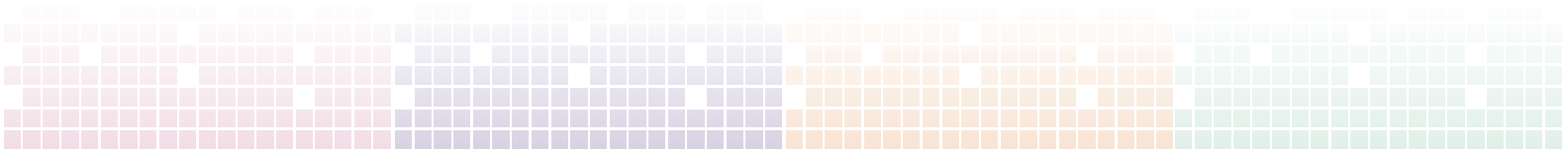
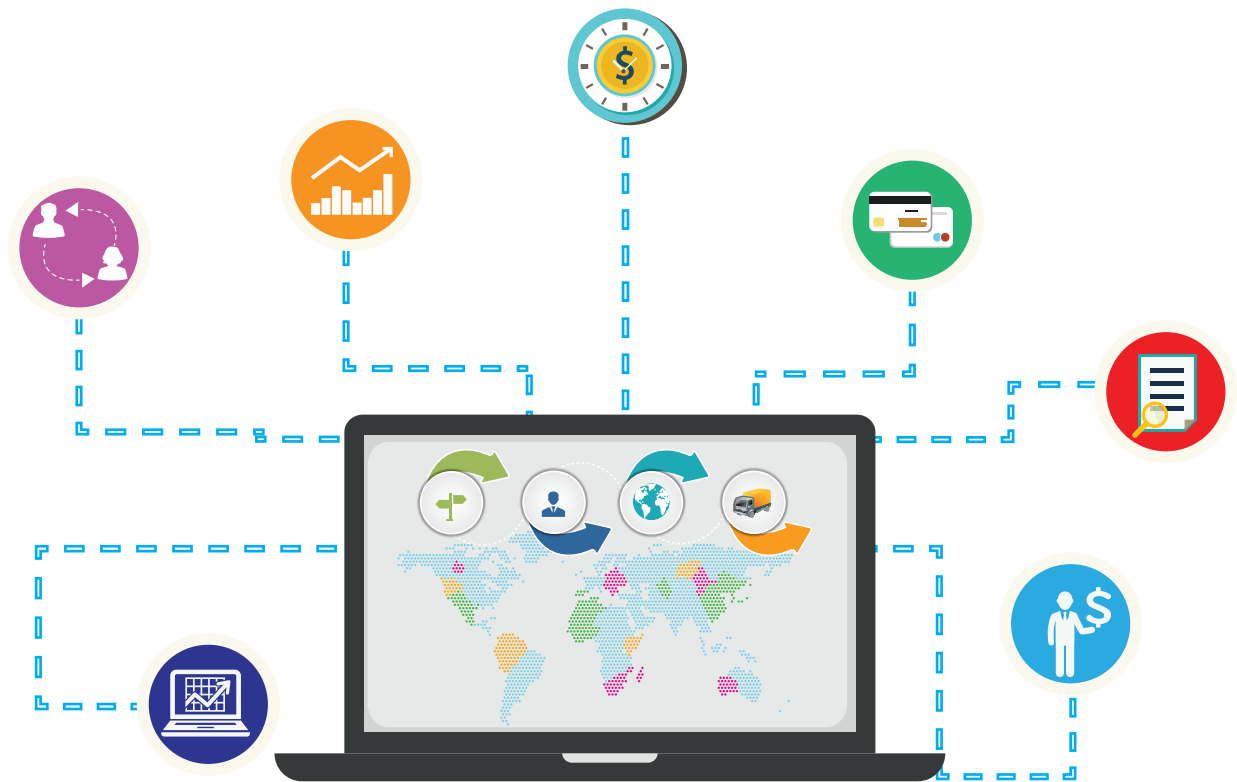
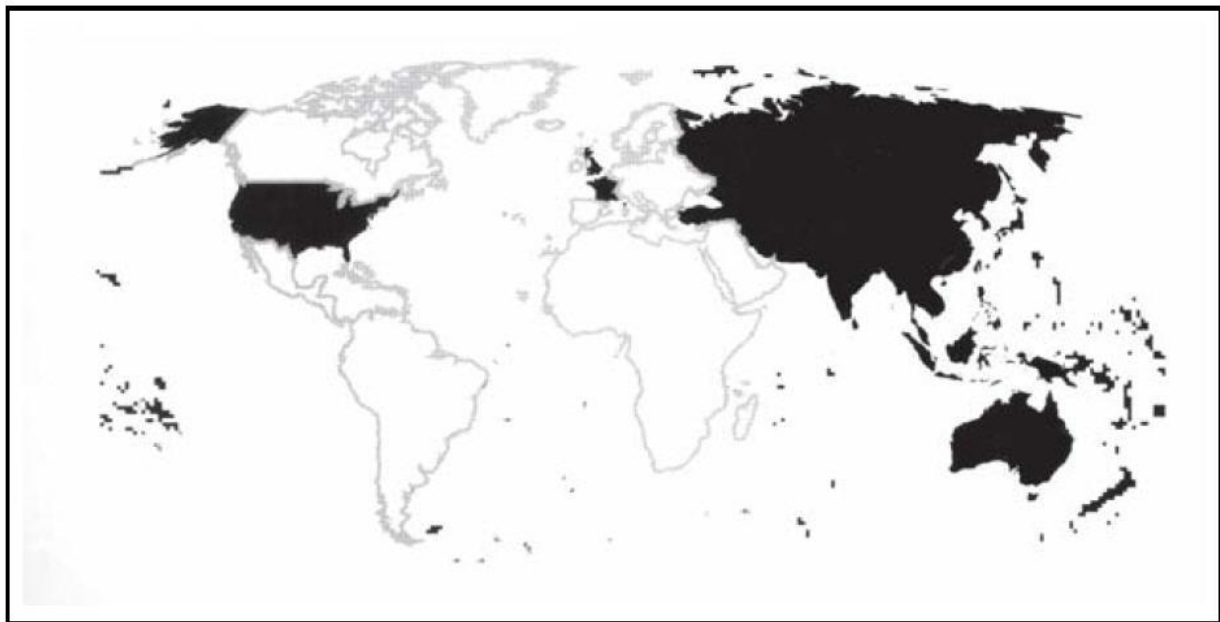


# Single Window for Trade Facilitation: Regional Best Practices and Future Development



Economic and Social Commission for Asia and the Pacific (ESCAP) serves as the United Nations' regional hub promoting cooperation among countries to achieve inclusive and sustainable development. The largest regional intergovernmental platform with 53 member States and 9 associate members, ESCAP has emerged as a strong regional think-tank offering countries sound analytical products that shed insight into the evolving economic, social and environmental dynamics of the region. The Commission's strategic focus is to deliver on the 2030 Agenda for Sustainable Development, which it does by reinforcing and deepening regional cooperation and integration to advance connectivity, financial cooperation and market integration. ESCAP's research and analysis coupled with its policy advisory services, capacity building and technical assistance to governments aims to support countries' sustainable and inclusive development ambitions.



*The shaded areas of the map indicate ESCAP members and associate members.*

The United Nations Network of Experts for Paperless Trade and Transport in Asia and the Pacific (UNNExT) provides a networking and knowledge-sharing platform for policy makers, practitioners and technical experts to bridge the implementation gaps between the countries with different level of trade facilitation. Its mission is to establish an ongoing community of knowledge and practice to facilitate the implementation of Single Window and paperless trade and transport in the Asia-Pacific region. The UNNExT intends to enhance capacity of its members to make informed decisions about policy issues at stake and to implement related international instruments and standards. It is operated jointly by the United Nations Economic and Social Commission for Asia and the Pacific (ESCAP) and the United Nations Economic Commission for Europe (ECE).

# **SINGLE WINDOW FOR TRADE FACILITATION: REGIONAL BEST PRACTICES AND FUTURE DEVELOPMENT**

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# CONTENTS

<b>LIST OF TABLES .....</b>	<b>v</b>
<b>LIST OF FIGURES .....</b>	<b>vi</b>
<b>EXECUTIVE SUMMARY .....</b>	<b>vii</b>
<b>ACKNOWLEDGEMENTS .....</b>	<b>viii</b>
<b>ABBREVIATIONS AND ACRONYMS.....</b>	<b>ix</b>
<b>INTRODUCTION.....</b>	<b>1</b>
<b>CHAPTER 1. SINGLE WINDOW IMPLEMENTATION IN ASIA AND THE PACIFIC .....</b>	<b>3</b>
<b>1. Status of Single Window policy and system development.....</b>	<b>3</b>
<b>2. Single Window operations model and budget source.....</b>	<b>8</b>
<b>CHAPTER 2. BEST PRACTICES IN SINGLE WINDOW IMPLEMENTATION .....</b>	<b>11</b>
<b>A. Analysis of best practice cases.....</b>	<b>11</b>
<b>1. Single Window of Singapore .....</b>	<b>11</b>
<b>2. Single Window of Hong Kong, China .....</b>	<b>14</b>
<b>3. Single Windows of Republic of Korea .....</b>	<b>16</b>
<b>4. Single Window of Japan.....</b>	<b>22</b>
<b>B. Important features of Single Window systems .....</b>	<b>27</b>
<b>C. Main issues to take into account .....</b>	<b>33</b>
<b>D. Lessons learnt .....</b>	<b>34</b>
<b>CHAPTER 3. NEXT STAGE OF THE SINGLE WINDOW.....</b>	<b>36</b>
<b>A. Introduction to stakeholder survey .....</b>	<b>36</b>
<b>B. Survey of the private sector .....</b>	<b>36</b>
<b>C. Survey of the public sector .....</b>	<b>42</b>
<b>D. Main findings from the survey.....</b>	<b>47</b>
<b>CONCLUSIONS AND RECOMMENDATIONS.....</b>	<b>51</b>
<b>REFERENCES.....</b>	<b>54</b>
<b>APPENDICES .....</b>	<b>56</b>
<b>Appendix 1. Reference sites used for collecting information on status of Single Window     policy and development .....</b>	<b>56</b>
<b>Appendix 2. Questionnaire to Private Sector .....</b>	<b>60</b>
<b>Appendix 3. Questionnaire to Public Sector.....</b>	<b>64</b>

## LIST OF TABLES

TABLE 1. SINGLE WINDOW POLICY AND SYSTEM DEVELOPMENT STATUS OF ESCAP MEMBER STATES .....	3
TABLE 2. SINGLE WINDOW OPERATIONS MODEL AND BUDGET SOURCE .....	8
TABLE 3. SERVICE FEES OF SINGLE WINDOW/ VALUE-ADDED NETWORK SERVICE PROVIDERS (AS OF 2014) .....	10
TABLE 4. ESTIMATED ECONOMIC BENEFITS OF PAPERLESS TRADE IN THE REPUBLIC OF KOREA .....	29

## LIST OF FIGURES

FIGURE 1. SINGLE WINDOW POLICY SET-UP STATUS IN ASIA AND THE PACIFIC ....	5
FIGURE 2. SINGLE WINDOW SYSTEM DEVELOPMENT STATUS IN ASIA AND THE PACIFIC .	6
FIGURE 3. SINGLE WINDOW IMPLEMENTATION STATUS BY STAGE.....	7
FIGURE 4. SINGLE WINDOW IMPLEMENTATION STATUS BY SUBREGION .....	7
FIGURE 5. SINGLE WINDOW OPERATION MODELS .....	8
FIGURE 6. MAIN SOURCES OF SINGLE WINDOW OPERATIONS BUDGET .....	9
FIGURE 7. SINGAPORE'S TRADE COMMUNITY SYSTEM .....	13
FIGURE 8. CUSTOMS SYSTEM DEVELOPMENT HISTORY .....	17
FIGURE 9. PARADIGM SHIFT WITH THE INTRODUCTION OF RISK MANAGEMENT	18
FIGURE 10. INTERNET-BASED CUSTOMS SINGLE WINDOW IN THE REPUBLIC OF KOREA.	19
FIGURE 11. RECENT DEVELOPMENTS OF THE NACCS SYSTEM.....	23
FIGURE 12. NACCS NETWORK AND SERVICES .....	26
FIGURE 13. SINGAPORE'S TRADE DATABASE SYSTEM .....	32
FIGURE 14. SAMPLE COMPOSITION.....	36
FIGURE 15. PRIVATE SECTOR AWARENESS OF SINGLE WINDOW FEATURES .....	38
FIGURE 16. BENEFITS OF BUSINESS PROCESS RE-ENGINEERING/REFORM.....	39
FIGURE 17. ADDITIONAL FEATURES NEEDED IN A SINGLE WINDOW .....	40
FIGURE 18. MAJOR BENEFITS OF USING THE SINGLE WINDOW AS A CROSS- BORDER TRANSACTION GATEWAY .....	41
FIGURE 19. PUBLIC SECTOR AWARENESS OF SINGLE WINDOW FEATURES .....	43
FIGURE 20. TRADE LICENSES AND PERMITS APPLICABLE TO THE SINGLE WINDOW .....	43
FIGURE 21. BENEFITS OF SINGLE WINDOW IMPLEMENTATION.....	44
FIGURE 22. PERCENTAGE OF SINGLE WINDOW CONNECTIVITY TO TRADE REGULATORY AGENCY SYSTEMS.....	45
FIGURE 23. SINGLE WINDOW DATA OPEN TO THE PUBLIC .....	46

## EXECUTIVE SUMMARY

Single Window (SW) generally refers to an electronic facility that allows parties involved in international trade and transport to submit all information needed to fulfil trade-related regulatory requirements at once and at a single-entry point. This digital trade facilitation measure aims at reducing the regulatory burden for traders when completing import, export and transit-related procedures. It has emerged more than a decade ago and has become a core component of trade facilitation reforms. The World Trade Organization (WTO) Trade Facilitation Agreement, which entered into force in February 2017, has dedicated provisions on SW.

The Asia-Pacific region is home to several world-class SW implementation cases, many of which have been operational for many years. Following a review of the implementation of SW in Asia and the Pacific, this study provides updated and detailed analysis of four “best practice” SW cases, which may be benchmarked by other SW implementers. Furthermore, the study also tries to identify user requirements in further advancing operation and services of SWs, based on analysis of a public and private sector stakeholders survey in the Republic of Korea.

Chapter 1 presents the overall implementation of SW in Asia and the Pacific. Of forty-six (46) countries examined in Asia and the Pacific, 10 ESCAP member States (31.61%) were found running fully or partially developed SW systems. About 60% of the SW in operations are public facilities funded through grants, while 40% are established as public-private partnerships and at least partly funded through by commercial entities. The existence of regional initiatives promoting SWs appear to have played an important role in building the necessary political support and policy environment for SW at the national level, as demonstrated in the case of the Association of Southeast Asian Nations (ASEAN) Single Window.

Chapter 2 analyses four selected best practice cases of Single Windows, namely the Hong Kong, China SW; the Japan SW, the Republic of Korea SW and the Singapore SW. The evolution of each SW in terms of institutional arrangement, funding sources and services offered, as well as implementation issues and challenges are reviewed, along with future development plans. Key features and characteristics of modern SW identified in the chapter include: Single entry and submission of information; Paperless environment; Standardized documents and data; Information sharing; Centralised risk management; Coordination of agencies and stakeholders; Analytical capability; and Electronic payment.

Based on the analysis of the best practice SW cases and the findings from a survey of SW stakeholders from both public and private sectors in the Republic of Korea in Chapter 3, a number of key recommendations emerge for SW implementers in the region, including: (1) Actively engage private sector in optimizing operation of SWs and to make them sustainable, (2) Make use of regional institutional mechanisms and initiatives to build political will and technical and legal capacity for SW, (3) Consider how the SW will integrate B2B services into its original B2G design, (4) Enable SWs to exchange and process cross-border trade data and documents, (5) Cooperate in the development of legal and technical solutions for cross-border paperless data exchange , and (6) Plan for continuous improvement in the operation and delivery of services through SWs.

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UNNExT experts, including Tahseen Khan, Marianne Wong, Muwasiq Noor and Somnuk Keretho, contributed to improving stakeholders survey questionnaire of the study and peer-reviewed the draft study. Editing was done by Robert Olivier. Cover was designed by Bongkojmanee Kohsuwan. Sukmin Jang and Praiya Prayongsap helped in finalizing and formatting the document.

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## ABBREVIATIONS AND ACRONYMS

ACCS	Air Cargo Clearance System
ACI	Advance Cargo Information
APEC	Asia Pacific Economic Cooperation
ASEAN	Association of Southeast Asian Nations
BPR	Business Process Re-engineering (or Reform)
B2B	business-to-business
B2G	business-to-government
CAREC	Central Asia Regional Economic Cooperation
CEDB	Commerce and Economic Development Bureau of the Government of Hong Kong, China.
CETS	Community Electronic Trading Services
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
EAEU	Eurasian Economic Union
EDI	Electronic Data Interchange
EMAN	voluntary Electronic System for Cargo Manifest
ESCAP	United Nations Economic and Social Commission for Asia and the Pacific
ETS	Community Electronic Trading Services
FAINS	Food Automated Import Notification and Inspection Network System
FAL Convention	Convention on Facilitation of International Maritime Traffic
GETS	Government Electronic Trading Services
HS	Harmonized System
ICT	Information and Communication Technology
ITOC	Integrated Targeting Operations Centre
KCS	Korea Customs Service
KITA	Korea International Trade Association
KTNET	Korea Trade Network Co. Ltd.
NACCS	Nippon Automated Cargo Clearance System
NACCS Center	Nippon Automated Cargo and Port Consolidated System, Inc
NSW(s)	National Single Window(s)
NTP	National Trade Platform
NTPPO	National Trade Platform Programme Office

OGAs	Other Government Agency(ies)
OGVs	Ocean-Going Vessels
PPP	public-private partnership
PSA	Port of Singapore Authority
ROCARS	Road Cargo System
SCCP	APEC Sub-Committee on Customs Procedure
SNS	Singapore Network Services (now CrimsonLogic)
SP	service provider
(e)SPS	(electronic) Sanitary and Phytosanitary Certificate
STDB	Singapore Trade Development Board
SW	Single Window
TEDI	Trade and Settlement EDI System
UN/CEFACT	United Nations Centre for Trade Facilitation and Electronic Business
UNCTAD	United Nations Conference on Trade and Development
UNECE	United Nations Economic Commission for Europe
UNNExT	United Nations Network of Experts for Paperless Trade and Transport in Asia and the Pacific
UNTDED	UN Trade Data Element Directory
VAN	Value-Added Network
VASPs	Value-Added Service Providers
WCO	World Customs Organization
WTO	World Trade Organization
XML	extensible Mark-up Language

## INTRODUCTION

Trade has been identified as a key means of implementation of the Sustainable Development Agenda 2030. In turn, trade facilitation, or the simplification and harmonization of trade procedures, has been recognized as essential to channelling trade and investment into sustainable development, expected to not only support boost economic growth but also reduce inequality and make it easier for all to engage in trade and participate in regional and global value chains (ESCAP, 2017).<sup>1</sup> The establishment of single windows to reduce the red tape associated with trade procedures is one of the most far reaching trade facilitation measures included in the WTO Trade Facilitation Agreement (TFA).

Article 10.4 of the WTO TFA specifies that “*Members shall endeavour to establish or maintain a single window, enabling traders to submit documentation and/or data requirements for importation, exportation, or transit of goods through a single entry point to the participating authorities or agencies. After the examination by the participating authorities or agencies of the documentation and/or data, the results shall be notified to the applicants through the single window in a timely manner. [...] Members shall, to the extent possible and practicable, use information technology to support the single window.*”

While the WTO TFA only entered into force in February 2017, the development of single window started well over two decades ago, particularly in Asia. United Nations Centre for Trade Facilitation and Electronic Business (UN/CEFACT) Recommendation No. 33 adopted in 2004, defines the Single Window (SW) as a “*facility that allows parties involved in trade and transport to lodge standardized trade-related information and/or documents to be submitted once at a single-entry point to fulfil all import, export, and transit-related regulatory requirements.*” and discusses a number of different models for implementation.<sup>2</sup> Much has been written since about Single Window (SW) implementation, with elaborate guides, as well as article and case studies issued by many organizations, including Asia Pacific Economic Cooperation (APEC), UNNExT and World Customs Organization (WCO).<sup>3</sup>

However, to date, implementation of SW remains a difficult and complex endeavour, and SW is one of the least implemented of all measures included in the WTO TFA (ESCAP, 2017b). This study contributes to the existing literature and guidance available on the efforts by (1) reviewing the state of play in SW implementation in Asia and the Pacific, (2) presenting updated best practice cases of SW in four leading economies of the region and how they have evolved over time, and (3) analysing results of a public and private sector stakeholder surveys on the SW in Republic of Korea

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<sup>1</sup> See Asia-Pacific Trade and Investment Report 2017, available from <http://www.unescap.org/publications/APTIR2017>

<sup>2</sup> It identifies the following three basic SW models: (a) A Single Authority that receives information, and disseminates this information to all relevant governmental authorities, and coordinates controls in the logistical chain; (b) A Single Automated System for the collection, dissemination and integration of information and data related to trade that crosses the border – which may be designed as a centralized (integrated) or decentralized (interfaced) system; (c) An automated information transaction system through which a trader can submit electronic trade declarations to the various authorities for processing and approval in a single application. In this approach, approvals are transmitted electronically from governmental authorities to the trader’s computer.

