

**For discussion
on 17 May 2022**

Legislative Council Panel on Commerce and Industry

Implementation of Phase 3 of the Trade Single Window System

PURPOSE

This paper reports on the latest progress of the development of the Trade Single Window (TSW) in Hong Kong and seeks Members' support on the funding proposal for the information technology (IT) system required for the implementation of Phase 3 of the TSW.

BACKGROUND

2. "Single Window" is an essential trade facilitation measure enshrined in the World Trade Organization's Agreement on Trade Facilitation¹ to enable businesses involved in cross-border trade and logistics to submit documentation through a single entry point to participating authorities. The Government is committed to establishing a TSW in three phases to provide a one-stop platform for lodging Business-to-Government trade documents for trade declaration and cargo clearance. We briefed Members on the implementation of Phase 1 and Phase 2 in 2018 and 2019 respectively. We have recently completed the feasibility studies and trade consultation on the development of Phase 3, the final and most complex phase of the TSW.

PHASE 1 IN FULL SERVICE

3. Phase 1 of the TSW, first rolled out in December 2018, is now in full service. It covers 14 types of trade documents, which include mainly import/export licences or permits for specific controlled goods (**Annex A**). To tie in with the launch of the TSW, the Customs and Excise Department (C&ED) set up the Office of TSW Operation (OSWO) in 2018 to operate the corresponding IT system and to provide support to the trade on the use of the

¹ Paragraph 4 of "Article 10: Formalities Connected with Importation, Exportation and Transit" (WT/L/579), in force since February 2017.

new system. The trade's feedback on the TSW services has been positive, and the take-up rate for the new system has been on the rise since the launch of Phase 1, as reflected by the following statistics –

- (a) as at 31 March 2022, there are around 1 580 registered users (including individuals and companies), about five times the number we reported to Members in December 2019. Some 17 600 applications have been received and around 23 200 licences/permits successfully issued so far;
- (b) among the 14 types of trade documents covered in Phase 1, 83% of them were processed through the TSW in 2021, as compared with the share of 15% in December 2019;
- (c) the current average monthly usage rate (i.e. proportion of licences/permits issued through TSW out of the total) is reaching 90%. For some types of licences/permits, the usage rates have reached and maintained at 100%;
- (d) as at 31 March 2022, OSWO has contacted some 3 300 companies, individuals or organisations of the trade under a proactive and structured outreach programme to promote the TSW services; and
- (e) OSWO provides over-the-counter and 24-hour enquiry hotline and email services to support the operations of TSW, and has handled over 1 500 enquiries from the trade so far. Many users consider that the TSW services can save time and cost.

ROLL-OUT OF PHASE 2

4. The Phase 2 services will cover another 28 types of trade documents (**Annex B**). The Finance Committee of the Legislative Council (LegCo) approved the commitment of \$133,770,000 for the implementation of Phase 2 IT system in July 2020. The development work is proceeding full steam ahead. We expect that the Phase 2 services will be rolled out progressively starting from mid-2023.

DEVELOPMENT OF PHASE 3

Scale and Complexity

5. Phase 3 is the final and most complex phase of the TSW, involving a huge volume of document submissions from the widest range of stakeholders. It will cover –

- (a) Import and Export Declaration (TDEC);
- (b) submissions of cargo information which include Advance Cargo Information (ACI), Cargo Manifest (EMAN) and Cargo Report in respect of different transport modes; and
- (c) applications for the Certificate of Origin (CO) and Permit for Dutiable Commodities (DCP).

The total volume of these documents in 2021 was 121 million, which is 97 times the volume of the documents covered by Phases 1 and 2.

