEN's *Working Mechanism* and *Strategic Framework* according to APMEN's 2015 work plan.

The meeting approved the following proposals:

- Proposal on a Review of Existing Literature and Work on E-Ports
- Proposal on Carrying Out Case Studies on Using ICT Infrastructure in Ports and Single Window Programs
- Proposal on Pilot Projects and Solution Studies on Advancing Trade Facilitation and Supply Chain Connectivity through Asia-Pacific Model E-Port Network (APMEN)

(3) The third meeting of AJOG

The 3rd Meeting of AJOG was held in Shanghai, China on July 26, 2016. APMEN members that participated in the meeting were Australia, Canada, People's Republic of China, Hong Kong China, Malaysia, Mexico, Peru, Chinese Taipei and Viet Nam. Japan, Papua New Guinea and Russia also attended the meeting as observers. This meeting discussed following topics:

(a) Report on the working progress of APMEN

(b) *Review on the Regulations and Policies for E-port and Single Window System in APEC Economies*

(c) Review on *Practices on Using Infrastructure for Cross-border Trade and Supply Chain Connectivity by APEC Economies*

(d) Proposal on Advancing Pilot Projects of APMEN

(e) Report on the nomination and formation of APMEN Expert Pool(AEP)

(f) Nomination of the Principle Advisor of APMEN Expert Pool(AEP)

The meeting agreed on the above reports and proposals, as well as the nomination of Professor Yao Weiqun as the Principal Advisor of AEP.

(4) The fourth meeting of AJOG

The 4th Meeting of AJOG was held on March 16, 2018 in Shanghai, China. Attendees of the meeting are representatives of APMEN member ports, CTI Malaysia, APEC

Secretariat (PSU), AEP and AOC. The meeting held discussions on the following issues:

(a) Report on the working progress of APMEN in 2017 and work plan for APMEN 2018
(b) Introduction of the *Proposed Preparation for APMEN Review*
(c) Discussion on the promotion of pilot projects

The meeting agreed on the *Proposed Preparation for APMEN Review*, a panel to assist with the Review and to include the Global Quality Traceability System (GQTS) and the FTA Application System into the second batch of APMEN pilot projects.

III. Achievements

1. Recognition by APEC Leaders and Ministers

Since its establishment, APEC Leaders and Ministers have continuously paid close attention to the development of APMEN and recognized its progress and contribution.

At the 2015 MRT, APEC Ministers recognized the contribution of E-port development and collaboration to supply chain connectivity and welcome the results of the first meeting of the Asia-Pacific Model E-port Network (APMEN) which discussed ways to advance cooperation.

At the 2015 AMM, APEC Ministers commended the work on the Asia-Pacific Model E-Port Network (APMEN) and welcomed the establishment of the APMEN Operational Center, the PPD and the second meeting of the Joint Operational Group of APMEN in Shanghai. And APEC Ministers endorsed the Strategic Framework and the Working Mechanism of APMEN and encouraged more economies to join the APMEN.

At the 2016 MRT, APEC Ministers reaffirmed the importance to carry forward the work related to the Asia-Pacific Model E-Port Network (APMEN), which aims to promote supply chain connectivity through E-port development and collaboration efforts. In this respect, APEC Ministers endorsed the Work Plan of APMEN 2016, and looked forward to capacity building activities and the Public-Private Dialogue (PPD) to be undertaken later that year.

At the 2016 AMM, APEC Ministers reaffirmed the importance of carrying forward work related to the Asia-Pacific Model E-Port Network (APMEN), to advance supply chain connectivity through E-port development and collaborative efforts. APEC Ministers welcomed the outcomes of the activities carried out so far and encouraged economies to continue participating.

At the 2017 MRT, the Ministers welcomed more pilot projects and encouraged economies to continue participating in APMEN building on the outcomes of the 3rd

Public-Private Dialogue on Advancing Trade Facilitation and Supply Chain Connectivity through Asia-Pacific Model E-Port Network (APMEN).

At the 2017 AMM, APEC Ministers noted the Asia-Pacific Model E-Port Network (APMEN) and its *Implementation Measures for SCFAP II* and their contribution to supply chain connectivity in the region.