<sup>3</sup> See for example, UNNExT Single Window Implementation Toolkit for Trade Facilitation, available at <https://unnnext.unescap.org>. See also the UN/CEFACT Single window repository, the APEC SCCP Single Window Report (2010), as well as various UNNExT Policy Briefs (2010-15).

to identify additional functions, features and improvements that may be required in the future. The case studies and survey results in this study can be used to derive recommendations for single window implementers in developing countries.

## CHAPTER 1. SINGLE WINDOW IMPLEMENTATION IN ASIA AND THE PACIFIC

In this chapter, the SW implementation status of ESCAP member States in Asia and the Pacific is reviewed. The review covers 46 countries in five subregions – Central Asia, North-East Asia, South Asia, South-East Asia and the Pacific island countries (table 1). It includes a review of the SW policy and system development status, as well as an analysis of the SW operations model and budget sources for those countries for which the information was available. All information in this chapter is based on secondary data obtained from official websites or other recent SW studies and research reports, including the UN Global Survey on Trade Facilitation and Paperless Trade Implementation 2017.<sup>4</sup>

### 1. Status of Single Window policy and system development

Table 1 shows the SW policy implementation status and SW system implementation status of ESCAP member States. In this table, SW refers to an electronic SW system or national paperless trade system that can process electronic messages for administrative processes in international trade. The implementation of SW in each country is assessed based on the status of the SW policy set-up and SW system development. Policy set-up refers to whether there is an official policy-level commitment for building, operating and maintaining the SW. In turn, SW system development refers to the status of physical development of electronic SW system.

**Table 1. Single Window policy and system development status of ESCAP member States<sup>5</sup>**

REGION	MEMBER STATES	SINGLE WINDOW POLICY	ELECTRONIC SINGLE WINDOW SYSTEM DEVELOPMENT STATUS
SOUTH-EAST ASIA	Viet Nam	Implemented	Under development
	Myanmar	Implemented	Under development
	Philippines	Implemented	In preparation
	Cambodia	Implemented	In preparation
	Thailand	Implemented	Developed
	Singapore	Implemented	Developed
	Malaysia	Implemented	Developed
	Lao People's Democratic Republic	Implemented	Developed
	Indonesia	Implemented	Developed
	Brunei Darussalam	Implemented	Developed
SOUTH	Pakistan	Not confirmed	In preparation

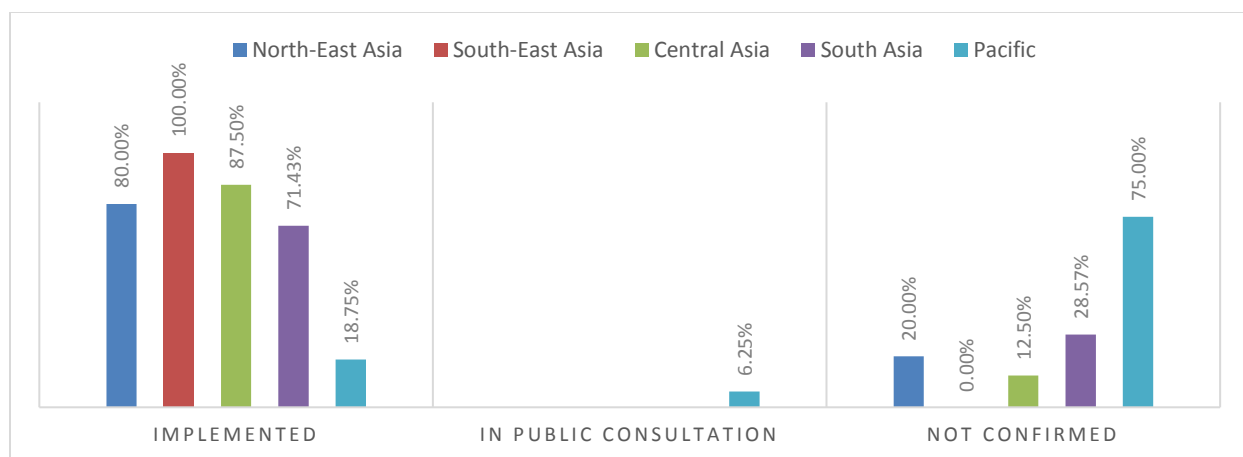
<sup>4</sup> Available at: <https://unnex.unescap.org/AP-TFSurvey2017/>

<sup>5</sup> The composition and names of the subregional groups slightly differ from those of ESCAP official subregional groups; Iran is included by the authors in South Asia and South-East Asia include ASEAN members only. The status of Single Window policy and development of Member states are based on various sources including the UN Global Survey on Trade Facilitation and Paperless Trade Implementation 2017 and internet links of relevant stakeholders in Appendix 1.

<b>ASIA</b>	Bangladesh	Implemented	In preparation	
	Nepal	Implemented	In preparation	
	India	Implemented	In preparation	
	Bhutan	Not confirmed	Not confirmed	
	Islamic Republic of Iran	Implemented	In preparation	
<b>PACIFIC</b>	Sri Lanka	Implemented	Developed	
	Vanuatu	Not confirmed	Not confirmed	
	Tuvalu	Not confirmed	Not confirmed	
	Tonga	Not confirmed	Not confirmed	
	Timor-Leste	Not confirmed	Not confirmed	
	Solomon Islands	Not confirmed	Not confirmed	
	Samoa	Not confirmed	Not confirmed	
	Papua New Guinea	Not confirmed	Not confirmed	
	Palau	Not confirmed	Not confirmed	
	Nauru	Not confirmed	Not confirmed	
	Micronesia (Federated States of)	Not confirmed	Not confirmed	
	Marshall Islands	Not confirmed	Not confirmed	
	Kiribati	Not confirmed	Not confirmed	
	Australia	In preparation (public consultation)	Not confirmed	
	Maldives	Implemented	In preparation	
	New Zealand	Implemented	developed	
	Fiji	Implemented	In preparation	
	<b>NORTH-EAST ASIA</b>	Democratic People's Republic of Korea	Not confirmed	Not confirmed
		China	Implemented	In preparation
		Republic of Korea	Implemented	Developed
Japan		Implemented	Developed	
Mongolia		Implemented	In preparation	
<b>CENTRAL ASIA</b>	Uzbekistan	Implemented	Under development	
	Tajikistan	Implemented	Under development	
	Kazakhstan	Implemented	Under development	
	Turkmenistan	Not confirmed	Not confirmed	
	Afghanistan	Implemented	In preparation	
	Kyrgyzstan	Implemented	Developed	
	Azerbaijan	Implemented	Developed	
	Armenia	Implemented	Developed	

Figure 1 illustrates the SW policy set-up status of ESCAP member States. According to the literature review, ESCAP member States in South-East Asia have fully implemented the SW policy followed by Central Asia (87.50%) and North-East Asia (80%). On the contrary, 75% of the Pacific Island member States and 28.75% of member States in South Asia have not yet adopted or implemented the SW policy officially. Australia is in the process of public consultation on the SW policy implementation and is expected to establish its SW in the short term. The high penetration rate of the SW policy implementation in South-East Asia and Central Asia is strongly associated with a collective subregional institutional approach to establish national SWs for inter-regional trade facilitation under the leadership of regional bodies, i.e., ASEAN, the Eurasian Economic Union (EAEU) or Central Asia Regional Economic Cooperation (CAREC); as well as, more recently, the adoption of the WTO Trade Facilitation Agreement.

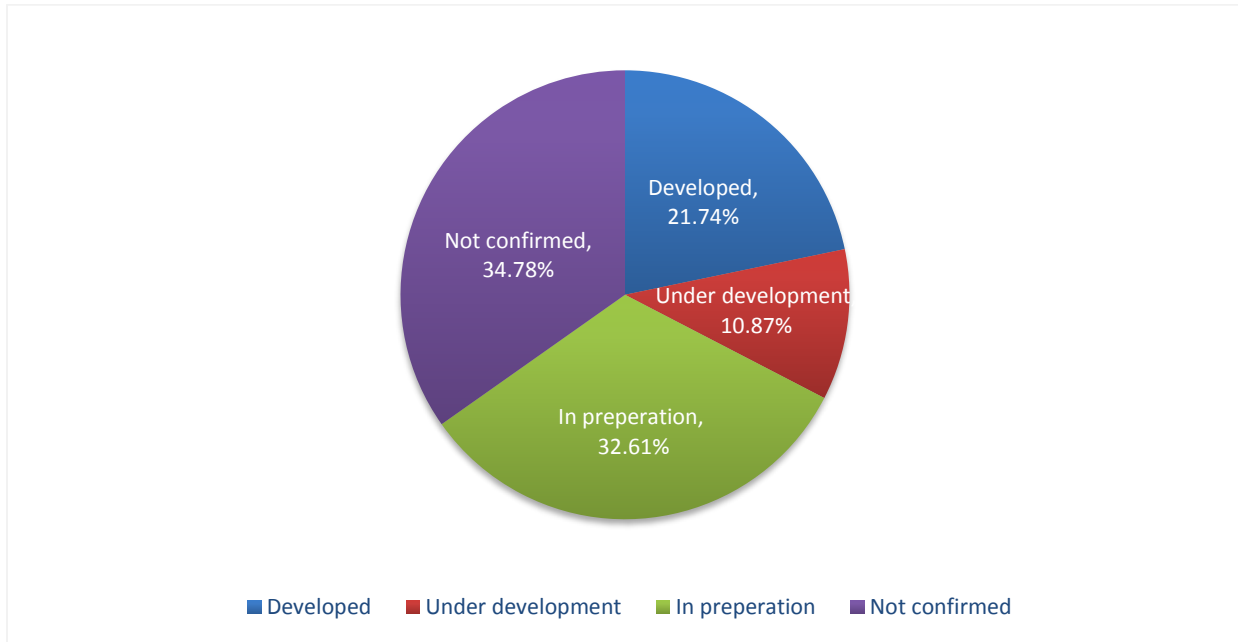
**Figure 1. Single Window policy set-up status in Asia and the Pacific**



The status of ESCAP member States in terms of SW system development is categorized into the following four stages (figure 2):

- (a) Developed. The SW system is fully or partially implemented, and the SW system is currently operational;
- (b) Under development. The SW system is being developed or is at the pilot stage;
- (c) In preparation. The SW system development is being planned or an agency(s) is (are) preparing to initiate development;
- (d) Not confirmed. There is either no concrete plan for SW system development or it is undergoing the consultation process.

**Figure 2. Single Window system development status in Asia and the Pacific**



Of 46 ESCAP member States studied, 10 member States (31.61%) are running fully or partially developed SW systems. In the case of advanced countries such as Japan, the Republic of Korea and Singapore, their SW was implemented earlier than in the other member States, and several upgrades of the system have been conducted.

Five member States, which comprise 10.87% of the total, are currently developing a SW system. They are either members of ASEAN or CAREC, and their subregional economic cooperation bodies have been pushing for a regional SW agenda for intra-regional trade facilitation.

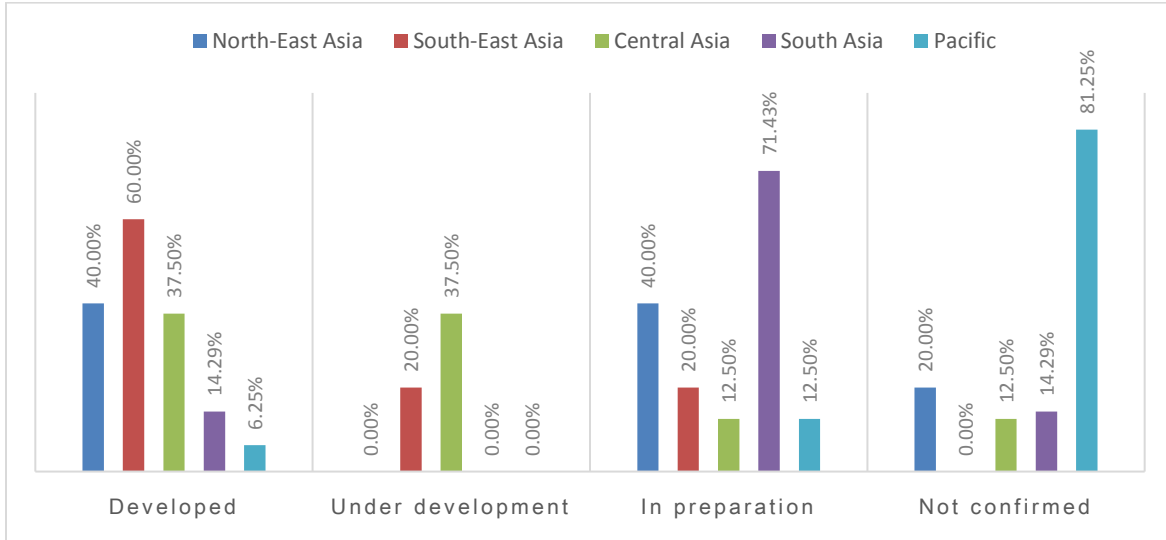
12 member States, which comprise 26.09% of the total, are at the preparation stage, which means they have established a concrete plan for SW system development that will be conducted within the scheduled timeframe.

However, 16 member States, comprising 34.78% of the total, have not yet established a concrete plan for the development of a SW system. Thirteen of them belong to the Pacific Island subregion; this result is probably due to their small-scale economies, and development may not justify the returns compared to the required investment.

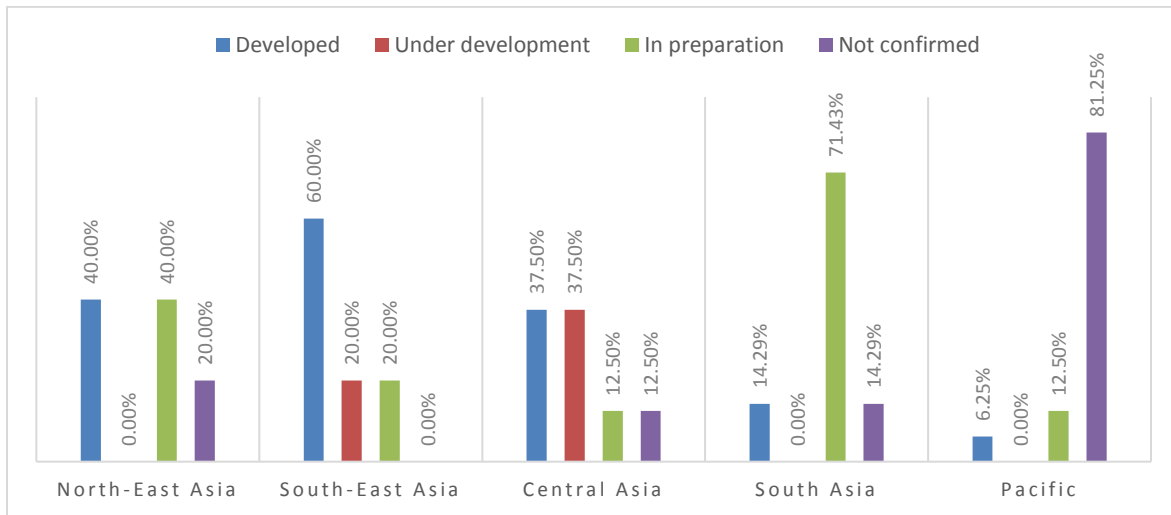
When comparing the status by stage, North-East Asia and South-East Asia show the highest rate in the “developed SW” stage, followed by Central Asia (figure 3). The Pacific Islands and South Asia have the highest rate in the “in preparation” and “not confirmed” stages. Figure 4 shows the implementation status by subregion.



**Figure 3. Single Window implementation status by stage**



**Figure 4. Single Window implementation status by subregion**



One of the major concerns of member States with regard to implementing and operating a SW is the identification of a sustainable operation model and a source of operation budget.

## 2. Single Window operations model and budget source

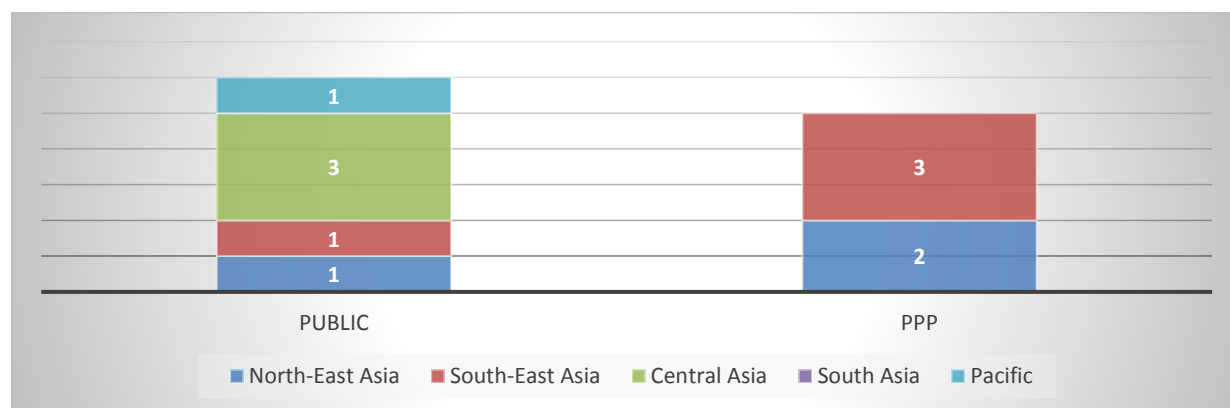
In this study, the SW operation models and budget sources of 10 member States are reviewed (table 2). In case of Korea, two national systems (UNIPASS and uTradeHub) are reviewed separately, due to the differences in their operation models.

**Table 2. Single Window operations model and budget source**

REGION	MEMBER STATE	OPERATION MODEL	MAIN OPERATION BODY	MAIN SOURCE OF OPERATION BUDGET
CENTRAL ASIA	Armenia	Public	Customs	Government grants
CENTRAL ASIA	Azerbaijan	Public	Customs	Government grants
CENTRAL ASIA	Kyrgyzstan	Public	Public company	Government grants
NORTH-EAST ASIA	Japan	PPP	Third party SP	Commercial
NORTH-EAST ASIA	Republic of Korea (UNIPASS)	Public	Customs	Government grant + Commercial
NORTH-EAST ASIA	Republic of Korea (uTradeHub)	PPP	Third party SP	Commercial
PACIFIC	New Zealand	Public	Customs	Government grants
SOUTH-EAST ASIA	Indonesia	Public	Public company	Government grants
SOUTH-EAST ASIA	Malaysia	PPP	Third party SP	Commercial
SOUTH-EAST ASIA	Singapore	PPP	Third party SP	Commercial
SOUTH-EAST ASIA	Thailand	PPP	Customs	Government grant + commercial

In public ICT infrastructure operations such as a SW, there are two basic operation models; public operation and public-private partnership (PPP). Figure 5 shows which SW operation models have been adopted by economies in the Asia-Pacific region.

**Figure 5. Single Window operation models**



Six member States have chosen the public operation model while five others have selected the PPP model. The member States that have adopted the PPP model are the region’s major economies – Japan, the Republic of Korea, Malaysia, Singapore and Thailand – and they have been operating an e-Customs and SW system for a long period. PPP is chosen partially because of preference to a Value-Added Network/Electronic Data Interchange (VAN/EDI) technology in the period, but also because of private sector’s competitive efficiency in the operation of the SW system and promotion of the SW services.

The source of the operation budget has been in line with the operation model (figure 6). While the SWs operated by Governments or government agencies rely on the central Government for their budget, most authorized SW operators have secured operational budgets from the commercial operation of the SW. Two exceptions are the Republic of Korea and Thailand, where the customs SWs are operated by the customs authorities with a government budget while the network connections and other value-added commercial services are provided by authorized third party service providers.

**Figure 6. Main sources of Single Window operations budget**

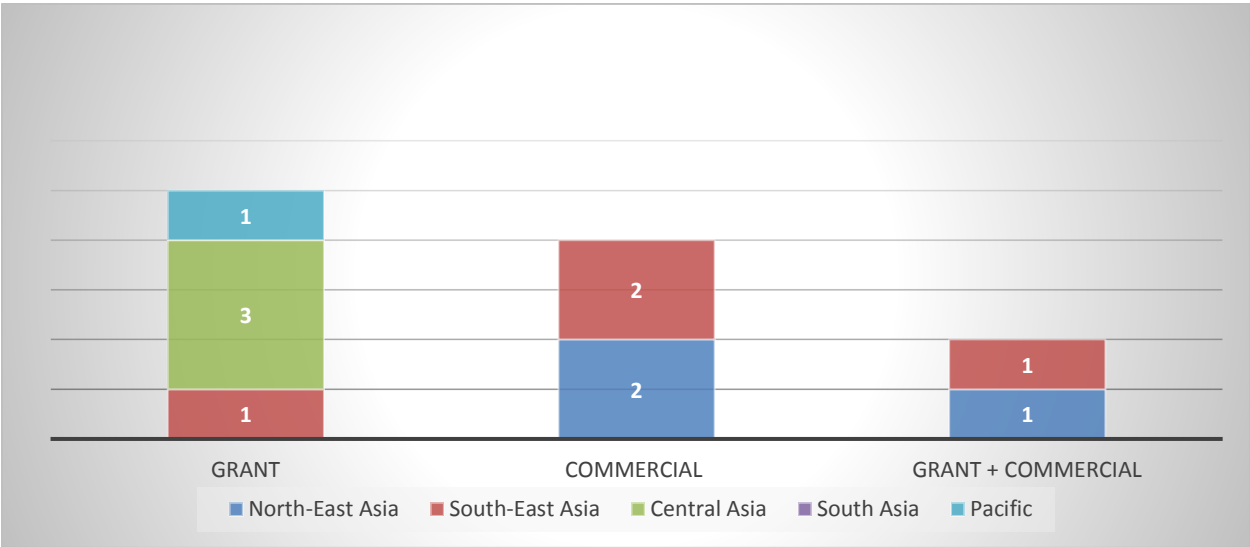


Table 3 shows how a private service provider creates revenue from a SW and value-added services. The service charging schemes are similar to each other but the fees vary, depending on the size of economy and services. Most pricing schemes of SW services are monitored or approved by the governing authority.