6. The Phase 3 system will also replace the Government Electronic Trading Services (GETS)², several existing cargo clearance systems of C&ED³, including the Road Cargo System (ROCARS), the Air Cargo Clearance System (ACCS) and the Sea Cargo Support System (SCSS), as well as relevant back-end processing systems. Most of these systems were major IT projects on their own and established separately over the years. Phase 3 will provide a unique opportunity to streamline and standardise the current cargo clearance processes of different transport modes, as well as integrate the existing cargo clearance systems into a single platform for all trade-related documents. The shared modules and infrastructure will create synergy in the new system, facilitating re-use and immediate sharing of data among modules. In addition, a separate risk assessment module with high processing power and large storage capacity will be established to allow C&ED to process the large volume of cargo clearance documents while maintaining customs clearance efficiency.

7. We have recently completed the related business and technical feasibility studies for Phase 3 and consulted the trade and key stakeholders to map out the implementation details. Relevant details are set out in the ensuing paragraphs.

² A front-end electronic service for the trading community to submit TDEC, EMAN, CO and DCP to the Government for customs control, trade declaration, trade control and statistics compilation purposes.

³ Existing cargo clearance systems for traders, carriers, cargo terminal operators and other parties to submit information to facilitate customs clearance for road, air and sea cargoes.

Functionality

8. The Phase 3 IT system will support the following services and functions of Phase 3 of the TSW –

- (a) **Central portal** – Phase 3 will establish a central portal for users to access all the services of the TSW, including user registration, user account administration, application for licences/permits, checking of licences information, submission of cargo information, etc. The central portal covers all 40-plus types of Business-to-Government documents/licences/permits required for trade declaration and cargo clearance, including those covered in Phases 1 and 2;
- (b) **Front-end platform for cargo information submission** – a new front-end platform will be established, replacing the different submission modules of the existing cargo clearance systems in C&ED as well as GETS, to provide web-based and system-to-system interface for the trade to submit cargo information to the Government;
- (c) **Cargo Clearance Module (CCM)** – a new and highly automated cargo risk assessment engine will be built to assist C&ED to perform risk assessment of cargo data and conduct cargo selection and examination. Instead of relying on multiple cargo clearance systems to carry out its enforcement work, C&ED could centrally handle all cargo information at various boundary control points through one single platform to expedite cargo clearance; and
- (d) **Post-clearance module** – the Phase 3 system will support participating government agencies (PGAs) in carrying out various auditing work after cargo clearance. For example, the Census and Statistics Department (C&SD) can make use of the auto-matching function of cargo information collected in TDEC and other trade documents (e.g. manifests, licences/permits) to conduct consistency checks in compiling trade statistics; and the Trade and Industry Department can check licences/permits information and verify it against the information in TDEC and EMAN.

9. The Phase 3 IT system will also make use of the latest IT technologies to facilitate the trade and the work of relevant PGAs, such as –

- (a) **Robust infrastructure** – Phase 3 will be established on a cloud infrastructure, consisting of a central web portal, different system-to-system interfaces and a central message board to facilitate

information exchange between PGAs and the trading community. It will also be a scalable infrastructure that enables easy connection to systems of other related organisations or platforms; and

- (b) **Artificial intelligence and big data analytics** – CCM will apply risk products generated by artificial intelligence and big data analytics to help identify high-risk shipment patterns and complex relationships among entities, traders and goods. The new system will also facilitate post-clearance audit checks, enabling C&ED to review risk assessment results regularly in order to enhance the accuracy of cargo risk assessment engine. These latest technologies will help automate most of the screening procedures so that C&ED officers could focus their efforts on identifying high-risk cargo for more targeted risk assessment and effective enforcement.