In the 2017 APEC Leaders' Declaration, APEC Leaders showed appreciation for initiatives such as Asia-Pacific Model E-port Network (APMEN) and its positive contribution to supply chain connectivity.

2. Establishing a preliminary communication and collaborationnetwork

With the expansion of APMEN membership in the Asia-Pacific, an increasingly broad communication and collaboration network has been established. Through regular meetings and intersessional exchanges, APMEN has been discussing the development of the collaboration network and shared experiences of implementing E-port and Single Window. In total, APMEN has approved and submitted 33 working documents[9] to the CTI, which clearly demonstrates the unremitting efforts of APMEN. Based on these in-depth discussions, APMEN members have been actively exploring collaboration opportunities in the promotion of pilot projects and other activities.

Furthermore, the PPDs have facilitated more extensive dialogue on the emerging issues of trade facilitation and supply chain connectivity. By bringing the public and private stakeholders in the same event, APMEN's PPD can provide a channel for their exchanges on the hottest topics of cross-border trade. For authorities, they can help the attendees understand their latest policies and learn about the urging needs of the business. For enterprises, they can present their progress and challenges to the authorities and seek for collaboration opportunities with the attendees.

3. Helping economies' better understand the role of ICT infrastructure in advancing trade facilitation and supply chain connectivity

Through relevant research and case studies, APMEN has helped economies acquire better knowledge of the concept and practices of E-port. With the *Review on The Regulations and Policies for E-Port and Single Window in APEC Economies*, APMEN has produced a detailed report of the legal and policy instruments at domestic and international levels related to the single window. In addition, the report *Practices of Using ICT Infrastructure for Cross-Border Trade and Supply Chain Connectivity* presents the different stages of single window development in different economies. With the knowledge of the legal framework and practical cases of E-port development, relevant parties can better plan the implementation of related systems in their

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[9] See Annex 1

economies and discuss the collaboration on the integration of their respective systems.

Furthermore, APMEN capacity building programs have delivered to 42 trainees from developing economies systematic curriculum on the development of E-port and dynamic topics related to trade facilitation and supply chain connectivity in the Asia-Pacific. The programs also included field trips that gave participants the technical know-how of E-port operations. With these efforts, APMEN has not only helped economies acquire theoretical and practical knowledge of single window, but also built up their capacity of developing E-port systems.

4. Catalyzing the implementation of *Trade Facilitation Agreement*

Due to the complex and high-level technical requirements of the *Trade Facilitation Agreement (TFA)*, its implementation cannot only rely on the domestic efforts of a member, but also the collaborationand information sharing of members within the same trade communitysuch as APEC, which is of great significance to the development of Single Window systems and cross-border data exchange.

APMEN has provided a specialized coordination mechanism to render regional public services for trade facilitation. With the pilot projects, APMEN can explore innovative solutions to facilitate cross-border trade and promote the regional collaborationon the trade facilitative measures. Once implemented in more economies, the projects can substantially increase the trade efficiency and cut trade costs in the Asia-Pacific.

5. Contributing to the regional supply chain connectivity

According to the report published in 2016 by the APEC Policy Support Unit (PSU) [10], the common challenges in implementing SCFAP activities, and achieving the 10 percent target, are related to insufficient infrastructure, lack of information and consistency and institutional problems. To continue with the efforts made in the SCFAP Phase I and to compensate for the insufficiencies of supply chain performance, the 2016 AMM in Peru adopted the SCFAP II, which was endorsed by the 24th AELM. Focusing on Chokepoints 1, 2 and 4 of the SCFAP II, the *APMNE Implementation Measures for SCFAP II* can help to strengthen the coordination of border management, improve the quality of transportation infrastructure and services, and facilitate regulatory collaborationand information sharing on best practices.

The contribution of APMEN and *APMEN Implementation Measures for SCFAP II* to supply chain connectivity has been noted by the Joint Ministerial Statement at the 29th APEC Ministerial Meeting, as well as the Da Nang Declaration issued by APEC leaders at the 25th APEC Economic Leaders Meeting.