**Table 3. Service fees of Single Window/ Value-Added Network service providers (as of 2014)**

CATEGORY	NACCS	DAGANGNET	KTNET*	TRADELINK	CRIMSONLOGIC	TRADEVAN	
CUSTOMS	ID set-up	¥ 149,000	RM 1,400	Free	Free	Free	NT\$2,000
	Basic fee monthly, yearly	Nil	RM 180/M	KRW 10,000	HK\$ 468/Year	S\$ 20/ID	NT\$ 625/M (tel. line) NT\$ 5000/M (leased line)
	Transaction fee	¥ 5~ ¥ 625 /Trans.	RM 1.20/KB	KRW 330/KB	HK\$ 12.20/Trans.	S\$ 6.40/Trans	NT\$ 4.65 ~NT\$ 7.5/KB
	Minimum fee	RM180/M	No	No	HKS \$40/M		NT\$ 2,500/M
	Discount	N/A	No discount	Volume discount	N/A		Volume discount
LOGISTICS/MANIFEST	ID set-up	¥ 149,000	RM 1400	Free	Free	Free	
	Basic fee; monthly, yearly	-	RM 180/M	KRW 10,000	Free HK\$ 468/Year	No service	NT\$ 2,000 Ocean NT\$ 625/M (tel. line) NT\$ 5000/M (Leased line) Air NT\$ 5000/M
	Transaction fee	-	RM1.20/KB	KRW 250/KB	HK\$ 28.60/Trans.	No service	Ocean NT\$ 4.65~NT\$7.5 /KB Air NT\$ 5.4/master manifest (SITA*) NT\$ 4.5/master manifest (leased line)
	Discount	-	No discount	Volume discount			
CERTIFICATE OF ORIGIN	Transaction fee	No service	N/A	KRW 479/KB	HK \$15 (Tradelink) + HK \$95 (Government)	S\$ 0.20/Trans S\$ 0.20/page	HK\$ 15 (Tradelink) + HK\$ 95 (Government)
	Discount		N/A		N/A	No	N/A

\*SITA : Societe International de Telecommunication Aeronautiques

## **CHAPTER 2. BEST PRACTICES IN SINGLE WINDOW IMPLEMENTATION**

### **A. Analysis of best practice cases**

#### **1. Single Window of Singapore**

##### **(a) Development phase**

In 1986, a core team comprising representatives from relevant government agencies and interested parties from the private sector was formed to conceptualise a nationwide system for traders to submit trade declarations electronically to the regulatory authorities. Several working groups were formed to perform business process re-engineering, specify functional requirements and propose data standards. Trade procedures were streamlined and automated so that a single form could be used for all trade documentation requirements. Overseas study trips were also organized to review other countries' systems.

Prior to building any system, the Government of Singapore decided to streamline the processes involved in the regulatory framework of trade permit approvals to further strengthen the established trade hub status of Singapore and to improve the country's external trade.

##### **(b) Institutional arrangement**

The Singapore Trade Development Board (STDB) (now known as International Enterprise Singapore) was tasked with mobilising the trade community and acting as the coordinating point among the government agencies including the customs, port and civil aviation authorities. A steering committee was created to oversee the process. In 1986, a core team and several working groups, comprising representatives from relevant government authorities and private sector parties, were formed to support the re-engineering and improvement of the trade regulatory framework and processes. They were to conceptualize a nationwide SW for traders to submit trade declarations electronically to the government authorities as there was no other SW on which it could be modelled.

The then-Minister for Trade and Industry, Mr Lee Hsien Loong (now Prime Minister) chaired the review committees that were responsible for approving the plans and implementations.

In March 1988, a special-purpose agency called Singapore Network Services (SNS) (later renamed as CrimsonLogic) was formed to own and operate the pending system, dubbed as "TradeNet".

The first generation TradeNet (Koh, 2010) was implemented on 1 January 1989. To ensure its smooth implementation, a phased approach was adopted. First to be implemented was the electronic processing and approval of import and export permit applications for non-controlled and non-dutiable goods. The facility was later extended during the second phase to cover controlled and dutiable goods. Automatic inter-bank GIRO payment transfers facilitated deductions for duties and fees. Subsequently, application for Certificates of Origin was introduced in phases.

### (c) Funding for development, operation and enhancement

The direct capital cost of the first generation TradeNet totalled about S\$ 20 million. SNS (now CrimsonLogic) was capitalised from funds injected by its shareholders, which included STDB, the Port of Singapore Authority, the Civil Aviation Authority and Singapore Telecoms. These funds were used to develop the initial system. SNS was allowed to charge transaction fees to recoup the investment and operational costs. The revenue collected from processing fees is used to fund the operation, maintenance, regulatory enhancements and technology refreshing of TradeNet.

The second generation TradeNet was implemented in 2007. The agency that oversaw trade facilitation, i.e., Singapore Customs, adopted a public-private partnership (PPP) model for the revamp of TradeNet, and a new TradeXchange system. TradeXchange was conceived as a neutral and secure IT platform that facilitated the exchange of commercial and regulatory information for the trading and logistics communities. It was envisaged that it would enable value-added service providers to offer End-to-End application services to the trade and logistics community, such as supply chain management, trade documentation preparation, trade finance and insurance. TradeNet, a core application of TradeXchange, was revamped to enable it to provide a more streamlined and simplified trade declaration system and more value-added services for users.

In 2016, the third generation of TradeNet was announced, and this was to be developed into a comprehensive “National Trade Platform” (NTP), which is scheduled to be implemented from late 2017 onwards.

### (d) Service scope

The major services provided under TradeNet include services for the trading community, and customs and other government agencies.

#### (i) Services for the trading community

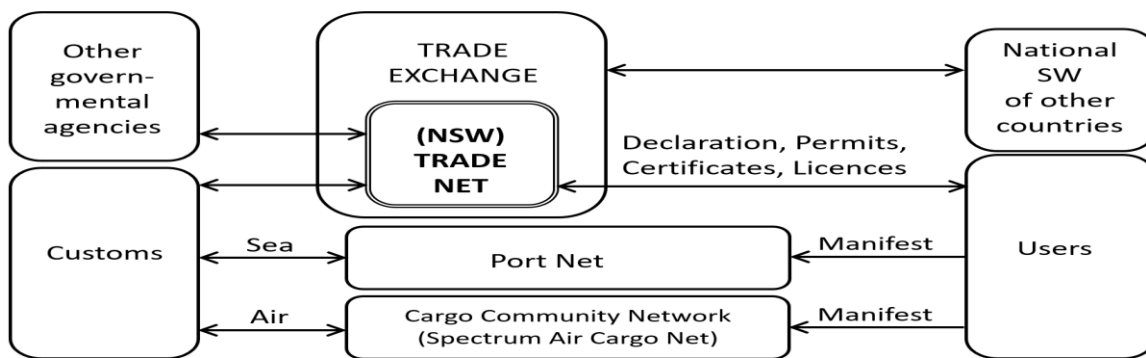
- User and company registration;
- Receipt and intelligent routing of user-submitted trade permit and certificate of origin applications from the TradeNet;
- Provision of front-end software to Singapore Customs and the controlling agencies for their processing activities;
- Syntax checks on the message structure;
- Code table validations of the received applications against the code tables (e.g., product codes, Harmonised System codes, etc.);
- Automated permit processing, based on the rules and criteria of Singapore Customs and the controlling agencies;
- Attaching supporting documents for permit declaration;
- Allowing users to submit permit amendments, cancellations or refund applications based on the permit;
- Self-printing of certified true copies of permits and downloading of permit information;
- Web enquiry facilities to allow checking of the status of their TradeNet permit applications;
- Enquiries and downloading of code tables (e.g., port codes, country codes, etc.);

- Automated billing and direct bank account debit facility on the statutory and processing fees incurred;
  - Support of a 24x7 Call Centre.
- (ii) Services for customs and other government agencies
- Automated and online processing, allowing manual intervention to consider, approve or reject some selected types of applications for permits and certificates of origin;
  - Online enquiries and downloading of TradeNet permit (customs declaration) and certificate of origin applications;
  - Online maintenance of the code tables (e.g., product codes, trader, licence, establishment codes, etc.);
  - Interconnectivity with the controlling agencies' in-house systems for file and reporting functions in order to transfer and upload their controlled permit information and databases (e.g., trader, declarant and licence information);
  - Generation of ad hoc and periodic statistics reports;
  - Extraction-cum-provision of interconnectivity with the user in-house system for transferring TradeNet permit information to port stakeholders;
  - Provision of interconnectivity for exchanging information between port terminal operators and Singapore Customs, e.g., data for manifest reconciliation.

(e) Issues and challenges

While TradeNet handles almost all documents that are required for the customs import and export procedures, such as declarations, various types of permits, certificates and licences, etc., it does not handle other transportation/cargo documents such as air and sea manifests. For sea manifests (e.g., detailed lists of loaded cargo), the data are submitted and handled by another system, PortNet, which is operated by the port operator, while air transport-related cargo documentation is handled by yet another system, Cargo Community Network, which is operated by a subsidiary of Singapore Airlines. The issue of having three community systems to handle cargo manifest and declaration and permit does not allow the optimised use of trade data submission and reuse. Figure 7 shows the whole structure of the various trade community systems operating in Singapore, together with their respective handling documents.

**Figure 7. Singapore's trade community system**



(f) Plan for next phase

To improve Singapore's competitiveness as the world's leading trade supply chain and trade financing hub, it was announced in 2016 that the Government of Singapore would develop a National Trade Platform (NTP). The NTP will support firms, particularly in the logistics and trade finance sectors, to improve supply chain visibility and efficiency.

The NTP is a one-stop, next-generation trade information management platform for supporting companies in the trade and logistics industry as well as adjacent sectors such as trade finance. Planned for implementation in late 2017, the NTP will replace the current TradeNet and TradeXchange systems.

## **2. Single Window of Hong Kong, China**

(a) Development phase

To promote trade efficiency and reduce the use of paper, the Government of Hong Kong, China introduced the Community Electronic Trading Services (CETS), which operated from 1997 to 2003 (Nam, 2002). This was a front-end electronic service for the trading community to submit certain trade-related, business-to-government documents to fulfil import and export regulatory requirements or enjoy trade facilitation.

(b) Institutional arrangement

CETS, being a front-end service, was run by a commercial service provider (SP) appointed by the Government of Hong Kong, China. The SP received the submissions from traders and carriers, verified their identities, validated the data and transmitted the information to the Government. The SP shall also accept paper submissions and convert them into electronic for forwarding to the government back-end system. From 1997 to 2003, there was only one SP – Tradelink Electronic Commerce Ltd. (Tradelink) in which the Government of Hong Kong, China then had a shareholding.

CETS was renamed as Government Electronic Trading Services (GETS) in 2004. To open up the market, the Government appointed one more SP, i.e., Global e-Trading Services Ltd (Global) alongside Tradelink, for a five-year period from 2004 to 2008. In a review in 2006, the Government decided to maintain the GETS business model that allowed multiple SPs, even after expiry of current contracts. Through a tender exercise, three SPs were appointed for the period between 2010 and 2016 – Tradelink, Global and Brio. Pro-competition measures were added to their contracts. The contracts were to expire in end 2016, but were extended recently.

(c) Funding for development, operation and enhancement

The modus operandi of the current GETS is based on the provision of services by the three appointed SPs. Essentially, GETS is operated by those commercial SPs appointed by the Government; the registration of GETS users is left to the SPs by the Government. The SPs own and operate the front-end systems from which the traders submit the various GETS documents.



The SPs generate revenue by charging users service fees. The levels of fees are subject to ceilings specified in their contracts with the Government. Traders may also need to pay fees to the Government if so required by the documents concerned. Such fees are collected by SPs on the Government's behalf.

The submissions handled by the SPs through the front-end systems are relayed to the Government back-end systems through two government gateways. These gateways verify the validity of digital certificates, check the integrity, syntax and completeness of messages and then pass the data to the respective departments' back-end computer systems, which perform a wide variety of functions, including compilation of trade statistics, customs clearance, import and export control, origin certification, etc. The back-end systems for the various GETS documents are owned/operated by the respective departments

#### (d) Service scope

GETS is a front-end electronic service to which it is mandatory for the trading community to submit the commonly used trade documents via the private sector SPs, including:

- Import and Export Trade Declaration;
- Certificate of Origin;
- Dutiable Commodities Permit;
- Cargo Manifest:
  - Statement One Cargo Manifest (sea mode) (upon demand);
  - Statement Two Cargo Manifest (air mode);
  - Statement Two Cargo Manifest (sea mode);
  - Voluntary Electronic System for Cargo Manifest Statement One Submission Scheme for Ocean Going Vessels.

The current scope provided by the SPs covers the conveyance of the electronic submissions from the trading community, registration of users, issuance of user IDs, conducting data validation and transmitting them to the government gateway, which are then relayed to the respective government back-end systems. In addition, the SPs operate service centres and provide paper-to-electronic conversion services. The SPs are also required to provide hotline and technical support services for their customers.

#### (e) Issues and challenges

At present, only the four documents mentioned above are covered by the current GETS. However, submission of a total of 51 trade documents to the Government is now required for the trading of goods into, out of and through Hong Kong, China. In addition to the four documents, advance cargo information (ACI) submissions of different forms as well as licences, permits and other documents are required for goods that are subject to specific controls or schemes.

Other various systems have been introduced over the years to facilitate meeting these other document requirements through electronic means. In addition to GETS, which was introduced in 1997, other electronic submission system such as the Air Cargo Clearance System (ACCS) and

Road Cargo System (ROCARS) have been implemented since 1998 and 2010 respectively. The ACCS is an electronic system for air cargo operators to submit electronic information on imported goods to the Government on a voluntary basis for customs clearance purposes, while the ROCARS is an electronic system for shippers to submit electronic ACI for road cargoes as required under the Electronic Cargo Information Regulation Act.

(f) Plan for next phase

In an effort to uphold the competitiveness of Hong Kong, China, the Government announced in 2016 a plan to set up a new generation SW to be a single platform for one-stop lodging of all B2G documents for all trade declaration and customs clearance purposes (Commerce and Economic Development Bureau, 2016). The new SW is expected to possess the technical capability to facilitate, if required in future, interfaces with B2B platforms operated by the private sector as well as connections with SWs of other economies.

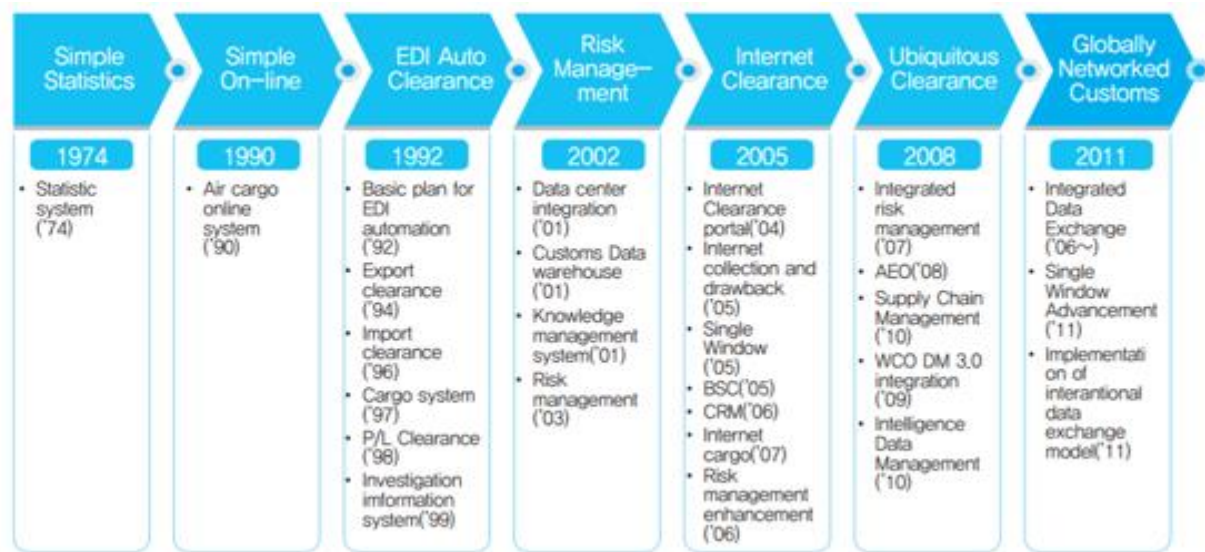
The SW will only provide basic functions. SW users may make submissions to the system direct, or via accredited commercial players who may serve as value-added service providers providing enhancement services. Notwithstanding the trend of paperless trading, there may be a need to continue paper conversion services for some users under the future SW. Such services for the trading community should generally be left to the value-added service providers.

### **3. Single Windows of Republic of Korea**

(a) Development phase

The first phase of the Republic of Korea's paperless trade was the setting up a legal and technical environment for EDI-based trade and customs automation (figure 8). In 1989, the Ministry of Commerce and Industry established an "Integrated Trade Automation Basic Plan" and a Task Force to implement the plan. The Task Force comprised representatives from the government and private sectors. On the Government's side, the Ministry of Commerce and Industry as well as the Ministry of Information and Technology participated. On the part of the private sector, the Korea International Trade Association (KITA) joined. The Task Force produced a draft Act on Trade Automation that included the operational scheme. In 1991, KITA established the Korea Trade Network Co. Ltd. (KTNET) and the Ministry of Commerce and Industry enacted the "Act on the Promotion of Trade Automation". In 1992, the Korea Customs Service (KCS) joined the initiative and established a "Six-year basic plan for EDI customs automation". Based on the Act, the Ministry of Commerce and Industry designated KTNET as a Trade Automation Business Operator. KCS awarded KTNET the responsibility for the customs automation system development and operation.

**Figure 8. Customs system development history**



Source: KCS, Customs White Book. 2011.

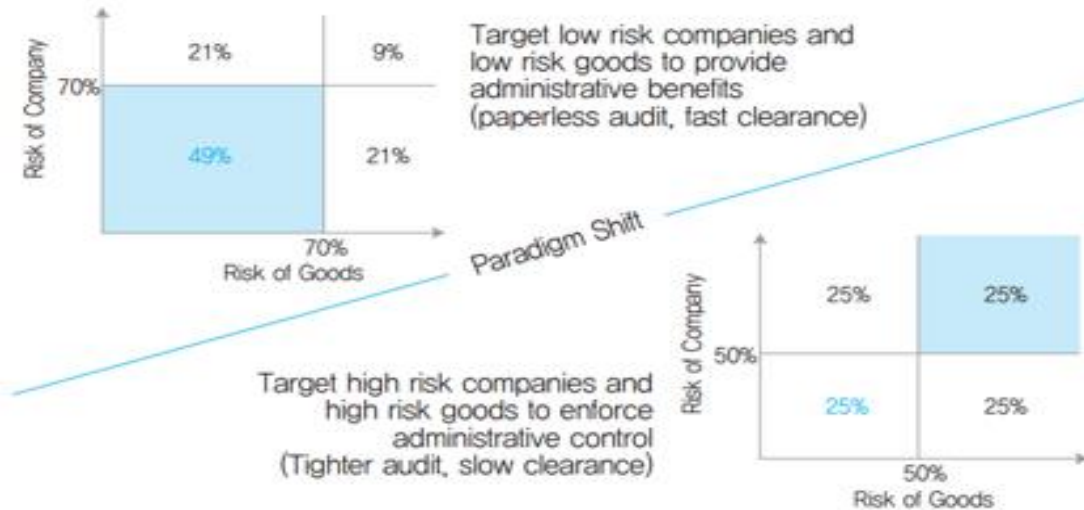
The second phase of the establishment of the Republic of Korea's paperless trade was to establish EDI-based trade and customs automation systems and services. In 1994, export and import permits and EDI export customs declaration services were introduced. In 1996, the EDI import declaration and manifest consolidation system was introduced. In 1997, the export cargo EDI system and customs duty drawback service was introduced, followed in 1998 by the import cargo EDI system. Through these EDI export and import systems, declaration time was reduced from four hours to five minutes, which saved up to US\$ 10 million per year. In 1999, the National Quarantine Agency and other major regulatory agencies' systems were connected to the customs system through KTNET and inspection results were transferred to the customs system in real time. Based on this connection, KCS launched a "paperless import declaration system". The KCS selected limited number of importers with high credibility for them to enjoy paperless import declaration service. In the beginning stage of that system, only 259 companies with high credibility were approved; however, the number of users increased to 12% out of 96,000 importers in 2000 and then to 80% out of 143, 000 importers in 2010 respectively.

In 1999, an Investigation Information System was developed, which later evolved into a risk management system. In the same year, KCS decided to outsource the operation of the customs system to the Samsung and KTNET consortium.

The third phase of the Republic of Korea's paperless trade system was the migration of the EDI-based system to an Internet-based paperless trade system in 2000. KTNET started a web-based foreign exchange EDI system in 2000, and in 2003 launched an Internet-based paperless trade portal that allowed users to submit export and import declarations, manifests and bonded transportation applications online, and to receive the results from customs and other OGAs. KCS also introduced an Internet-based customs declaration portal in 2005.

The fourth phase of the country's paperless trade system was the introduction of a Single Window and National Paperless Trade System. In 2003, under the "Three-Year Plan for e-Trade Promotion", a Korea Public-Private e-Trade Facilitation Center with six working groups was established. The Center comprised government agencies from the Ministry of Commerce, Industry and Energy, KCS and the Korea Financial Telecommunications and Clearings Institute and the private sector represented by KITA, KTNET and the Korea Federation of Banks. The Center initiated the establishment of a National Paperless Trade Platform (uTradeHub) in 2003 and launched it in 2006.