Benefits of TSW Phase 3

10. According to the Global Competitiveness Report released by the World Economic Forum in 2019, Hong Kong is ranked the 9th worldwide for “border clearance efficiency” (in the context of trade openness). Over the years, the Government has put in place various measures and initiatives to enhance customs clearance efficiency and expedite cargo flow while maintaining effective control. To bring Hong Kong on par with the mainstream international development and to uphold our competitiveness, the full implementation of the TSW is essential. It will further enhance the operational efficiency of both the Government and the trade as well as improve our cargo clearance efficiency, which helps maintain Hong Kong’s status as an international trade centre. After the proposed IT system comes into operation, Phase 3 of the TSW will deliver the following benefits –

- (a) **Centralised system and rationalised submission processes** – a centralised round-the-clock TSW platform will enable individual users to use a single account to handle all trade documents with the Government for trade declaration and cargo clearance. Users will no longer need to approach different PGAs individually for submission of different trade documents. In particular, Phase 3 of the TSW will replace the existing myriad of cargo clearance systems of different transport modes, thereby allowing the re-use of data among different users and eliminating duplicated submissions to multiple systems;
- (b) **Upgraded critical infrastructure** – Phase 3 of the TSW will replace GETS and various existing cargo clearance systems of C&ED, including ROCARS, ACCS and SCSS. Some of these customs and trade systems have been used for many years, and

their functions and processing capacities cannot catch up with the exponential growth of cross-boundary cargo arising from rapid development of e-commerce in recent years. The Phase 3 system will also resolve the capacity and other technical issues of the existing systems through the provision of a completely new platform and newly added functions, in order to meet the challenges of ever-changing business needs in the e-commerce environment;

- (c) **Facilitation of pre-shipment submissions** – the existing post-shipment arrangement for submission of TDEC and EMAN (i.e. to be submitted within 14 days after import or export) will be maintained. Nevertheless, Phase 3 will allow voluntary pre-shipment submission of manifests and TDEC to meet the statutory requirements. Phase 3 will also facilitate the submission of advance cargo information in all transport modes by different parties to the one-stop platform. This will help streamline and rationalise the myriad submission requirements of cargo information amongst different users, allowing the trade to enjoy a smoother and more seamless cargo clearance process;
- (d) **Improved cargo flow** – Phase 3 will establish a powerful and highly automated cargo risk assessment engine that allows C&ED to screen cargo information more efficiently. The streamlined submission workflow, the ability of data re-use, and the submission of more detailed cargo information by the trade will help C&ED enhance its risk profiling work and focus enforcement efforts on targeted suspicious consignments, thus expediting the cargo clearance process, reducing unnecessary cargo hold-ups, and as a result improving cargo flow. The new risk assessment engine will also enhance C&ED's ability to detect contrabands and illegal activities more effectively, thus safeguarding the security and public safety of Hong Kong;
- (e) **Streamlined post-clearance work** – the enhanced cargo information on a single platform will allow PGAs to greatly streamline post-clearance checks of licence/permit and other regulatory work; and
- (f) **Connectivity with other TSWs or commercial systems** – Phase 3 has the technical capabilities to connect with the single windows of other economies or commercial systems should the needs arise. Terminal operators/traders/agents meeting specific technical requirements will be able to connect their IT systems with TSW so as to submit large amounts of trade documents more efficiently and cargo data in greater detail. In addition, we have

established the TSW Expert Group with the Mainland authorities to enhance exchange on TSW development and explore possible collaboration to facilitate efficient cross-boundary cargo movement. During the development of Phase 3, we will study the feasibility of different trade facilitation measures, including data exchange arrangements that allow the trade to re-use data to submit trade documents, taking into account various technical, legal and data privacy issues etc.

Support Services

11. OSWO of C&ED has been set up since June 2018 to operate the Phase 1 system and services. OSWO will continue to provide corresponding support for users of Phases 2 and 3 in future, including round-the-clock enquiry, user registration, system administration and other support services (such as service counter, publicity, outreach and training, etc.).

Cost Savings

12. It is estimated that the implementation of Phase 3 will bring about notional savings of around \$663 million per annum for the trade and \$17 million per annum for PGAs because of improved enquiry service, data re-use in different submissions, streamlined collection processes of approved applications/licences, improved operational efficiency in following up outstanding TDEC submissions and elimination of duplicated submissions. In addition, the maintenance cost of about \$65 million per annum would be saved from the existing cargo clearance and other relevant IT systems to be replaced by Phase 3 of the TSW, which can offset relevant costs of the new Phase 3 IT system.