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[10] APEC Policy Support Unit. *APEC Supply Chain Connectivity Framework Action Plan 2010–2015: Final Assessment.* November 2016.

IV. Ongoing tasks of APMEN

1. Endeavoring to design a TFA indicator system

To address Chokepoint 1 ("Lack of Coordinated Border Management and Underdeveloped Border Clearance and Procedures"), APMEN is conducting an in-depth study on the WTO Agreement on Trade Facilitation (TFA) and design a TFA indicator system for determining the level of trade facilitation. This system will consider the differences of various trade facilitation measures in different areas and the variations in their level of trade facilitation. Based on the common TFA obligations of WTO members, the TFA indicator system will strengthen the coordination of border management. It will also identify relevant border agencies and all forms and documents affecting import and export, with the purpose of enhancing the capacity for customs clearance and improving clearance procedures. At the same time, APMEN plans to analyze the best practices, share beneficial experiences and discuss the basic publication requirements of forms and documents that are used for customs clearance in the Asia-Pacific region, in order to further assist in standardizing border management under the APEC framework.

2. Making efforts to develop a data exchange software

To solve the Chokepoint 2 of SCFAP II, which is "Inadequate quality and lack of access to transportation infrastructure and services," APMEN is developing software to assist the cross-border data exchange among APMEN members. The software can be separately installed in E-port systems of APMEN members based on voluntary participation, thus contributing to a barrier-free and decentralized data exchange network within APMEN. It is designed to resolve concerns in the difficulty of ensuring both the security and accuracy of data. This software can also realize the interoperability of decentralized data and achieve better exchange of electronic information.

3. Seeking to realize the information sharing for the full supply chain

To address Chokepoint 4 ("Limited regulatory collaborationand best practices"), APMEN has been researching the possibility of establishing an "information sharing platform for the full supply chain," providing "manufacturer to consumer" traceability information for major consumer products. We have observed that the Nansha Area of China (Guangdong) Free Trade Zone has taken the lead in establishing the Global Quality Traceability System (GQTS), which has achieved good results in the past two years. With this system, the quality control and brand protection can be enhanced under the co-governance of consumers, enterprises and government. Additionally, it can make logistics routes more transparent, help frontier regulators to obtain authentic information of goods from multiple channels, and to improve the regulatory efficiency and facilitation of customs clearance. At the fourth meeting of AJOG, the GQTS has been included into the second batch of APMEN's pilot projects. APMEN members can discuss further collaborationon this project in the future.

4. Working towards the implementation of the APEC Connectivity Blueprint 2015-2025

While consolidating the results already attained, APMEN can make more efforts towards the implementation of the *APEC Connectivity Blueprint (ACB) 2015-2025*. Under the pillar of institutional connectivity, the ACB indicates that there is a significant gap in the ability of existing institutions to promote connectivity due to various regulatory constraints or lack of capacity.

Through more extensive and closer collaboration between APMEN members on the pilot projects, APMEN can play its part in promoting the institutional connectivity in the Asia-Pacific. The projects of sea/air freight visibility can help to promote the international interoperability between Single Window systems. The ECO project can contribute to the paperless trading and modernization of customs and border agencies. The GQTS can catalyze a whole-of-supply-chain approach to enhance the coordination across regulatory, standards, and trade agencies. The FTA Application system can empower SMEs in utilizing FTA preferential tariffs to cut trade costs.

Based on the previous studies and discussions, more concrete collaboration on the pilot projects can be expected within the scope of APMEN and more broadly with the input from other stakeholders in the region. The interconnection among different economies' E-port systems will be a key agenda for the further trade facilitation and supply chain connectivity in the Asia-Pacific.