**Figure 9. Paradigm shift with the introduction of risk management**



Source: Development History of the Korea Customs Service and its Automation. Korea Development Institute (KDI), 2011

In the case of KCS, a risk management system was introduced and it changed the paradigm of clearance process (figure 9). In the past, green lane service was provided only to selected low-risk traders and goods. However, with the introduction of the risk management system, administrative control focused on high-risk companies and goods, which resulted in a great improvement in clearance performance. In 2006, KCS officially announced the launch of a SW with the new name of UNIPASS (figure 10). UNIPASS is a web-based customs clearance portal where traders and customs brokers can conduct customs clearance business free of charge. UNIPASS then started to interface with other regulatory agencies' systems.

**Figure 10. Internet-based customs Single Window in the Republic of Korea**



Source: KCS UNIPASS manual.

The fifth phase of the Republic of Korea’s paperless trade began in 2016. KCS has launched its fourth-generation Customs System in April 2016. About 150 million dollars were spent to develop the new system since 2013. This new UNIPASS has special features compared to the third-generation Customs System. Major enhancements are:

- A streamlined business process;
- Convenient user-centric interfaces;
- New mobile technology and big data analysis;
- Adoption of the WCO Data Model and the Government of Korea’s ICT standards;
- Implementation of an Early Warning and Control System for system and service monitoring.

(b) Institutional arrangement

In the initial development of the paperless trade system based on the EDI system, the Ministry of Commerce and Industry, KCS and KITA played a key role by establishing the legislation environment.

In 2003, the Ministry of Commerce, Industry and Energy established the National e-Trade Committee, chaired by the Prime Minister, which collaborated with the Private e-Trade Committee led by KITA. These two committees established the Korea Public-Private e-Trade Facilitation Center with six working groups. The Ministry of Commerce, Industry and Energy, KCS, Korea Financial Telecommunications and Clearings Institute, KITA, KTNET and the Korea Federation of Banks have participated in the operation of the Center.

(c) Funding for development, operation and enhancement

The basic funding of the Republic of Korea’s paperless trade is through a PPP scheme. Initial funding for the paperless trade platform came from a government grant, while the operation, management and expansion of the systems and services were awarded to a private operator.

In 1991, the fund for the establishment of the EDI-based paperless trade system was granted by the Ministry of Commerce and Industry to KITA. Initially, about US\$ 40 million was funded for the basic infrastructure and system development and, later, in 2004 an additional US\$ 20 million was granted. With this fund, KITA established KTNET, which has developed a trade and customs EDI system and commercial value-added services.

In 2003, with the ‘Three-Year Plan for the National e-Trade Promotion’, the Ministry of Commerce, Industry and Energy again provided funding of US\$ 30 million for the development of internet based National e-Trade platform and designated KTNET to operate the platform in 2007. Ever since the transfer, KTNET has been operating and enhancing the system and services of the platform.

In 2006, KCS implemented an Internet-based Single Window system (UNIPASS) with its own budget and opened a free online customs declaration service for traders and customs brokers. However, KCS designated KTNET and KCNET to operate commercial customs network services, including customs clearance, manifest submissions, and consolidation and customs duty draw-back. This has been the main policy of KCS regarding the value-added services over the customs network. The latest customs system was opened in 2016, after completing implementation with a total investment of about US\$ 150 million.

#### (d) Scope of service

UNIPASS is one of the most advanced customs systems and provides all customs-related services, including:

- Cargo management;
- Surveillance and tourism;
- Duty payment;
- Import, export and courier clearance;
- Duty draw-back;
- FTA-related services including the preferential Certificate of Origin;
- Interfacing with other regulatory control services, including quarantine;
- Investigation, audit and Authorized Economic Operator;
- HS code analysis.

The uTradeHub paperless trade portal is where traders can conduct all trade-related procedures ranging from marketing, customs clearance to settlement:

- Trader directory service;
- Licensing, certification and preferential and non-preferential Certificates of Origin;
- Trade financing and insurance;
- Trade and customs logistics, including manifest and bonded transportation;
- Customs export and import clearance and duty draw-back;
- Electronic Letter of Credit, Electronic Bill of Lading and trade settlement;
- Electronic Purchase Certificate;

- Accredited National Certificate Authority and Certified Electronic Document Authority services.

(e) Issues and challenges

Currently, UNIPASS and uTradeHub are providing a paperless trade environment covering all trade procedures. However, there is no strong institutional arrangement for harmonization and coordination of these two gigantic national platforms. In the past, the National e-Trade Committee played the role of coordinator as it was led by the Prime Minister, but the Committee is no longer active. The absence of a national trade facilitation body may lead to the conflict between the two platforms as well as waste of budget and resources through duplication of activities. For the optimised use of trade data submission and reuse, a coordination mechanism is needed by both platforms.

Korea has been leading cross-border paperless trade initiatives in close cooperation with neighbouring countries and economies. The e-CO exchange with Taiwan Province of China and preferential CO data exchange with China are well known successful cross-border paperless trade cases. However, such bilateral arrangement may not be compatible with other arrangements and it may end up with a stock of arrangements that are hard to manage<sup>6</sup>. Since every economy needs to engage in trade transactions with other economies, a bilateral approach may end up with a stock of arrangements that are hard to manage. In addition, there is no guarantee that each bilateral arrangement will be compatible one another, since different economies may demand different specificities in the provisions.

(f) Plan for next phase

In 2017, the Ministry of Trade, Industry and Energy launched its new plan for upgrading the national paperless trade platform – the uTradeHub. The details of the plan have not yet been released, but the new system will be adapting a concept of a platform with open innovation and features for cross-border e-commerce. Open innovation means that the new platform will be open to third parties that could put value-added services to this platform. In addition, e-marketplaces could utilize the new platform for better logistics, customs clearance and other trade-related services.

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<sup>6</sup> Sung Heun Ha and Sang Won Lim (2014). The progress of paperless trade in Asia and the Pacific: enabling international Supply chain integration. ADB Working paper Series on regional economic integration

## 4. Single Window of Japan

### (a) Development phase

Japan's SW, called NACCS (Nippon Automated Cargo and Port Consolidated System, Inc.), is managed by Nippon Automated Cargo and Port Consolidated System, Inc. (NACCS Center). NACCS is the computer system for online processing of regulatory procedures of customs and related administration as well as related private sector services for arriving and departing ships and aircraft or import and export cargo in Japan.

The Special Act of Customs Procedure through the Electronic Data Processing System (The NACCS Special Rules ACT) was enacted in 1977, and customs procedures such as import/export declarations could be processed electronically without submitting paper documents. Then, in 1978, Japan introduced NACCS (Nippon Automated Cargo Clearance System), which has evolved into the Japa SW system. In 2008, the Law for processing etc. of import/export and port-related procedures through the Electronic Data Processing System was amended. Computerization of all related administrative procedures was achieved in 1997. After completion of the computerization, the effort shifted to building an interface among the relevant systems for interoperability. In February 1997, NACCS was interfaced with the Food Automated Import Notification and Inspection Network System (FAINS) operated by the then Ministry of Health and Welfare (now the Ministry of Health, Labour and Welfare).

NACCS started its operation in 1978 as Air-NACCS at Narita International Airport, covering air cargo import declarations; it is among clearance systems introduced very early compared to other countries. The coverage of Air-NACCS was expanded later to export declarations and aircraft arrival/departure notifications, and then extended to other airports throughout Japan. The Sea-NACCS was introduced in 1991 in the Tokyo-Yokohama port area. It was upgraded in 1999 and its services were expanded to include almost all customs procedures. Its service area was also expanded to seaports all over the country. The Port EDI system of the Ministry of Land, Infrastructure, Transport and Tourism was integrated into the Sea-NACCS in October 2008.

The Shiokawa initiative for the reform of international logistics was proposed on 28 August 2001 by the Finance Ministry, including incorporating the existing NACCS and other computerized trade-related administrative procedure systems into a comprehensive computer interface system that would enable a single submission of all trade-related documents. Based on the proposal, in July 2003 NACCS was interfaced with Port EDI operated by the Ministry of Land, Infrastructure, Transport and Tourism, which handled port procedures, and with the Crew Landing Permit Support System operated by the Ministry of Justice, which handled immigration procedures. In addition, the linkage among NACCS and the relevant systems were upgraded to a comprehensive computer interface system (figure 11).

In November 2005, taking the opportunity of the legislation process to conclude and approve the Convention on Facilitation of International Maritime Traffic, 1965 (FAL Convention), 16 forms and 600 terms among the relevant Ministries were reduced to eight forms and 200 terms. The five forms of the General Declaration for port entry procedures of four Ministries were integrated into a single form. This facilitated the reuse of inputted information and promoted streamlining of

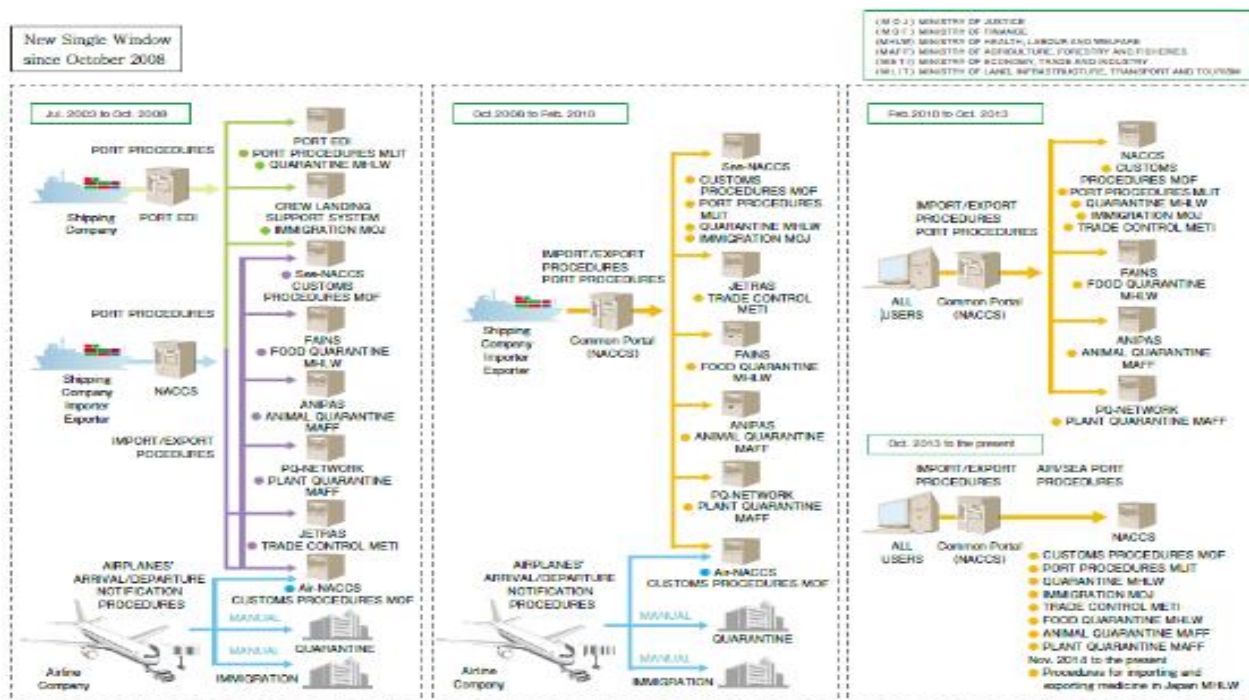


users' businesses. The Liaison Conference of the Chief Information Officer of the Government adopted the "Plan to Optimize Businesses and Computer Systems Related to Import/ Export, Port and Airport Procedures" in December 2005. The Plan proposed a policy for upgrading the SW to a "Next Generation SW".

Furthermore, the "Asian Gateway Initiative – Programme for Streamlining Trade Measures" was prepared in May 2007 (Sawafuji, 2011) and endorsed by the Prime Minister for reform of customs clearance and other relevant procedures and the enhancement of the logistics capacity for international trade, which included a review of the Next Generation SW. The main components of the Next Generation SW are the: (a) integration of SW functions between NACCS and Port EDI; (b) establishment of a SW Service for airport procedures; and (c) establishment of the Common Portal to secure more user-friendly services and efficient single access.

Following the proposal, together with the upgrading of Sea-NACCS in October 2008, the Port EDI and Crew Landing Permit Support System were integrated into the NACCS system. The Common Portal was also put into operation in 2008. Subsequently, together with the upgrading of Air-NACCS in February 2010, the Air-NACCS and the Sea-NACCS were integrated into one single NACCS. The Japan Electronic open network TRAdE control System (JETRAS) of the Ministry of Economy, Trade and Industry, which performs trade control procedures, was also integrated into NACCS in 2010. The Common Portal and FAINS, managed by the Ministry of Health, Labor and Welfare as well as PQ-NETWORK and the Animal Quarantine Inspection Procedure Automated System (ANIPAS), managed by the Ministry of Agriculture, Forestry and Fisheries, were integrated into the NACCS system in 2013, resulting in the completion of the integration of relevant systems with the NACCS system.

**Figure 11. Recent developments of the NACCS system**



Source: Sawafuji (2011).

## (b) Institutional arrangements

In order to coordinate all the governmental policies on single window service establishment, a “Liaison Conference on NACCS among the Ministries related to Import/Export and Port” was launched, with membership composition at the level of responsible directors of each Ministry. In addition, several working-level conferences were set up to jointly consider more detailed issues among the Ministries. In establishing coordination among the Ministries, the role of the Ministry of Finance – which is the Head Office of Japan’s Customs Administration and supervises the NACCS Center – has played the most important role.

The introduction of the SW in 2001 and the subsequent review of port procedures together with implementation of the FAL Convention, resulted in strong demand by many economic organizations (e.g., the Japan Federation of Economic Organization – currently Nippon Keidanren), which compelled the Government of Japan to take action. In order to design a SW integrating the viewpoints of private sector users, the Government of Japan held conferences for joint consideration both by the private and governmental sectors. The Ministry of Finance organized the “Public-Private Forum of Next Generation SW” for this purpose. In addition, relevant Ministries and the NACCS Center received demands from the private sector for the introduction and/or changes of some functions related to the SW.

Both the private and various government sectors were involved as NACCS and SW service users. Coordination among stakeholders – so-called stakeholder management – has been crucial in determining the specifications of system. For this purpose, the NACCS Center organized and joined various forums for the consideration of NACCS and SW services. Working groups were set up with participation by representatives of the private sector to review the requirements, starting from the initial stage and finally to formulate the detailed specifications of systems.

In accordance with the Optimization Plan for the import/export and port-related service procedures, which went public in March 2006, the Government of Japan utilized inter-agency coordination to develop the necessary schemes such as integration of the relevant administrative systems for border services. The objectives were to achieve higher cost-effectiveness in operating such facilities as well as enhancement of convenience for users. Currently, the participating ministries in NACCS include the:

- Ministry of Economy, Trade and Industry;
- Ministry of Agriculture, Forestry and Fisheries;
- Ministry of Health, Labour and Welfare;
- Ministry of Finance;
- Ministry of Justice;
- Ministry of Land, Infrastructure, Transport and Tourism.

## (c) Funding for development, operation and enhancement

The costs involved in setting up, maintaining, integrating and upgrading the NACCS system were met by the relevant Ministries, with the majority of the costs being borne by the Ministry of

Finance. The NACCS system is operated and steered by the NACCS Center, the ownership of which is held by the Government as the sole shareholder.

The NACCS Center was originally established under the name "Nippon Automated Cargo Clearance System Operations Organization" jointly by the public and private sectors as an authorized corporation in October 1977, before becoming an incorporated administrative agency in October 2003. In December 2007, the Cabinet adopted the "Reorganization and Rationalization Plan for Special Public Institutions", which included the plan to privatize NACCS as a corporation based on a specific law. With the privatization, NACCS was expected to increase the efficiency of international logistics and to enhance the competitiveness of Japan's ports and airports by (a) taking such measures as streamlining its operations through the improved corporate management and (b) providing better services to users by enlarging its scope of business. Subsequently, Nippon Automated Cargo and Port Consolidated System, Inc. began operating the NACCS Center on 1 October 2008, based on the "Act for Partial Revision of the Act on Special Provisions for Customs Procedure by Means of Electronic Data Processing System" (Act No. 46 of 2008).

For the operation and maintenance of the system, the NACCS Center receives the following service fees from its users:

- Government (Customs) pays a fixed price for NACCS
- NACCS users pay a user fee for every transaction:
  - Import declarations;
  - Export declarations;
  - Port entry;
  - Manifest (per one bill of lading);
  - Shipping instructions.

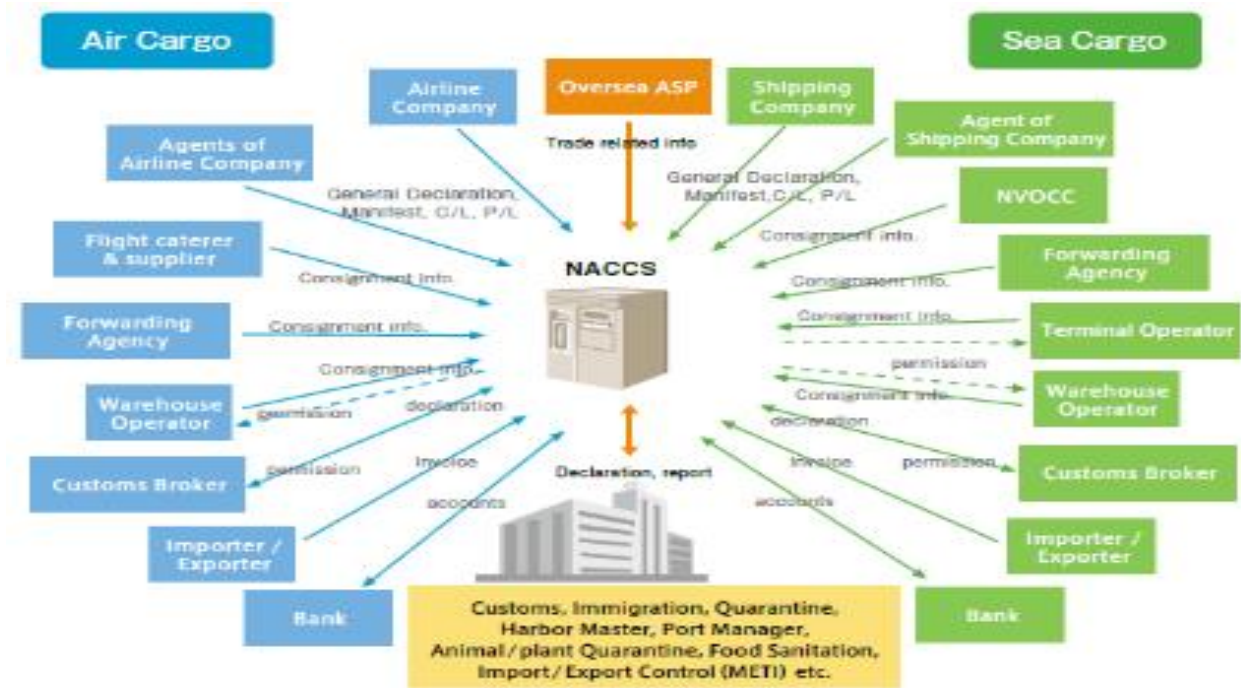
However, some services, such as the Advance Filing Rule, are provided free of charge.

#### (d) Service scope

Approximately 98% of import and export declarations are processed electronically through NACCS, which also provides automatic foreign exchange adjustment, calculation of duties and electronic funds transfer in import declarations. Compared with manual processing without using the system, NACCS has significantly reduced the overall time for customs clearance and other related procedures (figure 12), including:

- Vessel clearance;
- Landing permission;
- Customs procedures;
- Trade control;
- Animal quarantine;
- Plant quarantine;
- Food quarantine.

Figure 12. NACCS network and services



Source: Sawafuji (2011).

(e) Issues and challenges

In Japan, private sector users are not obligated by law to utilize NACCS and SW services for trade and logistics procedures. In other words, the users still have the option of making a manual submission/declaration.

Regarding the government-owned stock (10,000 shares) of the Nippon Automated Cargo and Port Consolidated System, Inc. (NACCS Center), the operator of the NACCS system, the NACCS Law (Act on Processing etc. of Business Related to Import and Export by Means of Electronic Data Processing System) stipulates that the Government must sell the company's stocks other than those which the Government is obliged to hold (more than one-half of all the issued stock to secure the majority of the voting rights) as quickly as possible. Accordingly, the Government sold approximately one-half of the total issued stock (4,999 shares) through general competitive bidding in March 2016. Because of this sale to private entities, it is expected that the NACCS Center is further streamlined in its management and improves the convenience of the NACCS system for its users.

(f) Plan for the next phase

Since its launch, NACCS has been periodically updated once every eight years or so, systematically resulting in enhanced quality and performance. The sixth generation NACCS has been implemented and opened in October 2017.

## **B. Important features of Single Window systems**

The key features/characteristics of a SW as proposed by the United Nations and the World Customs Organization (WCO) are further examined in this chapter. In general, a SW aims at expediting and simplifying information flows between traders and government authorities, and at bringing meaningful gains to all parties involved in international trade.

Thus, a SW has been described as simply a system, or an environment that enables individuals, businesses and government organizations to submit information to, or through, a single point of access, normally electronic. Based on these definitions as well as analysis of regional best practice cases, the following key features/characteristics of a SW can be drawn:

- Single entry;
- Single submission;
- Paperless environment;
- Standardized documents and data;
- Sharing of information (information dissemination);
- Centralised risk management;
- Coordination of agencies and stakeholders;
- Analytical capability; and
- Electronic payment.