Financial Implications

Non-recurrent Expenditure

13. It is estimated that the IT system required for implementation of Phase 3 will incur a non-recurrent cost of \$1,404,559,000 from 2022-23 to 2026-27. The indicative cost breakdown and estimated cash flow requirements by financial years are set out below –

	2022-23	2023-24	2024-25	2025-26	2026-27 and beyond	Total
	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
(a) Hardware	-	-	299	135,109	259,706	395,114
(b) Hosting services and site preparation	-	-	8,483	7,618	-	16,101
(c) Software	-	-	504	101,668	217,902	320,074
(d) Communication network	-	-	989	6,481	2,643	10,113
(e) Implementation services	-	-	178,443	127,866	77,332	383,641
(f) Contract staff	741	5,941	39,325	36,252	12,236	94,495
(g) Publicity and Training	-	-	3,000	9,518	16,030	28,548
(h) Miscellaneous	-	-	-	9,707	19,079	28,786
(i) Contingency	74	594	23,104	43,422	60,493	127,687
Total	815	6,535	254,147	477,641	665,421	1,404,559

14. A Project Management Office, led by two time-limited directorate staff and supported by a team of time-limited non-directorate staff, has been set up under CEDB to take forward the project. In addition, various PGAs would incur some staff cost to take forward various tasks required for implementing Phase 3. They will absorb the concerned cost within their existing resources as far as possible. The Project Management Office and the relevant PGAs will review the relevant manpower requirements nearer the time.

Recurrent Expenditure

15. Upon full implementation of Phase 3, it is estimated that an indicative annual recurrent expenditure of \$281,088,000 will be required to maintain and support the operation of Phase 3 IT system from 2027 onwards. We will review the relevant resource requirement in more detail nearer the time.

Implementation Plan

16. Subject to funding approval by the LegCo Finance Committee, we plan to implement Phase 3 of the TSW according to the following schedule –

	Activity	Target Completion Time
(a)	Invitation of tenders	Late-2022
(b)	Award of contract	Late-2023
(c)	System analysis and design	Mid-2024
(d)	System development (by batch)	From early-2025 till end-2026
(e)	System live run (by batch)	From early-2026 till late-2027

17. In addition, upon the full implementation of Phase 3, TSW will replace GETS as the single electronic platform for submitting TDEC, EMAN, CO and DCP. We will need to make some technical amendments to a number of ordinances, including the Import and Export Ordinance (Cap. 60), the Dutiable Commodities Ordinance (Cap. 109), the Reserved Commodities Ordinance (Cap. 296) and the Protection of Non-Government Certificates of Origin Ordinance (Cap. 324), and various subsidiary legislation to enable the submissions of these trade documents through the new TSW platform.

Trade Consultation

18. We have extensively engaged the trade on the planning, development and implementation of different phases of the TSW. We have set up six User Consultation Groups (UCG) since 2018 to collect views of industry users, including airlines, shipping lines, cargo terminal operators, express couriers, forwarders and trader associations, and to keep them abreast of the development on TSW. Apart from the UCG platform, we have also conducted briefings and held meetings with other stakeholders and logistics industries during the technical studies on Phase 3 in order to ensure that future services will meet the needs of different stakeholders.

19. Overall speaking, the trade showed overwhelming support towards the development of TSW and urged the Government to take forward Phase 3 as soon as possible. They expected that TSW will help reduce their operating costs and further improve cargo flow efficiency. The presence of the one-stop round-the-clock electronic platform will greatly streamline their submission

workflows and alleviate the need for making duplicated submissions on multiple systems. The ability to re-use data in different submissions will also save their time and effort, as well as reduce the risk of human error. They also welcomed the proposed voluntary submission arrangements for pre-shipment information which will facilitate the trade in meeting the regulatory requirements while minimising multiple submissions.