Annex 1: List of APMEN documents

Year	No.	Document	Document number
2014	1.	Promoting Supply Chain Connectivity Through a Model E-Port Initiative	(2014/SOM1/CTI/022)
	2.	Initiative on Asia-Pacific Model E-Port Network(APMEN)	(2014/SOM2/CTI/026)
	3.	Terms of Reference of the Asia-Pacific Model E-Port Network (APMEN)	(2014/SOM3/CTI/025)
	4.	Work Plan of Asia-Pacific Model E-Port Network (APMEN)	(2015/SOM1/CTI/046rev1)
	5.	Summary Report to CTI by the First Meeting of AJOG	(2015/SOM2/CTI/019rev1)
	6.	Working Mechanism of Asia-Pacific Model E-port Network (APMEN)	(2015/SOM2/027anx5)
	7.	Strategic Framework of Asia-Pacific Model E-port Network (APMEN)	(2015/SOM2/CTI/021)
	8.	Progress Report on Asia-Pacific Model E-Port Network	(2015/AMM/010)
	9.	Summary Report of APEC Public-Private Dialogue on Advancing Trade Facilitation & Supply Chain Connectivity through APMEN with Inauguration of Asia-Pacific Model E-Port Network	(2015/CTI/DIA3/SUM)
	10.	Summary Report of the Second Meeting of APMEN Joint Operational Group	(2015/SOM3/CTI/007-07)
	11.	Agenda of the Second Meeting of APMEN Joint Operational Group	(2015/SOM3/CTI/007-07anx1)

2015	12.	Proposal on a Review of Existing Literature and Work on E-Ports	(2015/SOM3/CTI/007-07anx2)
	13.	Proposal on Carrying Out Case Studies on Using ICT Infrastructure in Ports and Single Window Programs	(2015/SOM3/CTI/007-07anx3)
	14.	Proposal on Pilot Projects and Solution Studies on Advancing Trade Facilitation and Supply Chain Connectivity Through APMEN	(2015/SOM3/CTI/007-07anx4)
	15.	Briefing Report on the Progress of APMEN	(2015/SOM3/CTI/007-09)
2016	16.	Proposed Work Plan of APMEN 2016	(2016/SOM1/CTI/039)
	17.	Working Progress Report on APMEN	(2016/CTI/AJOG3/002)
	18.	First Batch of Experts and the Principal Advisor of APMEN Expert Pool	(2016/CTI/AJOG3/006)
	19.	Working Progress Report on APMEN	(2016/CTI/AJOG3/002)
	20.	Advance Cross Border Collaboration of Trade Facilitation and Supply Chain Connectivity Through APMEN	(2016/SOM3/CTI/A2C2/010)
	21.	Summary Report of the Third Meeting of APMEN Joint Operational Group	(2016/SOM3/CTI/041)
	22.	Summary Report of the First Asia Pacific Model E-Port Network Capacity Building Program	(2016/SOM3/CTI/047)
	23.	Summary Report of the Second APEC Public-Private Dialogue on Advancing Trade Facilitation and Supply Chain Connectivity Through APMEN	(2016/SOM3/CTI/048)
	24.	Annual Work Plan of APMEN 2017	(2017/SOM1/CTI/030)

2017	25.	Progress of Works in APMEN – Presentation	(2017/SOM1/CTI/030a)
	26.	Annual Work Plan of Asia-Pacific Model E-Port Network 2017	(2017/SOM1/017anx05)
	27.	Draft Agenda on the Third APEC Public-Private Dialogue on Advancing Trade Facilitation and Supply Chain Connectivity Through APMEN	(2017/SOM2/CTI/033)
	28.	Working Progress APMEN – Presentation	(2017/SOM3/CTI/057)
	29.	Summary Report of 3rd APEC Public-Private Dialogue on Advancing Trade Facilitation and Supply Chain Connectivity Through APMEN	(2017/SOM3/CTI/042)
	30.	Summary Report of the 3rd APEC Public-Private Dialogue on Advancing Trade Facilitation and Supply Chain Connectivity Through APMEN	(2017/SOM3/011)
2018	31.	APMEN Implementation Measures for SCFAPII	(2018/SOM1/CTI/045)
	32.	Annual Work Plan for APMEN 2018	(2018/SOM1/CTI/044rev1)
	33.	Proposed Preparation Scheme for APMEN Review	(2018/SOM1/CTI/046rev1)