Of these features/characteristics, three are the common denominators of a typical SW implementation: single entry, standardized documents and data, and sharing of information. The remaining features/characteristics are less common because they require greater implementation effort and intergovernmental cooperation. Thus, most, if not all, of these features/characteristics are found in more advanced SW economies such as Japan, the Republic of Korea and Singapore. Each of the key features/characteristics are discussed further in the following sections.

### **1. Single entry**

This feature implies one single point of access or “one-stop shop”. The single entry feature, supplemented by the single submission feature, denotes the fact that traders’ data submissions need to be made once, not separately to each government agency. A SW system does not only offer a single point of access to each of the various government agencies’ back-end IT systems; it often offers a set of shared services and exhibits an intelligence that differentiates it from data switches and gateways. Examples of shared services may include orchestration of inter-agency business processes that are exposed as a single business service to users. A SW undertakes onward distribution of the relevant documentation and/or data requirements to the participating authorities or agencies. After examination of the documentation and/or data by the relevant authorities or agencies, the results are notified to the applicants through a SW.

The concept of the single entry of a SW is the most common denominator and implementation across all SW implementations throughout the world. Where there are exceptions, these are usually rival implementations by two government agencies (e.g., Customs Authority versus Ministry of

Commerce) – in which case their respective implementations cannot be deemed as a SW, and are therefore usually doomed to failure because the advantages of a SW were not realized.

## 2. Single submission

This feature implies a one-time submission of data and relevant information to customs and other government agencies through a single-entry point. As described above, this feature implies that the traders need submit their data only once through a single-entry point. After submission, the data are available to any authorized user or to other government agencies that require them in order to carry out their procedures.

However, the one-time submission feature does not refer to a single transmission as the data can be transmitted multiple times, allowing traders to incrementally submit data. Thus, the feature of single submission should be implemented on the basis of incremental submission of data and reusability of data.

Incremental submission of data is required in order to accommodate a shift or progression in the transaction processes. Reusability of data refers to the fact that the submitted data can be reused by the other government agencies if required. Single submission should be considered being implemented in SWs, if incremental submission of data and re-use are supported.

An example of a SW that exhibits the single submission is Singapore's TradeNet, whereby the customs declaration is combined with permit application. Thus, most of the data need only to be submitted once, and are shared and reused across the regulatory government agencies that process and approve the declaration as well as the permit application at the same time.

The key to the success of a SW is the ability to re-use data across multiple functions in the same SW portal. The reduction of up to 10 multiple entries to just one by using the system also means minimizing data errors, a predominant cause of delays in getting documentation approvals or shipping timeliness. Studies show that reduction of data duplication through Singapore's trade system contributed to a further savings of S\$ 80 million in 2002<sup>7</sup>.

## 3. Paperless environment

The ultimate goal of the SW concept is to move from paper-based systems to paperless environments where required information is inserted, maintained and shared in an electronic form. Essential part of creating paperless environment is identification of the documents/forms/licences and data required in trade processes and their harmonization and standardization. All national SWs implement some aspects of this characteristic.

One example of a paperless environment is the Singapore's TradeNet, whereby the application, processing, and issuance of trade permits/licences as well as Certificates of Origin are entirely electronic. When the importing countries require a paper permit or Certificates of Origin, they will be made available.

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<sup>7</sup> Singapore, "Pioneering e-Trade: Singapore's Experience", Paper submitted by Singapore to APEC Committee on Trade and Investment (CTI), Khon Kaen, Thailand, 25-26 May 2003.

Another example of an advanced economy that promotes a paperless environment is the Republic of Korea through its trade platform, uTradeHub. Making most of the trade documents paperless – for example, permits/licences and letters of credit – has been found to provide tremendous advantages, including:

- Less time to complete export/import process by issuing and circulating documents through the EDI and XML-based electronic system;
- Guaranteed security of electronic documents in the uTradeHub through the u-Trade Document Repository for saving and managing documents, and through the certificate system for proof of identify;
- A more transparent process for handling documents.

The paperless environment enabled by the uTradeHub platform is estimated to bring annual economic benefits of around US\$ 3 billion<sup>8</sup>. First, the electronic export/import process can save an estimated US\$ 550 million by reducing labour costs and the cost of issuing and circulating documents. Second, an estimated US\$ 2.1 billion is saved by reducing the costs of warehousing and inventory management. Finally, an estimated cost cutting of US\$ 320 million is realised from the reduction of redundant investment in IT sector (Table 4).

**Table 4. Estimated economic benefits of paperless trade in the Republic of Korea**

SECTOR	CONTENTS	AMOUNT
<b>PRODUCTIVITY INCREASE</b>	Labour costs	US\$ 263.3 million
	Printing costs	US\$ 19.1 million
	Circulation and storage costs	US\$ 271.9 million
<b>REDUCTION OF EXTRA FEES</b>	Warehousing costs	US\$ 1.36 billion
	Inventory management costs	US\$ 750 million
<b>ADDITIONAL BENEFITS</b>	Redundant investment in IT sector	US\$ 318 million
<b>TOTAL</b>		US\$ 2.982 billion

#### 4. Standardized documents and data

Standardizing the information contained in the data flows is an important step in the development of a SW, as it is the key point linking the different agencies as well as the different countries (i.e., achieving cross-border management).

The success of a SW project depends heavily on the ability to exchange messages in a format that the systems on both sides (trading community and the Government) can understand and manage, i.e., semantic interoperability. This implies a common data reference model that will be the logical model of the information used in cross-border trade. This common data model will be the cross-border data reference model and will serve as the basis of the specifications regarding electronic documents. In order to identify the elements of such a data reference model, part of the SW

<sup>8</sup> Hyundai Research Institute (2009). Research Report on Analysis of Economic Effects of Trade Automation

implementation requires the analysis of data models used by various systems as well as the documents (both paperless and paper-based).

The process discussed above is also known as “data harmonization”, which is defined as the “act of reconciling the definition and representation formats of data elements” ESCAP (2012) within the SW environment. Through data harmonization, a set of core data elements (expressed using different terminologies but with identical meaning) can be extracted. A description of each core data element, inclusive of its definition and representation format, can then be formalized. The goal of data harmonization is to eliminate redundancies, duplications and ambiguity in data, culminating in a set of standardized data requirements and standardized messages. The outcome of data simplification is the definition of the national requirements, the mapping of these document requirements to international standards and the simplification of the data requirements across documents through comparison of the trade requirements with international standards (e.g., WCO Data Model, UN/CEFACT Core Component Library). The outcome of document harmonization is the alignment of documents with international standards, the usage of international accepted codes for trade data, and a reduction in the number of documents.

Many international standards have been proposed such as the United Nations Trade Data Element Directory (UNTDDED), WCO Data Model and Core Components. Thus, an important aspect of a SW is data harmonization and the enforcement of a shared master data model that is composed of harmonized and standardized data sets. This characteristic is essential in any SW implementation and must be implemented, i.e., harmonized in order to facilitate the single submission characteristic.

One good example of SW implementation that resulted in a reduction in the number of documents is Singapore, whereby a total of 20-plus documents have been simplified and harmonized into one electronic form (eForm).

##### 5. Sharing of information (information dissemination)

Important information (e.g., customs declarations, permits and certificates) is maintained in electronic format and shared with the appropriate partner or agency whenever it is required. In order to achieve this objective, not only is the standardization of information required; the appropriate interfaces and message exchange should also be defined in order to align the IT systems of the involved parties. This sharing of information is protected by a legal framework that provides privacy, confidentiality and security in the exchange of information. This characteristic is ideal and will help in realizing the full potential benefits of a SW.

In many SW implementations, not all applications are processed within the SW, because of other pre-existing systems of trade related agencies. In such cases, while a SW may receive an indication of the approval of the application, the full electronic information is not necessarily shared. However, the sharing of data among agencies and other authorized stakeholder through the SW can contribute to more effective and efficient controls and cargo clearance at the border.



## 6. Centralised risk management

An important part of a SW is the centralised risk management system, which helps the border control authorities to intelligently focus their scrutiny on those shipments and consignments that raise automatic alerts. While customs authorities are generally familiar with, and have applied risk management, targeting and selectivity techniques for scrutinising all cargo at the border, the other government agencies may lack the expertise or experience in applying risk management techniques.

An effective whole-of-government risk management system can reduce the proportion of physical inspections to a small percentage of total consignments, thus providing efficiency, economy and time saving to traders and government authorities. A notable example of this system is the New Zealand customs risk assessment implementation, which is a coordinated risk assessment. Risk assessment is linked to operations through an Integrated Targeting Operations Centre (ITOC), which brings together New Zealand's Customs Authority as well as other agencies – i.e., the Ministry for Primary Industries, Immigration authorities, the Maritime Police and the Intelligence Service – in one location. The ITOC applies the intelligence assessments at a tactical level in order to identify specific border transactions, and ensures that there is a strong connection between the customs administration's strategy and operations. The ITOC has improved customs risk management because the intelligence drives interventions at the border. New Zealand is developing the ITOC's functions so that it supports all government activities in the co-ordination of border management, targets border risks and creates closer links with other international intelligence centres, so that they can work together in identifying international border risks.

## 7. Coordination of agencies and stakeholders

Together with centralised risk management, the coordination of controls and inspections feature is equally important. This enables the timely sharing of information submitted through a SW, so that it can be reused for risk management, and in coordinating an appropriate response and timely feedback to traders. As many parties are associated with a shipment (consignee, customs brokers, forwarders, hauliers, terminal port operators, inspection agencies and yard/gate operators), it is vital that information should be disseminated in a timely manner so that coordination of the actions needed for clearance of shipments can be appropriately processed.

Coordination can be achieved with business process analysis and re-engineering based on international standards. This characteristic is linked to the above characteristic of sharing of information (information dissemination) in realizing a key benefit of a SW.

## 8. Analytics capability

A SW enables the creation and dissemination of various reports based on the submitted data, thus eliminating the need to contact the various agencies concerned in order to retrieve the necessary data. Therefore, a SW can become the single source of all trade- related government information.

This is feasible as a SW is well-equipped to provide a holistic 360-degree view of each and every shipment /consignment entering, leaving and transiting through the country, together with an

enlarged and more detailed set of statistics and data for data-mining, and a trade and economic analysis. Any trade- or shipment-related information can easily be retrieved from the central SW.

A SW usually has a large volume of trade data and information within its data warehouse system as a single entry for regulatory compliance. This data can be processed with a proper analytics methodology for supporting trade and customs related decision-making processes and policy development. The analysis of trade flow data and performance, and the preparation of analytical reports and statistical material can be done quickly and easily, since the SW is essentially the main source of the data. Figure 13 illustrates the Singapore example of the trade database system.

**Figure 13. Singapore's trade database system**



In the case of New Zealand's trade SW implementation, it included support for automatic searching and matching of current and historical entities in order to increase efficiency and reduce the manual efforts of customs and Participating Government Agency (PGA) staff.

## 9. Electronic payment of duties and other charges

All SW best practice cases reviewed above allow for electronic payment of duties and other charges. UN/CEFACT Recommendation 33, which mostly refers to a regulatory SW where the central player is the customs authority, whose primary administrative responsibility is collection of duties, also note the importance of this feature. While distinct from the Article on SW, the WTO TFA also included a dedicated provision to the electronic payment.

A SW facilitates trade by automating document preparation and fulfilment of processes that are related to the arrival, import, export and release of consignments from ports, airports, customs and other places. As such, a SW can be linked to banking systems to facilitate payment process to all the related government and other agencies involved in these processes.

## **C. Main issues to take into account**

### **1. Need to continually review and upgrade**

One of the most interesting observations is that most economies are constantly reviewing and updating their respective SW systems, as can be seen from the examples of Hong Kong, China, Japan and Singapore. Japan is seeing the sixth generation of its NACCS system being implemented in 2017, likewise in Singapore with its new NTP. These are not merely updates, but are highly expensive and completely revamped in order to leverage new technologies and techniques as well as prepare the respective economies for handling new modes of trade (e.g., e-commerce).

Therefore, a challenge lies in that a SW is never a project that has an end stage, but is a constantly evolving system. Thus, it is important that governance of a SW is not treated just as an IT project; it should be considered as a live mission and critical facility that has not only to be constantly maintained and supported, but also continually improved and enhanced. Only in this way, a SW can serve an economy and its trade community well and maintain itself as a world-class system for facilitating trade.

### **2. Coordination of existing paperless trade systems**

In the case of Singapore, three independent community systems to handle cargo manifests, declarations and permits are referred to as an issue and challenge for the optimized use and reuse of trade data submission. In the Hong Kong, China case, various systems such as GETS, ACCS and ROCARS catering different document requirements through electronic means are identified as an issue and challenge. In the Republic of Korea, lack of mechanism to coordinate two major paperless trade platforms (UNIPASS and uTradeHub) are referred to as a major issue to be addressed. The three economies have a long history of implementing paperless trade systems. Their paperless trade systems even go back to late 80s, and naturally many of their trade related agencies have developed paperless trade systems individually in order to optimize their performance or to service trade community

For these three economies, issues are coordination, coalescence or interoperability among existing paperless trade systems. This challenge posed by lack of coordination among existing paperless trade systems can be found in many developed countries. To optimize the benefits of utilizing the paperless trade system, this challenge should be addressed through either interconnection or integration of paperless trade systems.

### **3. Privatization of a National Single Window operator**

Unlike the three cases discussed above, Japan's SW has different aspects – i.e., privatization of the NSW operator. Hong Kong, China, the Republic of Korea and Singapore have been operating a PPP programme from the initial establishment of their national paperless trade systems or SW. However, Japan's approach has been different in that its NACCS was established and operated as a public company until 2008, when the central Government announced its plan for the privatization of NACCS. With the privatization, NACCS was expected to increase the efficiency of international logistics and to enhance the competitiveness of Japan's ports and airports by implementing such

measures as streamlining its operations through improved corporate management and the provision of better services for users by enlarging its scope of business.

Competition in the private sector is supposed to foster more efficient practices that yield better service and products, lower prices and less corruption. However, privatization does not mean liberalization of such a business, and therefore does not create a competitive environment. Until now, no such movement to liberalize the SW business in Japan has been observed. This implies that privatization of NACCS is mostly for enlarging the scope of services from conventional regulatory services to private trade and logistics-related services.

Considering the concrete legal basis of SW service that the NACCS Center is offering, leveraging the existing SW service to expand to other service area will be one benefit. The NACCS Center will not experience any immediate effect from the transfer of ownership to the private sector, but this challenge (or opportunity to enlarge the institution) will gradually require a great deal of mindset change and a painstaking effort by NACCS Center top management and staff.

## **D. Lessons learnt**

### **1. Planning a phased advancement of a Single Window**

A step-by-step phased implementation of Single Window together with the application of latest ICT technology, implementation of trade facilitation measures, and continuous effort of simplifying process and documentation has proved to be effective.<sup>9</sup>

The cases of Japan, the Republic of Korea and Singapore clearly show that the advancement of their national paperless trade systems have followed the general steps of setting a policy, planning, business process analysis and renovation, system development, out-sourcing of operation and maintenance, and the operation and expansion of services. This cycle has been repeated for the advancement of the system and services at either regular or irregular intervals.

Major motives for upgrading the national system were new technical innovations, such as the Internet, mobile application or RFID, and the introduction of new trade facilitation measures at the international level, such as risk management, Authorized Economic Operator or the WCO Data Model.

### **2. Single Window as an environment rather than a system**

From previous section, it is clear that in all three economies – Hong Kong, China, the Republic of Korea and Singapore – no singular SW system helped them to attain world-class service levels for their traders. Instead, they have implemented a combination of trade-related platforms that serve various trade communities and modalities. This gives credence to the idea of perceiving a SW as an environment, where various trade-related systems can be inter-connected, rather than just one system.

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<sup>9</sup> Such an approach was also highlighted in ECE/ESCAP UNNExT Guide on Single Window Implementation (2012).

Consequently, it UNECE Recommendation No. 33 – which describes the SW as a facility or single entry point – may be revised and updated to reflect the real world situation for trading community in fulfilling all import, export and transit-related regulatory requirements.

### 3. Public-private partnerships for paperless trade promotion and operation and maintenance of a Single Window

In many advanced economies (and some developing economies), introducing PPPs for the development and operation of Social Overhead Capital (SOC) is common practice. The SW or the national paperless trade platform are regarded as an example of SOC; this convinced the Governments of Hong Kong, China, Japan, the Republic of Korea and Singapore to choose collaboration with their private sectors in the operation and maintenance of the National Paperless Trade Platforms. The benefits of a PPP<sup>10</sup> applicable to a SW are:

- Introducing private sector technology and innovation for better public services and improved operational efficiency;
- Incentivizing the private sector to deliver projects on time and within budget;
- Ensuring budgetary certainty by setting present and future costs of infrastructure projects over time;
- Extracting long-term, value-for-money results through appropriate risk transfer to the private sector over the life of the project – from design/construction to operations/maintenance.

### 4. The National Paperless Trade Platform and the Single Window should be able to handle major regulatory documents

The Single Window and/or National Paperless Trade Platform are aimed at streamlining the trade regulatory processes through one-time submissions of documents and the reuse of submitted data. For this purpose, together with informatization on regulatory agencies, basic-level inter-operability between the systems of customs and other regulatory bodies should be established; in order to increase interoperability, data and documents should be harmonized among the related agencies.

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<sup>10</sup> See World Bank Group, Public-Private Partnership in Infrastructure Resource Center. Available at <https://ppp.worldbank.org/public-private-partnership/overview/ppp-objectives>.

# CHAPTER 3. NEXT STAGE OF THE SINGLE WINDOW

## A. Introduction to stakeholder survey

In this study, a stakeholder survey was conducted to clarify the perception on current operation of SWs and user requirements on further advancement of SWs, including the introduction of services on cross-border paperless trade data exchange and the adoption of the latest technologies. The survey was conducted in the Republic of Korea against government officials from customs, quarantine and other regulatory bodies in a SW (and non-participating bodies, if any) as well as traders, freight forwarders and private entities responsible for regulatory services in a SW.

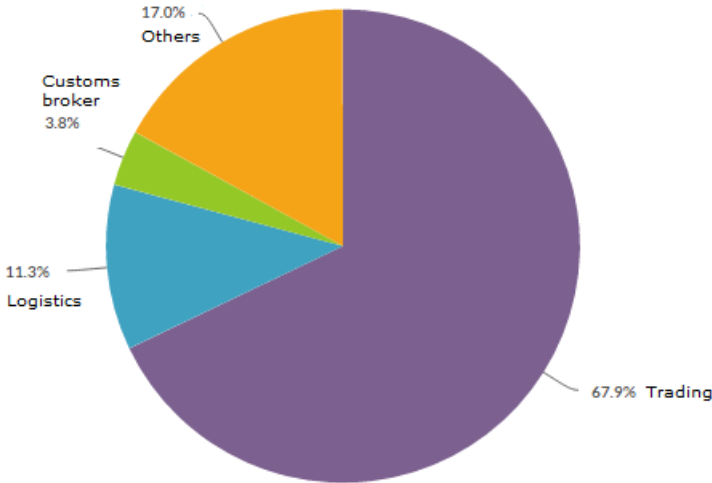
The two survey questionnaires developed to gather information from public and private sector stakeholders each comprised three parts – demographic questions, questions related to the stakeholder’s awareness and perspectives of the existing SW, and questions regarding the enhancement of the SW (See Annex 2 and 3 for full survey questionnaires). Following a sequential review of the survey results for the private and public sector in sections B and C, main findings are summarized in section D of this chapter.

## B. Survey of the private sector

### 1. Survey sample

The survey of the private sector was conducted against traders, freight forwarders, including express couriers, and customs brokers. 53 responses were received to the survey questionnaire, of which 36 were in trading business, six were in the logistics business, two were in the customs broker business and nine were in manufacturing; six were in import and processing, one was a paperless trade IT service provider and one was a laboratory equipment exporter (figure 14).

**Figure 14. Sample composition**



## 2. Awareness and perspectives of the private sector

Questions were asked on perspectives of private sector on the SW. It should be noted that some questions may be difficult for private sector stakeholders to answer properly. Therefore, the answers should be interpreted as reflection of their awareness on related matters.

### (a) Institutional arrangements for trade facilitation and stakeholder coordination for the Single Window

In the Republic of Korea, the legislation on the National Trade Facilitation Body (NTFB) was prepared by the Ministry of Strategy and Finance. However, implementation is still pending. Only one respondent chose the right answer, while the others made incorrect choices. Most respondents must have assumed that there was already a National Trade Facilitation Body in the Republic of Korea, given the strong trade promotion and facilitation policy of the Government of the Republic of Korea.

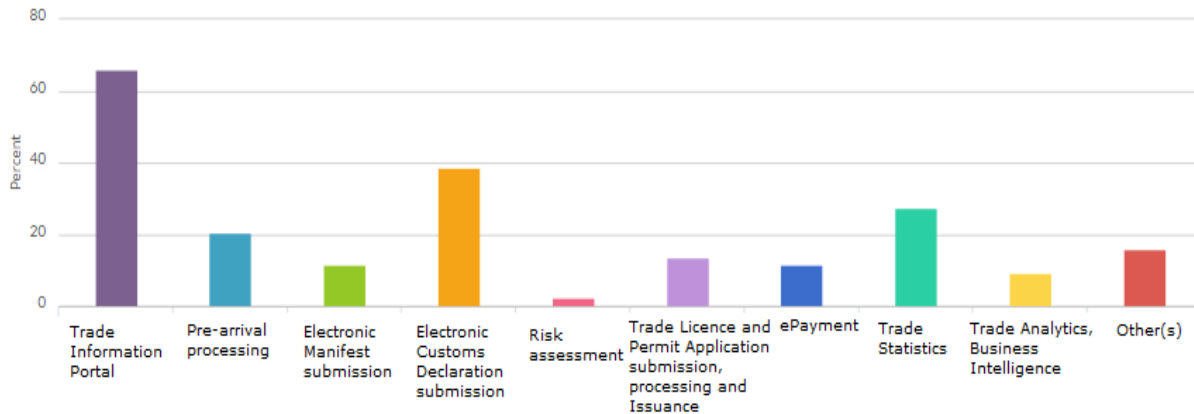
On the question of whether the Republic of Korea's trading community participates in the NTFB, more respondents chose 'Yes' than 'No'. There is no official NTFB in the Republic of Korea; however, an alternative would be the Trade and Investment Meeting chaired by the President of the Republic of Korea. The purpose of the Trade and Investment Meeting is to deregulate and streamline the government process for increasing investment. The Ministry of Trade, Industry and Energy collects opinions from the private sector on regulations and the tedious administration process that prohibits the interest of the private sector in investing. Among the participants in the meeting, about 20 participants are from the central Government, around 10 participants are from government agencies related to trade and investment and around 40 participants are from business sectors.