20. We will continue to work closely with the trade and other stakeholders on the transitional arrangements and other issues relating to the implementation of Phase 3.

ADVICE SOUGHT

21. Members are invited to note the latest progress of the development of the TSW and support the funding proposal for the IT system required for the implementation of Phase 3. With Members' support, we will submit the funding application concerned to the LegCo Finance Committee for approval.

Commerce and Economic Development Bureau
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**Trade Single Window
Trade Documents under Phase 1**

Government Agency	Types of Trade Document
Agriculture, Fisheries and Conservation Department	<ol style="list-style-type: none">1. Import/Export Licence for Pesticides2. Import/Export/Re-export Licence of Toothfish
Customs and Excise Department	<ol style="list-style-type: none">3. Authorization to Import/Export Controlled Chemicals¹4. Certification of Non-U.S. Frozen Chicken Products Transhipped to the Mainland through Hong Kong5. Licence for Optical Disc Mastering and Replication Equipment6. Permit to Remove Controlled Chemicals in Transshipment7. Transshipment Notification for Optical Disc Mastering and Replication Equipment8. Certificate of Non-manipulation under Free Trade Agreement Transshipment Facilitation Scheme
Civil Engineering and Development Department	<ol style="list-style-type: none">9. Hong Kong Natural Sand Final User Certificate10. Sand Removal Permit
Environmental Protection Department	<ol style="list-style-type: none">11. Licence for Ozone Depleting Substances²12. Licence for Scheduled Chemicals
Office of the Communications Authority	<ol style="list-style-type: none">13. Import and Export Permit for Radiocommunications Transmitting Apparatus14. Transshipment Notification for Radiocommunications Transmitting Apparatus

¹ Some controlled chemicals also require the Import/Export Licence issued by the Department of Health.

² The Trade and Industry Department is also involved in the processing and issue of this licence.

**Trade Single Window
Trade Documents under Phase 2**

Government Agency	Types of Trade Document
Agriculture, Fisheries and Conservation Department	<ol style="list-style-type: none">1. Licence to Export/Re-export Endangered Species2. Licence to Import/Introduce from the Sea for Endangered Species3. Permit for Import of Mammals from the Mainland and Animal Products4. Plant Import Licence5. Re-export Certificate for Species of non-Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) or not yet Controlled under the Protection of Endangered Species of Animals and Plants Ordinance (Cap. 586)6. Special Permit for Import of Animals and Birds from Overseas7. Special Permit for Import of Dogs and Cats from Overseas8. Special Permit for Import of Food/Pet Reptiles
Customs and Excise Department	<ol style="list-style-type: none">9. Currency and Bearer Negotiable Instruments Declaration Form10. Import and Export Statement for Dutiable Commodities
Department of Health	<ol style="list-style-type: none">11. Diversion Licence for Dangerous Drugs12. Import Licence for Radioactive Substances and Irradiating Apparatus13. Import/Export Licence and Import Certificate for Dangerous Drugs

Government Agency	Types of Trade Document
Department of Health (Cont'd)	14. Import/Export Licence for Pharmaceutical Products and Medicines 15. Import/Export Licence of Chinese Herbal Medicines 16. Import/Export Licence of Proprietary Chinese Medicines 17. Import Permit for Biological Materials 18. Removal Licence for Dangerous Drugs
Food and Environmental Hygiene Department	19. Health Certificate for Food of Animal Origin and Food Inspection Certificate 20. Import Licence for Frozen/Chilled Meat or Poultry 21. Permission for Import of Eggs 22. Permission for Import of Frozen Confections 23. Permission for Import of Game, Meat and Poultry 24. Permission for Import of Milk, Cream and Milk Beverage 25. Permission for Import Meat or Poultry (Applicable to import for re-export to the Mainland/Macau)
Trade and Industry Department	26. Import/Export Licence for Rice 27. Kimberley Process Certificate 28. Strategic Commodities Licence