One-fourth of the private sector survey respondents indicated that there was no institutional arrangement for SW stakeholder coordination. In fact, in the Republic of Korea, there has been no formal institutional arrangement for the customs SW (UNIPASS) implementation. For the National Trade Platform infrastructure (uTradeHub) implementation, there were the National e-Trade Committee, chaired by the Prime Minister, and Korea e-Trade Facilitation Center, which is composed of the Ministry of Knowledge Economy, KCS, KITA, Korea Financial Telecommunication and Clearing Institute, the Korea Federation of Banks and KTFNET. However, even the National e-Trade Committee has not been operational in recent years.

### (b) Current features and practices of the Single Window

The survey questions regarding which features of the SW have been implemented in each country covered: Trade Information Portal; Pre-arrival Processing; Electronic Manifest submission; Electronic Customs Declaration submission; Risk assessment; Trade Licence and Permit Application submission, processing and issuance; ePayment (of customs duty and tax and/or licence and permit fees); Trade Statistics; Trade Analytics, Business Intelligence; and Other(s).

**Figure 15. Private sector awareness of Single Window features**



Most respondents indicated that the following SW features and practices were in place: Trade Information Portal, Electronic Customs Declaration submission and Trade Statistics (figure 15). All other SW functions included in the survey, although already available in the RoK SW, were acknowledged by 20 or less private sector respondents. As the respondents are usually not aware of the full functionalities of SWs, it can be assumed that they ignored the existence of some functions that they had never used in their response. Interestingly, the Certificate of Origin was the most acknowledged in the “Other(s) [regulatory process and documentation]” category, as being available through the RoK SW.

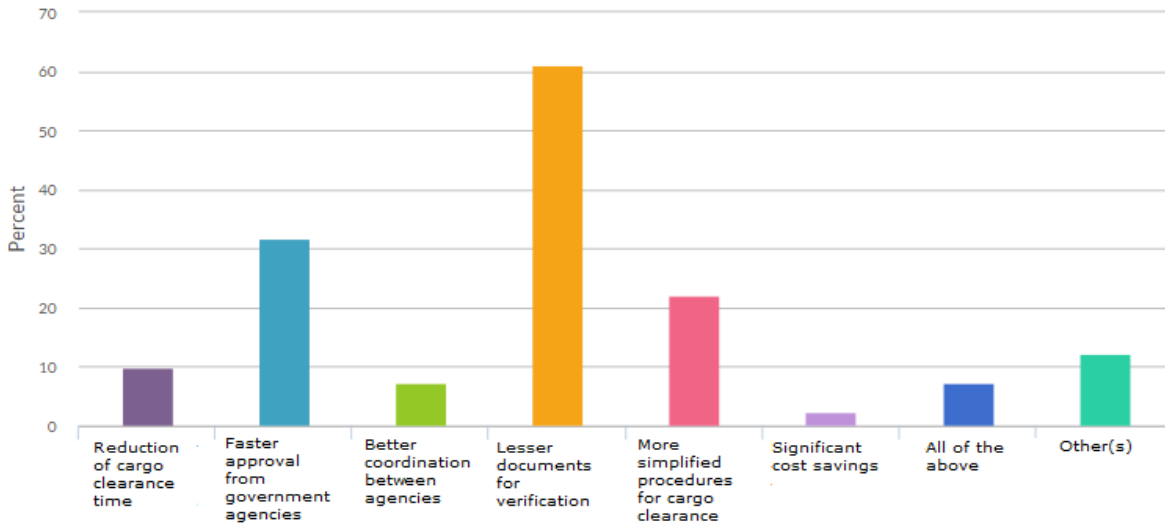
(c) Business process re-engineering/reform

During the development phase of the Republic of Korea’s SW, business process re-engineering (or reform) (BPR) was conducted. Since then, the system has been upgraded a number of times. However, because subsequent BPRs have been internal efforts by the customs authorities and the Ministry of Trade, the private sector would not have been aware of the existence of BPR or its application to SW enhancement. Only one-fifth of the private sector respondents were aware of process reforms. Process Simplification was the most acknowledged outcome of the BPR by the respondents, followed by Form Standardization.

However, when it comes to the benefits of BPR, the respondents selected lesser documents for verification as the top benefit (figure 16), while benefits in terms of reduction of cargo clearance time and significant cost savings were only noted by a few respondents.



**Figure 16. Benefits of business process re-engineering/reform**



**(d) Benefits of a Single Window**

The majority of the respondents indicated that there was no direct cost reduction for imports and exports after the SW implementation. However, more respondents agreed that the SW brought reduction in time required for clearance after the SW implementation in both countries. Such a response may be due to the fact that it is easier for traders to feel reduction of time than cost in using a SW, since time difference can be directly felt by themselves while they are conducting their work. The respondents who agreed that there was cost and time saving reported that, on average, cost reduction was 19% while time saved for clearance averaged 23.8%.

**(e) Stakeholder satisfaction**

Regarding the question of the level of satisfaction with the SW, the rate was relatively low, with only 2.3% and 27.9% of the respondents indicating ‘Very Satisfied’ and ‘Satisfied’, respectively, while more than half selected ‘Neutral’. The top reasons given for the low satisfaction level among the respondents were that the SW had not been optimized enough to improve the costs of doing business; processes and data were not streamlined enough, still having certain level of complexity. As the private sector already optimized their in-house systems and business processes to lower cost and time and maximize profit, many respondents apparently felt that the current SW did not bring much additional benefits to trade. Even with process simplification, many respondents felt that the trade business process remained time-consuming and was still not simple enough.

**3. Enhancing the Single Window**

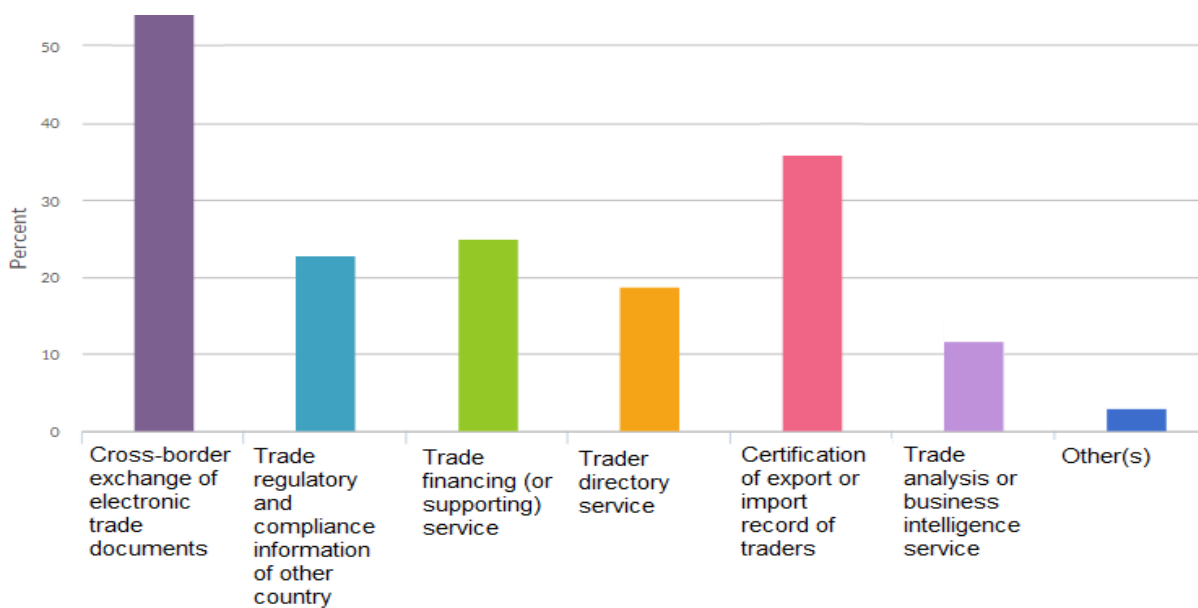
This subsection considers the survey questions seeking the private sector’s view and requirements with regard to additional features needed for further SW enhancement, including interoperability among national paperless trade systems, cross-border electronic trade document exchange as well as use of the SW for cross-border electronic trade document exchange.

(a) Additional Single Window features

The majority of RoK respondents (figure 17) indicated that ‘Cross-border electronic trade documents’ was an additional feature needed in the SW in order to improve the competence of their businesses. The ‘Certification of export or import records’, ‘Trade finance (or Trade finance support) service’, ‘Trade regulatory and compliance information of other countries’ and ‘Trader directory service’ were also indicated as needed in a SW.

This feedback shows that it is important for SWs to facilitate the exchange of electronic trade documents between economies, as cross-border trade is increasingly being facilitated via online mode together with a widespread general acceptance of electronic trade documents. International development bodies and international standards organizations may provide institutional framework to facilitate such electronic exchange and acceptance of electronic messages and documents.

**Figure 17. Additional features needed in a Single Window**



On the question of connectivity to the SW, only one-fourth of RoK respondents answered yes. Since most large and medium-sized enterprises use a system-to-system connection to SW for reusing data, while small companies use a web-based cloud interface for SW services, it can be assumed from these answers that three-quarters of all the respondents may be small enterprises.

(b) Cross-border trade documents

Only one-third of the RoK respondents indicated they currently use System-to-System connectivity and Third-Party Platform to exchange trade documents. Although the remaining RoK

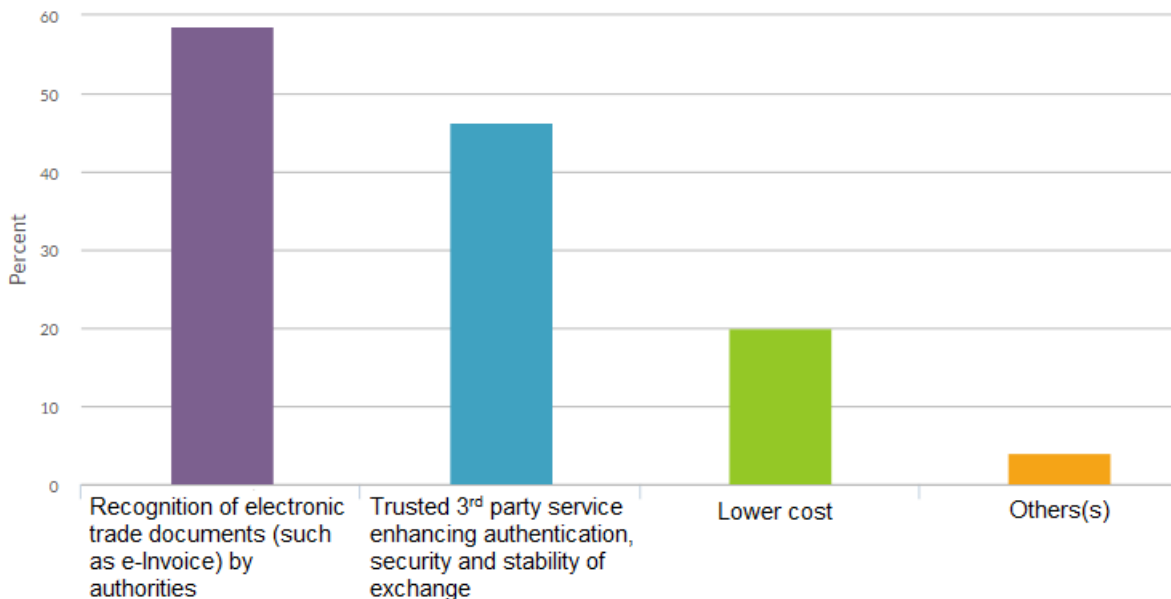
respondents indicated their current status of using email only, they expressed their intention or plan to exchange trade documents electronically with overseas business partners in the future.

(c) Use of the SW for cross-border exchange

Almost three-quarters of the respondents indicated their intention to use the SW as a gateway for exchanging trade documents electronically with overseas partners, should this service become available (figure 18). In addition, most of the respondents indicated that ‘Recognition of electronic trade documents by authorities’ would be a major benefit from using the SW as a gateway for exchanging trade documents electronically with overseas partners.

However, letting alone their unawareness of the potential of SW to be a gateway for cross-border trade data and documents exchange services, there are two big concerns for traders in using the SW as a gateway for cross-border exchange of trade documents electronically, namely, (1) absence of a SW in other countries and (2) requirements for direct system-to-system connectivity from private sector partners. It is a common practice that large manufacturers and distributors request their vendors for a direct system-to-system (or via 3<sup>rd</sup> party platform) connection for supply chain related data and documents exchange. SW could contain a function on recognition of electronic trade regulatory or business documents from overseas, such as the eInvoice, eSPS, eCO and eCITES in the future. Half of the RoK respondents indicated that ‘Trusted third party service enhancing authentication, security and stability of exchange’ was a major benefit.

**Figure 18. Major benefits of using the Single Window as a cross-border transaction gateway**



The biggest concern of the respondents in using a SW as a gateway for cross-border exchange of trade documents electronically was given as ‘The other country does not have a SW’, followed by ‘Arrangement of such a document requires direct system-to-system connectivity’. These views are

probably due to the fact that the electronic supply chain management system of large manufacturers commonly requires direct system-to-system (or via third party platform) connectivity to suppliers for supply chain-related data and document exchanges. Another reason could be that, even when the cross-border exchange process is realized in a SW, heterogenous interests of different authorities may create a complicated and cumbersome burden for traders.

#### (d) Other features and requirements from the Single Window

The most common additional requirement indicated was ‘Simplification of the process and documents’. Other commonly required features indicated included ‘Use of electronic trade documents’ and ‘Cross-border interconnection among national networks for electronic documents exchange’. Additional required services mentioned by respondents were ‘Trade payment assurance’, ‘Certificate of trade records’, ‘Trade financing’ and ‘Cross-border e-Commerce related services’.

### **C. Survey of the public sector**

#### 1. Sample Overview

The questionnaire was sent to about 40 public institutions, of which nine responded. Of those nine respondents, eight are issuers of trade-related certificates or licences and one respondent is the SW operator.

#### 2. Awareness and perspectives of the public sector

Just like responses from the private sector, the responses made from the public sector respondents should be understood to be based on their awareness of the features in the SW and their perspectives on SW environment.

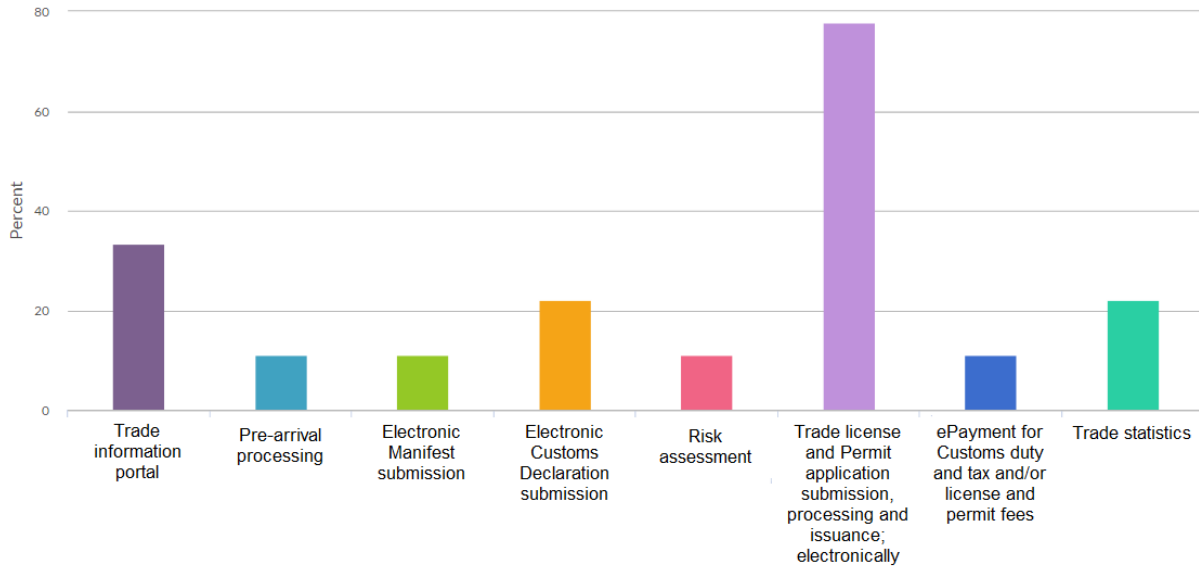
##### (a) Institutional arrangements and stakeholder coordination

The majority of the respondents denied that an institutional arrangement for stakeholder coordination had been established for the SW. Those respondents who agreed that an institutional arrangement existed, answered that they were not involved in it. Even though the best achievement of the reform answered to be coordination among government agencies, most of the respondents, at the same time, did not believe that there was any institutional arrangement.

##### (b) Current features and practices of the Single Window

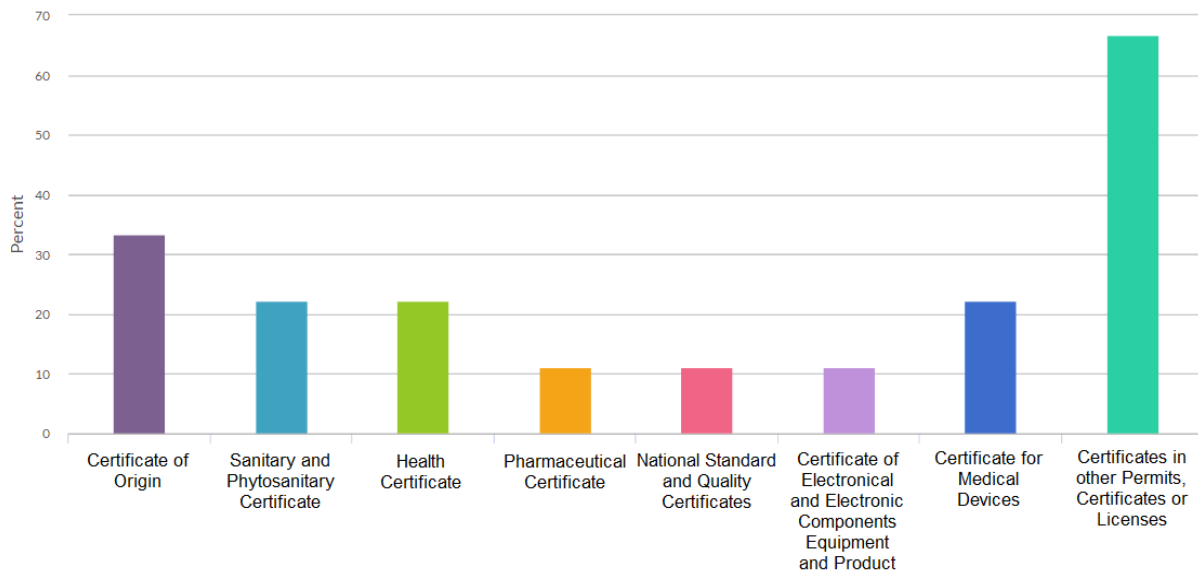
On the best practice features of the SW, the survey questions contained multiple choices as shown in figure 19.

**Figure 19. Public sector awareness of Single Window features**



As most of the public sector respondents were from regulatory government agencies or industry associations that issue certificates or licences, ‘Trade Licence and Permit Application submission, processing and Issuance electronically’ was selected by the highest number of respondents. Other regulatory processes and documents available through the SW selected by respondents were issuance of Certificates of Origin, Sanitary and Phytosanitary Certificates, Health Certificates and Certificates for Medical Devices. Generally, other than the SW operator itself, respondents were unaware of the range of services, shown in figure 20, available through the SW.

**Figure 20. Trade licenses and permits applicable to the Single Window**



(c) Business process re-engineering/reform

Compared to the private sector respondents, a higher percentage of public sector respondents were aware of the BPR. With regard to the results of their BPR, the respondents indicated ‘Process Simplification’, ‘Centralised Risk Assessment’<sup>11</sup> and ‘Form Standardization’ as key benefits. ‘Data Harmonization’ was also indicated as a main benefit.

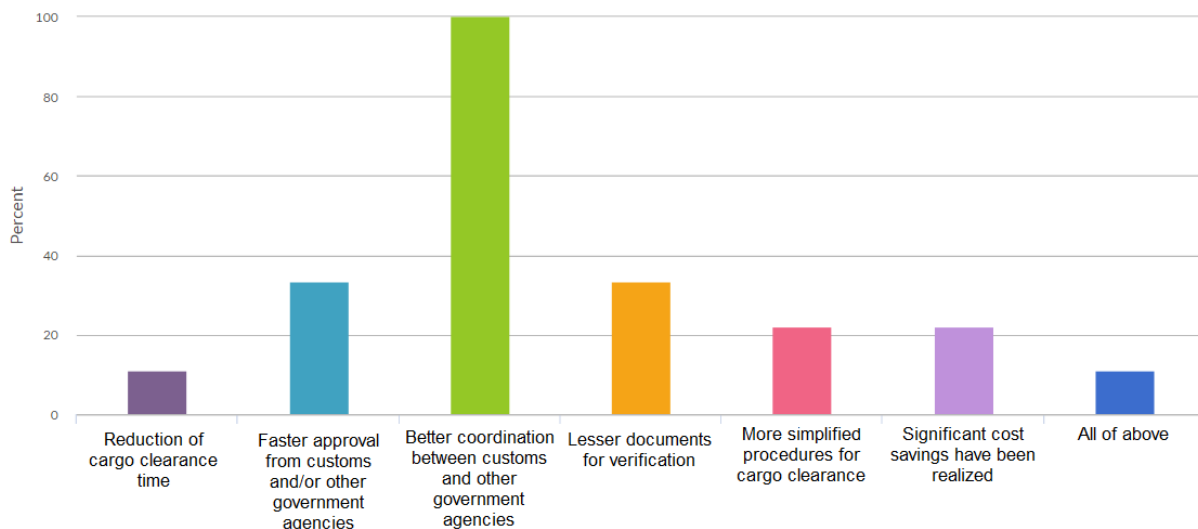
(d) Data harmonization

With regard to the question about legacy systems that interface with the SW, the respondents indicated that their systems were already interfaced. All the respondents answered that a data harmonization exercise had been carried out in relation to the implementation of the SW.<sup>12</sup> Regarding data harmonization in compliance with the WCO Data Model, many of the RoK respondents selected ‘Partial Compliance’.

(e) Benefits of the Single Window

With regard to the benefits of SW implementation, the feature ‘Better coordination between Customs and other government agencies’ was the top selection by the public sector respondents (figure 21), followed by ‘Faster approval from government agencies’ and ‘Lesser documents for verification’.

**Figure 21. Benefits of Single Window implementation**



Regarding improvements in the time needed for clearance of goods, all respondents agreed that the SW made the clearance process faster than before. Interestingly, the overall satisfaction level of the public sector regarding the SW was relatively higher than that of the private sector. Thus, the public sector seems much happier with the SW than the private sector.

<sup>11</sup> The SW of the Republic of Korea does not have the centralized risk assessment feature.

<sup>12</sup> Data harmonization in Hong Kong, China is in progress.

### 3. Enhancing the Single Window

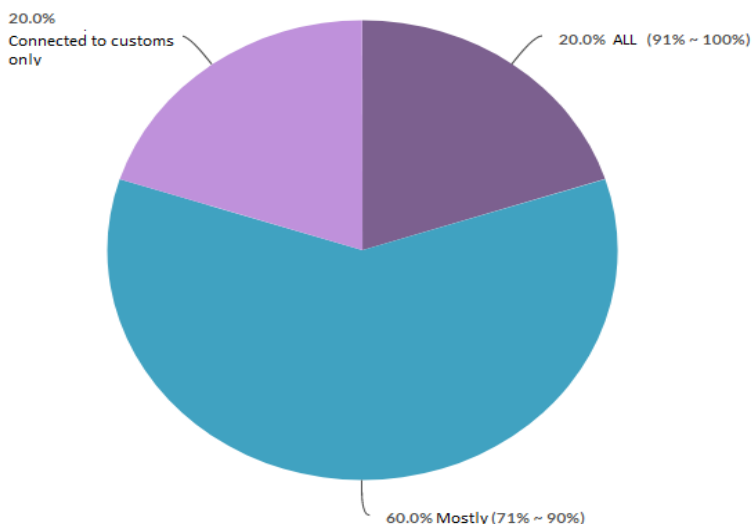
The survey questions aimed at seeking the public sector's view and requirements for further enhancement of the SW, including interoperability among national paperless trade systems, the use of the SW for cross-border electronic trade document exchanges and open data policy.

#### (a) Interoperability

About half of the respondents answered that the SW system was connected or interfaced with other systems such as the Customs Authority, the Port Community System or the Airport Community System. In practice, while the systems of the Value-Added Network Service providers for customs, Port Authority and Airport Authority are all interconnected with each other for electronic data and document exchanges, the systems of Customs, Port Authority and Airport Authority themselves have not been interconnected each other.

Regarding a question on SW connectivity with other trade-related regulatory agencies or participating Government agencies (figure 22), 80% of the Republic of Korea respondents answered 'Mostly (71%~ 90%) or 'All (91%~100%)'. In practice, all major regulatory agencies and institutes are connected to the SW in the Republic of Korea.

**Figure 22. Percentage of Single Window connectivity to trade regulatory agency systems**



Most of the respondents believed and responded that there was no interface between the SW and other countries' government systems. Currently, the Republic of Korea's SW is connected to the systems of some other countries, including China.

#### (b) Cross-border trade documents and use of the SW for cross-border exchanges

Some respondents indicated that two electronic documents issued by RoK agencies – Certificates of Origin and Import Declarations (Import Certificates) – were recognized by foreign agencies. The respondents stated that it was intended to mutually recognize or exchange regulatory documents electronically with foreign agencies in the near future.

The respondents were unanimous in expressing the intention to use the SW as a gateway for exchanging documents electronically with an overseas counterpart, should the SW provide a “gateway” service for cross-border electronic data and document exchanges in the future.

(c) Open Data Policy

An open data policy of government is important to enable utilization (reuse) of data and information within Single Window system by other agencies or an authorized private sector stakeholder. Strong open data policies usually build upon the principles embodied in existing laws and policies that defend and establish public access, often defining standards for information quality, disclosure and publishing. To facilitate an open data policy, strong and well established data (information) privacy policy and legislations are prerequisite to prevent improper disclosure of personal or sensitive information.

All the respondents indicated that there is an open data policy in their agencies, and the majority of them answered that there was also an open data policy within the SW. With regard to the question on SW data open to the public, abiding by the data privacy regulation, most respondents selected ‘Import and Export Statistics’ and ‘Cargo Status Information’ (figure 24). ‘Trader Export Record Certification’ and ‘Confirmation of Customs Clearance Status to Third Party with consent of Trader’ were selected by half of the respondents.

**Figure 23. Single Window data open to the public**





(d) Other features and requirements from the Single Window

The most common requests from the public sector respondents for the advancement of the SW were ‘Trade data and document exchange among nations’, followed by ‘Mobile service’ and ‘Sharing of Certificates in the SW among agencies’.

## **D. Main findings from the survey**

### 1. Private sector

(a) Certificate of Origin - the most commonly acknowledged regulatory document available through the Single Window.

According to the survey results, traders mainly use the SW to find trade information and statistics, while they entrust the process of customs declaration, manifest and licence or permit to freight forwarders, couriers or customs brokers; consequently, they are not well aware of these procedures. Similarly, most RoK respondents are not aware of the SW administrator’s (or customs) internal process of risk assessment.

The Certificate of Origin was selected as the most common regulatory document available through the SW, followed by the Purchase Certificate, Sanitary and Phytosanitary Certificate, and National Standard and Quality Certificates by respondents. With the increase of Free Trade Agreements with other countries, preferential Certificates of Origin are being applied more through the SW.

(b) Less documentation for verification and faster approval by government agencies – main benefits from BPR of the Single Window: But further simplification is still desired.

The time and cost savings are not the main benefits of the SW implementation, according to the Republic of Korea respondents. Process simplification, such as less documentation for verification, faster approval from government agencies and simpler procedures for cargo clearance were acknowledged by the Republic of Korea respondents as resultant benefits of the BPR in the SW. However, even with the simplification of process and data, some respondents were unaware of the simplification results or they felt that the trade business process remained time-consuming and not simple enough to notice the difference. The respondents believed that the SW was not sufficiently optimized to reduce the costs of doing business, and that the process and data still remained tedious and complex, indicating necessity for the SW to be further improved

To the final question concerning additional requirements for enhancing the SW, most of the RoK respondents selected ‘Simplification of process and documents’ again. Because the private sector already optimized in-house systems and business processes to lower cost and time and to maximize profit, many of the respondents apparently felt that the SW was not providing much cost benefit to trade, and that there was still room for further simplification of the existing SW process.

- (c) Recognition of electronic trade documents by relevant authorities – main motive for the private sector to express strong wish for cross-border electronic trade document exchanges through the Single Window.

‘Recognition of electronic trade documents by authorities’ was selected by the majority of the respondents as a benefit of using the SW as a gateway for exchanging trade documents electronically with overseas partners. A ‘cross-border interconnection among national networks for electronic documents exchange’ was also recommended.

The Republic of Korea is a leader in ICT. The use of an electronic supply chain management system is quite common in the Republic of Korea among large enterprises and associated vendors and service providers. However, for many of the users, the regulatory requirement for submission or keeping trading documents in paper form is a cumbersome and redundant, cost-increasing factor. For this reason, the private sector has raised an issue of recognizing electronic trade documents issued overseas by the customs authority, but it still has not been resolved. The problem is mainly due to the lack of international best practices or recommendations, or the absence of an international/subregional convention or agreement on recognition and exchanges of trade documents and data in electronic form. Many respondents felt that the SW could serve as an electronic trade document exchange platform.

However, this belief is challenged by the worry that “other countries do not have a SW”. Of the ESCAP member States, only about 30% have implemented a SW. However, most of that number are not equipped for handling cross-border exchange of electronic trade documents. If there is no proper interconnectivity among SW systems of ESCAP member States, the cross-border paperless trade cannot be realized, regardless of the advancement of the SW. To narrow the gaps, the sharing of experience, technical assistance and consensus-building through international cooperation is needed. To achieve the goal of true cross-border paperless trade, regional and international cooperation is necessary.

- (d) Further simplification of processes and documents through a Single Window - still the top priority for the trade community.

Further simplification heads the list of all requirements for SW advancement. Most respondents wanted greater simplification of the existing SW, even though they were aware of the encouraging BPR results. The other features recommended for SW advancement were mostly related to trade finance. For most SMEs, managing a firm with limited cash flow is always a big challenge. Therefore, successful trade financing is a key to ensuring a sustainable export business operation or the supply of parts and raw materials to exporters. Features of trade track record certification or payment assurance are important to small and medium-sized enterprises in getting trade financing from commercial banks.

Emerging cross-border e-commerce or e-Marketplaces are providing business opportunities for small and medium-sized enterprises (SMEs). Many governments are encouraging SMEs to utilize cross-border e-Marketplace and provide various capacity building programs for those SMEs. Through this e-commerce marketing channels, local manufacturers, wholesalers and retailers should be able to extend business by finding more customers outside of the country. However,

with the increasing transactions of cross-border e-commerce, regulatory bodies introduce new measures to better control and/or monitor cross-border e-commerce transactions. For many of those e-commerce traders who don't have much experience in international trading, business and regulatory procedures different from domestic e-commerce transactions, such as export clearance, technical standard certification, quarantine and overseas claims, can be additional challenges. This may hinder SMEs from entering into trade. To support cross-border e-commerce of SMEs, a SW may extend its support to compulsory procedures required for e-commerce export and import.

## 2. Public sector

- (a) Better coordination between customs and other government agencies - a leading benefit of business process reform for the Single Window to public sector.

Regarding the question about the benefits of SW implementation, the respondents selected 'Better coordination between customs and other government agencies' followed by 'Fewer documents for verification' and 'Faster approval from government agencies'. The SW helps agencies to communicate better with customs authorities. Unlike the private sector, the public sector in the Republic of Korea considered the best achievement of SW reform to be the better coordination among government agencies. However, a formal institutional arrangement for SW stakeholders is lacking and desired.

- (b) Many agencies not planning for recognition or exchange of electronic documents with foreign counterpart agencies in the near future, while willing to use the Single Window as a gateway for exchanging documents electronically with foreign agencies.

Not every trade-related regulatory agency and association is ready to recognize and/or exchange electronic documents with foreign agencies, the most likely reason being that their work is limited to domestic processes of regulatory conformity. Therefore, it will be necessary to identify their needs on cross-border information exchange through business process analyses of such agencies. However, if the SW could provide a "gateway" service for cross-border electronic data and documents exchange to government agencies, those agencies with no such plan would use the SW to exchange documents electronically with overseas agencies.

- (c) Mobile Single Window service and enabling sharing of permits/certificate among agencies - key services that public sector expects the Single Window to provide in the near-future.

The SW of the Republic of Korea can be benchmarked for implementing future SW features. The SW is optimized with the latest technologies for dealing with current business practices and regulatory requirements of the Republic of Korea. Since the SW is optimized to the current requirements of the Republic of Korea, it will be able to evolve continuously in keeping with technological advances and international trade trends.

UNIPASS and uTradeHub provide a mobile user interface service, although that service is limited to simple application and notification of the result. In the survey, the agencies indicated that a more advanced, mobile-friendly SW service was needed. Some agencies or associations indicated the

need for sharing certificates. This is because, while UNIPASS is designed to optimize the customs clearance process and the sharing of information in UNIPASS is between customs authorities and other government agencies (and associations), exchanging information among other agencies in UNIPASS is not available. The need for a gateway or repository service for exchanging trade data and documents with overseas agencies was also indicated by the respondents.

## CONCLUSIONS AND RECOMMENDATIONS

This study aimed to provide a feasible path for the advancement of newly established or soon-to-be established SWs with regard to planning, operation, legislation and service features. Based on the findings of the analysis on the best practices and the survey results, the following six recommendations are made.

1. To make operation and maintenance of a Single Window sustainable, Single Window should be developed in a phased manner and its services and performance optimized in close cooperation with private sectors.

While this recommendation is long-standing,<sup>13</sup> it is worth reiterating as it is fundamental to the success of SW implementation. As can be seen in the best practises analysis in Hong Kong, China, Japan, the Republic of Korea and Singapore, all advanced SWs are upgraded in phases in parallel with new developments and changes of technology and trade facilitation policies. A SW is a tool for providing better trade facilitation measures and administrative services for the trading community, not an objective itself. A lead agency for a SW should establish a policy for sustainable maintenance and upgrade of the SW system by adopting relevant policies, laws, international convention or new technologies.

The analysis in this study shows that, in an advanced SW, the operation and maintenance of the SW platform is either out-sourced or a trusted third-party service provider is designated to provide value-added services to the SW users. Considering the changes in international trade practices with immersing cross-border e-commerce and a shorter cycle of new technologies, adopting PPP for SW advancement is recommended.

2. A regional/subregional Single Window approach is one of the key success factors in Single Window implementation in many developing countries. To narrow the technical and legal gaps among countries the region/subregion, the sharing of experience, technical assistance and consensus-building should be strengthened

The analysis on status of SW implementation indicates that the regional institutional arrangement for SW implementation has been a driving force in the member countries. However, the technical and legal gaps among the member countries have been the main obstacle in establishing a regional SW framework. A regional/subregional approach to technical assistance, capacity-building and consensus-building can play a big role in narrowing the gaps.

3. A Single Window covers major regulatory documents, such as Certificates of Origin, Sanitary and Phytosanitary Certificates, and National Standard and Quality Certificates. Its services should be extended to other B2G and B2B areas, such as trade track-record certification and cross-border e-commerce-related services.

The main objective of a SW is to streamline the trade regulatory process through a single submission of information. Many SWs are focusing on single submission for customs clearance

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<sup>13</sup> See, for example, UNNExT Single Window Implementation Toolkit for Trade Facilitation.

as a core regulatory process. However, there are other procedures that exist before or after customs clearance. In practice, it is not possible to cover all the trade procedures with one-time submission of information to a SW. To address this issue, incremental submission of data and reusability of data should be introduced to reuse data in a SW by the other government agencies (or other trade service providers), if required. Considering its advantage of being connectivity with government agencies, banks and trade community, it is advisable to utilize an existing SW to process other import or export permits, licences and national standard and quality related conformity certificates that are required before or after clearance. Other extension services of a SW to be considered would be a trade track record certification for exporters and importers, and the sharing of customs clearance and cargo status information with commercial banks for trade financing assurance.

4. A Single Window should provide a gateway service for the exchange of trade data and documents with foreign counterparts.

Both the public and the private sectors welcome a cross-border electronic trade data and documents exchange service that utilize the SW or national paperless trade platform. The SW/national paperless trade platform should position itself as a national gateway for the exchange of electronic trade data and documents.

Technical capacity as well as legislative basis needs to be prepared in advance. Technical capacity includes a communication module with a capacity for handling large amounts of electronic documents transaction through secure and reliable international standard protocols. Legislations that enable recognition of electronic documents and electronic signature from overseas will be crucial for a successful operation and expansion of cross-border gateway services for public and private sectors.

5. A model recognition policy needs to be developed for the recognition of cross-border electronic trade documents by the relevant authorities, exchanged through the SW or other designated paperless trade platforms.

Without a proper legal and technical framework for interconnectivity and recognition of electronic documents from overseas, it is difficult to promote cross-border electronic document exchanges. A prerequisite is a national paperless trade platform or SW that can act as a gateway as well as a legal and technical framework. The Framework Agreement on Facilitation of Cross-border Paperless Trade in Asia and the Pacific<sup>14</sup> could provide a good solution for establishing a regional framework for electronic trade document exchanges among the SWs and the national trade paperless trade platforms.

6. Top priority should be given to making continuous efforts to simplify processes and documents of the Single Window.

As can be seen in the cases of the Republic of Korea, Singapore and Japan, most of the economies are constantly reviewing and updating their respective SW systems. The sixth generation of the NACCS system of Japan, the National Trade Platform of Singapore and the new UNIPASS of the

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<sup>14</sup> <http://www.unescap.org/resources/framework-agreement-facilitation-cross-border-paperless-trade-asia-and-pacific>

Republic of Korea are the result of continuous efforts to simplify documents in response to emerging modes of trade and logistics as well as to new technologies. It cannot be emphasized enough that a SW is never a project that has an end stage, but is a constantly evolving system that needs not only regularly maintenance and support, but also continual improvement and enhancement.

## REFERENCES

- APEC Sub-Committee on Customs Procedures (2010). *Single Window Report – Working Towards the Implementation of SW in the APEC Economies and International Interoperability*. Asia-Pacific Economic Cooperation Secretariat, Singapore.
- Commerce and Economic Development Bureau, (2016). Development of Trade Single Window in Hong Kong, Consultation Paper. Government of Hong Kong SAR.
- United Nations, Economic and Social Commission for Asia and the Pacific (2017). Asia-Pacific Trade and Investment Report 2017: Channeling Trade and Investment into Sustainable Development. Available from <http://www.unescap.org/publications/APTIR2017>
- United Nations, Economic and Social Commission for Asia and the Pacific (2017b). Digital Trade Facilitation in Asia and the Pacific, ESCAP Studies in Trade, Investment and Innovation No. 87, United Nations. Available at: <http://www.unescap.org/publications/digital-trade-facilitation-asia-and-pacific-studies-trade-investment-and-innovation-87>
- \_\_\_\_\_ (2012). UNNExT Data Harmonization and Modelling Guide for Single Windows Environment. Bangkok: ESCAP, United Nations. Available from <http://www.unescap.org/resources/data-harmonization-and-modelling-guide-single-windows-environment>
- Grizell, P. et al (2001). An evaluation of Port Community Systems: What can the Port of the Netherlands learn and use of other platforms. NedCargo International, Rotterdam.
- Ha, S. H. and Lim, S. W. (2014). The progress of paperless trade in Asia and the Pacific: enabling international supply chain integration. ADB Working paper Series on regional economic integration
- Hyundai Research Institute (2009). Research Report on Analysis of Economic Effects of Trade Automation
- Koh, J. (2011). Ten years of Single Window implementation: Lessons learned for the future, Discussion Paper. United Nations Global Trade Facilitation Conference, 2011, 12-13 December 2011, Geneva.
- \_\_\_\_\_ (2010). Best Practice in Single Window Implementation: Case of Singapore's TradeNet, UNNExT Brief No. 6. ESCAP, Bangkok. Available from <http://www.unescap.org/sites/default/files/brief2.pdf>
- Korea Customs Services. UNIPASS manual. Available from <http://unipass.customs.go.kr>
- Korea Customs Services (2011). Customs administration white book. Korea Customs Services.



Sawafuji, T. (2011). Japan's Development of a Single Window – Case of NACCS, UNNExT Brief No. 6. ESCAP, Bangkok. Available from <http://www.unescap.org/resources/unnext-brief-no-6-japans-development-single-window-case-naccs>

Singapore, “Pioneering e-Trade: Singapore’s Experience”, Paper submitted by Singapore to APEC Committee on Trade and Investment (CTI), Khon Kaen, Thailand, 25-26 May 2003.

Suvila, K. (2007). Single Window implementation in Customs Environment. National Board of Customs, Helsinki, Finland.

World Bank (2014). *Trading Across Borders 2014*. Washington, D.C.

[\\_\\_\\_\\_\\_](#) (2012). *Trading Across Borders 2012*. Washington, D.C.

Yoon, S., S. H. Cha and D. Moon (2011). *Development History of the Korea Customs Service and its Automation*. Korea Development Institute (KDI), School of Public Policy and Management, Sejong-si, Republic of Korea.

## APPENDICES

### Appendix 1. Reference sites used for collecting information on status of Single Window policy and development

REGION	MEMBER STATES	OWNER OF INFORMATION	LINKS
<b>SOUTH EAST ASIA</b>	Viet Nam	ASEAN Single Window Portal by ASEAN Secretariat	<a href="http://asw.asean.org/news/item/vietnam-officially-joins-asean-single-window-customs-system">http://asw.asean.org/news/item/vietnam-officially-joins-asean-single-window-customs-system</a>
		Customs News	<a href="http://customsnews.vn/barriers-in-implementing-the-national-single-window-550.html">http://customsnews.vn/barriers-in-implementing-the-national-single-window-550.html</a>
		Crown Agent	<a href="http://www.crownagents.com/our-work/projects/detail/vietnam-national-single-window">http://www.crownagents.com/our-work/projects/detail/vietnam-national-single-window</a>
	Myanmar	ASEAN Single Window Portal by ASEAN Secretariat	<a href="http://asw.asean.org/nsw/myanmar/myanmar-general-information">http://asw.asean.org/nsw/myanmar/myanmar-general-information</a>
		Myanmar National Trade Portal	<a href="http://www.myanmartradeportal.gov.mm">http://www.myanmartradeportal.gov.mm</a>
	Philippines (the)	The Philippine National Single Window	<a href="https://www.nsw.gov.ph/">https://www.nsw.gov.ph/</a>
	Cambodia	General Department of Customs and Excise of Cambodia	<a href="http://www.customs.gov.kh/trade-facilitation/national-single-window/">http://www.customs.gov.kh/trade-facilitation/national-single-window/</a>
	Thailand	Thai Customs Department	<a href="http://www.thainsw.net">http://www.thainsw.net</a>
	Singapore	Singapore Customs	<a href="https://www.customs.gov.sg/about-us/national-single-window/tradenet">https://www.customs.gov.sg/about-us/national-single-window/tradenet</a>
	Malaysia	Dagang Net Technologies	<a href="http://www.dagangnet.com/trade-facilitation/national-single-window/">http://www.dagangnet.com/trade-facilitation/national-single-window/</a>
	Lao People's Democratic Republic(the)	Lao National Single Window	<a href="https://www.laonsw.net/">https://www.laonsw.net/</a>
	Indonesia	Indonesia National Single Window	<a href="http://www.insw.go.id/">http://www.insw.go.id/</a>
	Brunei Darussalam	The Brunei Darussalam National Single Window	<a href="http://www.bdnsw.gov.bn/Pages/Home.aspx#">http://www.bdnsw.gov.bn/Pages/Home.aspx#</a>
<b>SOUTH ASIA</b>	Pakistan	USAID	Trade Project Single Window Implementation Guide (Pakistan-Centric)
		Customs	Implementation of National Single Window in Pakistan
	Bangladesh	National Board of Revenue	NBR moves to set up NSW to facilitate business from home ( <a href="http://nbr.gov.bd/uploads/news-media/222.docx">nbr.gov.bd/uploads/news-media/222.docx</a> )

**PACIFIC**

Nepal	World Bank	<a href="http://projects.worldbank.org/procurement/noticeoverview?id=OP00039999">http://projects.worldbank.org/procurement/noticeoverview?id=OP00039999</a>
India	Central Board of Excise & Customs	<a href="https://www.icegate.gov.in/SWIFT/">https://www.icegate.gov.in/SWIFT/</a>
	Central Board of Excise & Customs	<a href="http://www.cbec.gov.in/htdocs-cbec/ease_of_doing_business/customs">http://www.cbec.gov.in/htdocs-cbec/ease_of_doing_business/customs</a>
Bhutan		Not confirmed
Sri Lanka	The Ceylon Chamber of Commerce	<a href="https://www.chamber.lk/implementing-a-national-single-window-for-trade/">https://www.chamber.lk/implementing-a-national-single-window-for-trade/</a>
Iran (Islamic Republic of)	Iran Center for e-Commerce Development	Iran Single Window for Cross-border Trade (ISWCBT)
	Ministry of Economic Affairs and Finance	<a href="http://eform.mefa.ir/portal/Home/ShowPage.aspx?Object=NEWS&amp;ID=e2bd27ab-d1ac-414e-a745-f29360dffbe1&amp;LayoutID=3184adbd-92d9-486a-9019-4033c9906dbd&amp;CategoryID=8fa13e36-87b5-42d0-9e55-5bb2064983d4">http://eform.mefa.ir/portal/Home/ShowPage.aspx?Object=NEWS&amp;ID=e2bd27ab-d1ac-414e-a745-f29360dffbe1&amp;LayoutID=3184adbd-92d9-486a-9019-4033c9906dbd&amp;CategoryID=8fa13e36-87b5-42d0-9e55-5bb2064983d4</a>
Vanuatu		<a href="https://www.tfadatabase.org/members/vanuatu">https://www.tfadatabase.org/members/vanuatu</a>
Tuvalu		Not confirmed
Tonga		<a href="https://www.tfadatabase.org/members/tonga/measure-breakdown">https://www.tfadatabase.org/members/tonga/measure-breakdown</a>
Timor-Leste		Not confirmed
Solomon Islands		<a href="https://www.tfadatabase.org/members/solomon-islands/measure-breakdown?#collapse29">https://www.tfadatabase.org/members/solomon-islands/measure-breakdown?#collapse29</a>
Samoa		<a href="https://www.tfadatabase.org/members/samoa/measure-breakdown?#collapse29">https://www.tfadatabase.org/members/samoa/measure-breakdown?#collapse29</a>
Papua New Guinea		Not confirmed
Palau		Not confirmed
Nauru		Not confirmed
Micronesia (Federated States of)		Not confirmed
Marshall Islands (the)		Not confirmed
Kiribati		Not confirmed
Australia	the Department of Immigration and Border Protection (DIBP)	<a href="https://www.border.gov.au/News/Pages/Single-Window-for-International-Trade-Studies.aspx">https://www.border.gov.au/News/Pages/Single-Window-for-International-Trade-Studies.aspx</a>
	Standard Business Reporting	Single Window Feasibility Study ( <a href="http://www.sbr.gov.au/_data/assets/file/0007/45169/KPMG_ABR_Domestic-Single-Window-Study_Final-Report_Client-Copy_22-December-2016.pdf">http://www.sbr.gov.au/_data/assets/file/0007/45169/KPMG_ABR_Domestic-Single-Window-Study_Final-Report_Client-Copy_22-December-2016.pdf</a> )
Maldives		Not confirmed

	Maldives		<a href="https://www.tfadatabase.org/members/maldives">https://www.tfadatabase.org/members/maldives</a>
	New Zealand	The New Zealand Trade Single Window (TSW)	<a href="https://www.tsw.govt.nz/">https://www.tsw.govt.nz/</a>
	Fiji	ESCAP	<a href="https://unnex.unescap.org/sites/default/files/Fiji.pdf">https://unnex.unescap.org/sites/default/files/Fiji.pdf</a> <a href="https://www.tfadatabase.org/members/fiji/measure-breakdown?#collapse29">https://www.tfadatabase.org/members/fiji/measure-breakdown?#collapse29</a>
<b>NORTH EAST ASIA</b>	Korea (Democratic People's Republic of)		Not confirmed
	China	General Administration of Customs	<a href="http://english.customs.gov.cn/Statics/8fc6ce8b-65c3-4912-9e79-09255658d2f2.html">http://english.customs.gov.cn/Statics/8fc6ce8b-65c3-4912-9e79-09255658d2f2.html</a>
		Asia Customs and trade	<a href="http://customstrade.asia/2017/05/31/chinas-single-window-fully-implemented-within-the-year/">http://customstrade.asia/2017/05/31/chinas-single-window-fully-implemented-within-the-year/</a>
	Korea (the Republic of)	Korea Customs Service	<a href="http://www.customs.go.kr/kcshome/main/content/ContentView.do?contentId=CONTENT_ID_000001284&amp;layoutMenuNo=21007">http://www.customs.go.kr/kcshome/main/content/ContentView.do?contentId=CONTENT_ID_000001284&amp;layoutMenuNo=21007</a>
	Japan	NACCS	<a href="http://www.naccs.jp/e/">http://www.naccs.jp/e/</a>
	Mongolia	ADB	Regional Improvement of Border Services: Procurement Plan ( <a href="https://www.adb.org/projects/documents/mon-regional-improvement-of-border-services-pp">https://www.adb.org/projects/documents/mon-regional-improvement-of-border-services-pp</a> )
		MNCCI	The implementation status of Mongolian Single Window ( <a href="http://www.unescap.org/sites/default/files/Session%20202-2.%20Choidog%20Oyunjargal_MNCCI.pdf">http://www.unescap.org/sites/default/files/Session%20202-2.%20Choidog%20Oyunjargal_MNCCI.pdf</a> )
Uzbekistan	State Customs Committee	<a href="http://old.customs.uz/en/static_pages/useful_information/288/">http://old.customs.uz/en/static_pages/useful_information/288/</a>	
	UNDP	<a href="http://www.uz.undp.org/content/uzbekistan/en/home/ourperspective/ourperspectivearticles/2017/07/18/_single-window_-for-public-services-.html#">http://www.uz.undp.org/content/uzbekistan/en/home/ourperspective/ourperspectivearticles/2017/07/18/_single-window_-for-public-services-.html#</a>	
Tajikistan	CAREC	Single Window Information System in Tajikistan ( <a href="http://www.carecprogram.org/uploads/events/2016/25-CBM-Subregional-Workshop/Presentations/Session%207%20-%20Single%20Window-TAJ.pdf">http://www.carecprogram.org/uploads/events/2016/25-CBM-Subregional-Workshop/Presentations/Session%207%20-%20Single%20Window-TAJ.pdf</a> )	
<b>CENTRAL ASIA</b>		Crown Agent	<a href="http://www.crownagents.com/our-work/projects/detail/tajikistan-single-window">http://www.crownagents.com/our-work/projects/detail/tajikistan-single-window</a> Kazakhstan to introduce "one window" principle for export-import operations in 2017
	Kazakhstan	The Prime Minister office	( <a href="https://primeminister.kz/en/news/finansiv-kazahstane-v-2017-godu-vvedut-printsip-odnogo-okna-po-eksportno-importnim-operatsiyam-12572">https://primeminister.kz/en/news/finansiv-kazahstane-v-2017-godu-vvedut-printsip-odnogo-okna-po-eksportno-importnim-operatsiyam-12572</a> )
	Turkmenistan		Not confirmed
	Afghanistan	World Bank	<a href="http://projects.worldbank.org/procurement/notice-overview?lang=en&amp;&amp;id=OP00037940">http://projects.worldbank.org/procurement/notice-overview?lang=en&amp;&amp;id=OP00037940</a>

Kyrgyzstan	"Single Window" Centre for Foreign Trade	State Enterprise "Single Window" Centre for Foreign Trade under Ministry of Economy of the Kyrgyz Republic ( <a href="http://www.trade.kg/">http://www.trade.kg/</a> )
Azerbaijan	State Customs Committee of Azerbaijan Azerbaijan Export and Investments Promotion Foundation	"Single Window" in the Republic of Azerbaijan (replies to an UNECE Questionnaire on single window -2011)  <a href="http://www.azpromo.az/3/en/98#.WaZCLrJb3g">http://www.azpromo.az/3/en/98#.WaZCLrJb3g</a>
Armenia	Ra National Single Window for Foreign Trade	<a href="https://trade.gov.am/trade/services/index">https://trade.gov.am/trade/services/index</a>

## Appendix 2. Questionnaire to Private Sector

### 1. Current SW practices and features

#### (Institutional arrangement)

1. Is your SW initiative driven by national trade facilitation body?
  - a. Yes
  - b. Being Planned
  - c. No
2. Is your national trade facilitation body composed of both public agencies and private sector representatives?
  - a. Yes
  - b. Being Planned
  - c. No

#### (Best practices of SW)

3. Which of the following best practices have been implemented in your National Single Window?  
Please tick as appropriate:
  - a. Trade Information Portal
  - b. Pre-arrival Processing
  - c. Electronic Manifest Submission
  - d. Electronic Customs Declaration Submission
  - e. Risk Assessment
  - f. Trade Licence and Permit Application submission, processing and Issuance; electronically
  - g. ePayment for Customs duty and tax and/or license and permit fees
  - h. Trade Statistics
  - i. Trade Analytics / Business Intelligence
  - j. Other(s), please indicate ( )
4. Based on the selection in question 3, please provide which Trade Licence and Permits can be applied and processed electronically in the National Single Window
  - a. Certificate of Origin
  - b. Sanitary and Phyto-Sanitary Certificate
  - c. Health Certificates for Export / Import
  - d. Pharmaceutical Certificate
  - e. National Standard and Quality Certificates
  - f. Certification of Electrical and Electronic Components Equipment and Product
  - g. Certificate for Medical devices
  - h. Other Permits / Certificates/Licences related to Export/Import ,  
please indicate ( )

#### (Business Process Reengineering/Reform)

5. Was there a Business Process Reengineering (BPR) for SW?
  - a. Yes
  - b. Being Planned
  - c. No
6. If yes, what are the results of BPR for SW?
  - a. Process Simplification (with less submission)

- b. Centralised Risk Assessment within SW for Customs and other government agencies
  - c. Form Standardization
  - d. Data Harmonization
  - e. Other(s), please indicate (    )
7. Since the implementation of SW, which of the following has been realised?
- a. Reduction of cargo clearance time (    % achievement)
  - b. Faster approval from customs and/or other government agencies (    % achievement)
  - c. Better coordination between Customs and other government agencies
  - d. Lesser documents for verification
  - e. More simplified procedures for cargo clearance
  - f. Adoption of electronic authentication and security
  - g. Significant cost savings have been realised (    % achievement)
  - h. All of the above
  - i. Other(s), please indicate (    )

## 2. Perception of Private Sector

### (Stakeholder coordination)

- 1. Is there any institutional arrangement for “stakeholder coordination” established for the SW?
  - a. Yes
  - b. Being Planned / Pending
  - c. No
- 2. If yes, is your company or any other organization representing your business/industry involved in the above-mentioned institutional arrangement?
  - a. Yes
  - b. No

### (Benefits of SW)

- 3. With the implementation of the SW, has the cost for the import / export of goods reduced? (Single Choice Question)
  - a. Yes (    %, if can be quantified)
  - b. Same as before / No change
  - c. Not at all
- 4. With the implementation of the SW, has the time for the clearance of goods decreased? (Single Choice Question)
  - a. Yes (    %, if can be quantified)
  - b. Same as before / No change
  - c. Not at all

### (Stakeholder Satisfaction)

- 5. What is the overall satisfaction on SW from your organization?
  - a. Very Good
  - b. Good
  - c. Satisfactory
  - d. Poor
  - e. Very Poor

6. If the answer is “Poor” or “Very Poor”, what is the main reason behind it?
  - a. Processes and Data remains tedious and complex
  - b. SW does not improve the costs of doing Business
  - c. SW does not provide the appropriate services for our Business
  - d. SW does not cater for the needs of my Business
  - e. SW makes things worse than before
  - f. Infrastructure bottlenecks
  - g. Other(s) ( )

### **3. Enhancing SW**

#### **(Additional Features of SW)**

1. What are the other features needed in SW to improve the competency of your Business?

Please tick as appropriate:

- a. Cross border exchange of electronic trade Documents (e.g. Certificate of Origin, SPS, CITES, B/L, L/C, etc.)
- b. Trade regulatory and compliance information of other country
- c. Trade financing (or supporting) service
- d. Trader directory service
- e. Certification on export or import record of traders
- f. Any other ( )

#### **(Interoperability)**

2. Is the IT system of your Business able to connect directly to the SW, via system-to-system / host-to-host connectivity?
  - a. Yes
  - b. No

#### **(Cross Border Trade Documents)**

3. Does your Business exchange any trade documents electronically with your overseas business partners?
  - a. Yes
  - b. No

4. If yes, how does your Business exchange the trade documents electronically with your overseas business partners?

Please tick as appropriate:

- a. All by Emails
- b. System-to-System connectivity
- c. By combination of Emails and System-to-System connectivity
- d. Via a 3<sup>rd</sup> Party Platform

5. If no, does your Business have intention to exchange trade documents electronically in the near future?

- a. Yes
- b. Planning
- c. No

#### **(Use of SW for Cross-Border Exchange)**

6. Would your Business use SW as a gateway for exchanging trade documents electronically with overseas partner?
  - a. Yes



b. No

7. If yes, what would be the major benefits of this approach?

Please tick as appropriate:

- a. Recognition of electronic trade documents (such as e-invoice, e-packing list) by authorities thus reducing the submission, processing and storage of paper trade documents
- b. Trusted 3<sup>rd</sup> party service enhancing authentication, security and stability of exchange
- c. Lower cost
- d. Others ( )

8. If no, what would be the reasons?

- a. No such service offered by SW
- b. Overseas partner does not have capability to exchange trade documents electronically using their SW
- c. Other 3<sup>rd</sup> Party platforms or service providers would be more preferred
- d. Others ( )

**(Additional Requirements)**

9. Any other services are your Business seeking from SW in the near future?

- a. ( )

### Appendix 3. Questionnaire to Public Sector

#### 1. Current SW practices and features

##### (Institutional arrangement)

1. Is your SW initiative driven by national trade facilitation body?

- a. Yes
- b. Being Planned
- c. No

2. Is your national trade facilitation body composed of both public agencies and private sector representatives?

- a. Yes
- b. Being Planned
- c. No

##### (Best practice features of SW)

3. Which of the following best practices have been implemented in your National Single Window?

Please tick as appropriate:

- a. Trade Information Portal
- b. Pre-arrival Processing
- c. Electronic Manifest Submission
- d. Electronic Customs Declaration Submission
- e. Risk Assessment
- f. Trade Licence and Permit Application submission, processing and Issuance; electronically
- g. ePayment for Customs duty and tax and/or license and permit fees
- h. Trade Statistics
- i. Trade Analytics / Business Intelligence
- a. j. Other(s), please indicate ( )



## 2. Perception of Public Sector

### (Paperless Trade system)

1. Does your department or agency have any IT Systems or Applications that interfaces with SW?
  - a. Yes
  - b. No
  
2. If yes, what is the name and purpose of the above IT Systems/Applications?
  - a. Name: ( )
  - b. Purpose: ( )
  
3. Have your specific requirements, if any, been catered for in the SW within the agreed timeline?
  - a. Yes (pl. indicate the functionality)
  - b. No

### (Data harmonization)

4. Has any Data harmonization exercise been conducted in relation to the implementation of the National Single Window? (Single Choice Question)
  - a. Yes
  - b. In progress
  - c. Being planned
  - d. No
  
5. Is the Data harmonization done in compliance to the WCO Data Model? (Single Choice Question)
  - a. Yes, full compliance
  - b. Partial compliance
  - c. No compliance

### (Benefit of SW for OGAs)

6. How expeditious is your service for clearance of goods with the introduction of SW? (Single Choice Question)
  - a. Faster ( % achievement)
  - b. Normal
  - c. Slow( % )
  - d. Other(s), please indicate ( )

### (Stakeholder coordination)

7. Is there any institutional arrangement for “stakeholder coordination” established for the SW?
  - a. Yes
  - b. Being planned / Pending
  - c. No

8. If yes, is your organization involved into the above-mentioned arrangement?
  - a. Yes
  - b. No

(Stakeholder Satisfaction)

9. What is the overall satisfaction on SW from your organization? (Single Choice Question)

- a. Very Good
- b. Good
- c. Satisfactory
- d. Poor
- e. Very Poor

10. If the answer is “Poor” or “Very Poor”, what is the main reason behind it?

- a. Processes and Data need further harmonization
- b. SW does not reflect nor optimize our Agency’s business
- c. SW does not provide enough functionalities for our Agency
- d. Change Requests are not well applied to SW
- e. Our Agency receives many complaints on the SW from users
- f. Infrastructure deficiencies
- g. Other(s), please indicate ( )

### **3. Enhancing SW**

(Interoperability)

1. Is the SW system connected / interfaced with other systems such as Customs, Port Community System or Airport Community System?

- a. Yes
- b. No

2. To what extent is the SW connected / interfaced with ALL trade-related Regulatory Agencies’ / Participating Government Agencies’ systems?

- a. All – 100%
- b. Mostly – 70 to 90%
- c. Partially – 50% to 70%
- d. In Progress – 20% to 50%
- e. Just Starting - < 20%
- f. Connected to Customs only

3. Is the IT system of private Business’ able to connect to the SW directly, via system-to-system / host-to-host connectivity?

- a. Yes
  - b. No
4. How many external interfaces does the SW currently have with Overseas Government Agencies' systems?
- a. More than one country (Number of countries \_\_\_\_\_ )
  - b. With one country
  - c. None

(Cross border trade documents)

5. Does your Agency issue any License/Permit/Certificate/any other documents (e.g. Sanitary / Phyto-sanitary Certificate, Certificate of Origin, CITES or Certificate of Conformity) that is recognised by other Overseas agencies?
- a. Yes
  - b. Being Planned
  - c. No
6. If yes, what are they?
- a. ( )
7. Does your organization exchange any of the above such Documents electronically already?
- b. a. Yes (name of documents \_\_\_\_\_ )
  - c. No
8. Does your Agency have intention to mutually recognise and/or exchange such Documents electronically with overseas counterpart Agencies in the near future?
- a. Yes
  - b. Planning
  - c. No

**(Use of SW for Cross-Border Exchange)**

9. Would your Agency use SW as a “gateway” for exchanging Documents electronically with an overseas counterpart Agency, if SW provides a “gateway” service for cross-border electronic data and documents exchange?
- a. Yes
  - b. No
10. If no, what would be the reason?  
Please tick as appropriate:
- a. No such gateway service could be offered by the SW

- b. International/regional arrangement of such Document requires direct Agency-to-Agency connectivity (i.e. does not accept interconnection via SW)
- c. The overseas counterpart Agency is unable to interconnect with my SW
- d. The other country does not have SW
  - a. e. Others ( )

**(Open Data Policy)**

11. Does your Government implement or practise any “open data” policy?

- a. Yes
- b. Pending
- c. No

12. Does SW or trade facilitation system provide access to data on an “open data” basis?

- a. Yes
- b. Pending
- c. No

13. If yes, what kind of data from SW is open to public (abiding by data privacy rule)?

Please tick as appropriate:

- a. Import and Export statistics
- b. Average Goods Clearance time
- c. Cargo Status information
- d. Trader Export Record certification
- e. Confirmation of customs clearance status to 3rd party (e.g. Bank) with consent of trader
- f. Any other ( )

**(Additional Requirements)**

14. Any other services that your organization is seeking from SW in the near future?

- a. ( )