Asia-Pacific
Economic Cooperation

Compendium of Smart Customs Practices for APEC Economies

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TABLE OF CONTENTS

EXECUTIVE SUMMARY

As the development of globalization and digitalization deepens, the fast-changing global trade environment requires customs to respond rapidly and effectively when faced with new opportunities and challenges in international supply chains. The SCCP Strategic Plan 2022-2025 outlines the SCCP's vision to be an incubator for innovation and technology-led customs. Exploring the use of new technology and innovative solutions to secure supply chains has become one of the SCCP's strategic priorities. In the Putrajaya Vision 2040, "innovation and digitalization" is listed as an important economic driver: we will foster an enabling environment that is market-driven and supported by digital economy and innovation.

To push forward the development of smart customs in the APEC region, we've launched an initiative focusing on good-practices sharing on smart customs. We received survey responses from 14 economies including Australia; Chile; the People's Republic of China; Hong Kong, China; Indonesia; Japan; the Republic of Korea; Mexico; New Zealand; Peru; Russia; Singapore; Chinese Taipei; and Thailand. The goal of this survey was to ascertain opportunities for APEC customs administrations to learn from one another and encourage cooperation. The results of this survey will help identify areas of common interest and concern, shared opportunities for collaboration, and inform next steps for APEC economies to have smart input on their future customs construction and choose the path best suited to their current development situation.

SURVEY FINDINGS AND TRENDS

In recent years, we have observed that traditional and non-traditional security challenges are intertwined, which requires Customs to adopt innovative solutions, deepen international cooperation, conduct more effective, intelligence-based surveillance, and ensure a secure and stable global supply chain. However, the lack of regulatory resources, information asymmetry and outdated supervisory practices still hinder improvements in the efficiency and effectiveness of Customs and other border agencies.

To serve the expectations for greater trade security and facilitation, we recommend that the international Customs community work together to improve the quality of services for supporting economic and trade development through smart approaches, thus transforming the management model from "compartmentalization" to "integration", from "working alone" to "multi-governance", and from "experience-based management" to "data-driven management". Such efforts will promote the connectivity among Customs authorities and other stakeholders involved in the global supply chain, thus securing and facilitating smooth global trade.

With the advent of a new wave of technological revolution, the digital economy is integrating into every aspect of the modern society. New generation information technologies such as mobile Internet, big data, cloud computing and blockchain are increasingly integrated with robotics and intelligent manufacturing technologies, driving both the production and consumption towards automation and intelligence. We have seen that this has given impetus to the development of new global economic governance across sectors, while simultaneously offering opportunities for improvements in both efficiency and effectiveness and promotion of connectivity among the international Customs community.

In recent years, we observe that the international Customs community has focused on smart development and applied disruptive technologies to reengineer Customs governance for better global connectivity. The World Customs Organization (WCO) proposed the concept of Globally Networked Customs (GNC) to enhance coordinated border management. In 2021, the WCO reformed its working mode, advocated online video conferences, promoted electronic document-based cooperation, to effectively respond to the impact of the COVID-19. We have seen that the international Customs community has come to realize that the development of Smart Customs is the key to coping with various challenges lying ahead.

To push forward the development of smart customs in the APEC region, we've launched an initiative focusing on good-practices sharing on smart customs. We designed a survey, distributed it to the Members, and collected results from 13 economies, which are Australia; Chile; the People's Republic of China; Hong Kong, China; Indonesia; Japan; the Republic of Korea; New Zealand; Peru; Russia; Singapore; Chinese Taipei and Thailand.

Upon preliminary analysis, we have some findings as follows:

In terms of the use of new technologies, the results of the survey show that technologies such as big data, data analytics, artificial intelligence (AI), and machine learning (ML) and cloud technology are being used in an effort to improve the efficiency and effectiveness of customs control. For example, Thai Customs has been developing risk profiles and identifying high-risk shipments, individuals, or entities for further scrutiny by using data analytics techniques. New

Zealand Customs has developed analytical models of current and historical border data to make predictions about future events, and has applied analytics to data from the border sector and beyond to build meaningful analytics outputs. Peruvian Customs has developed an online Chatbot Sofia to provide instant guidance on tax and customs issues to public enquiries. Korea Customs has implemented an AI-based tracking camera system to target high-risk passengers, enhancing security measures and facilitating targeted interventions. Japan Customs and Hong Kong Customs have applied Robotic Process Automation (RPA) for routine and repetitive tasks to enhance efficiency. Australian Border Force (ABF) is exploring automated non-intrusive inspection (NII) technology, also enabled by AI and ML, to increase intervention capacity without disruption to logistics flows and facilitating decision-making. China Customs has used 5G technology and developed 5G tablet and smart glasses which can transmit audio and video information collected on site to the surveillance department, greatly improving the efficiency of on-site supervision. Japan Customs has also applied similar smart glasses devices. Mexico Customs' use of cloud technology provides immediacy and speed of information for safer and more agile operations, decreasing waiting times.

In addition, technologies such as blockchain, Internet of Things (IoT), virtual, augmented and mixed reality are also widely used among the economies surveyed. Singapore Customs has worked together with China Customs to establish a trade data exchange platform for the real-time exchange of container logistics dynamics. Through this platform, cargo logistics information between the two places can be tracked and smart inquiries can be made in real time. Indonesian Customs has been using National Logistics Ecosystem (NLE) to synchronize the flow of goods and documents in all related logistics processes to strengthen cooperation between government and private sector. Hong Kong Customs has applied VR and motion tracking technologies to develop an innovative learning tool named "Cave Automatic Virtual Environment" (CAVE) to help trainees experience situations that are difficult or impossible to replicate in real life during cargo processing.

In terms of innovative solutions, these solutions can simplify the handling process, improve customs clearance efficiency and reduce risks. One such solution is the concept of "Single Window" which is a commitment under Article 10.4 of the World Trade Organization Trade Facilitation Agreement and provides for 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. A single window in customs refers to a centralized platform or system that enables traders to submit all the required trade-related information to fulfill customs and other government regulatory requirements. According to the *Building A Single Window Environment* developed by the WCO, "Single Window" is not just about creating a facility that receives import, export and transit-related regulatory information at one point; it is also a strategic response of the organization to meeting its trade facilitation and security objectives.

Additionally, Member customs have taken several measures to strengthen risk prevention. Peruvian Customs, for example, has implemented 100% digitization of procedures at the port of Callao, established a risk management system for selecting customs declarations for control, and introduced online measurement of the release time for export and import goods. Chilean Customs applies statistical models to process the complexity and risks associated with trade operations. Singapore Customs employs multiple analytical tools for risk analysis, such as tools to apply rule-based detection, predictive analysis, visual analytics, network analysis and text analytics. Russia

Customs has developed a subject-oriented model for their risk management system, dividing the risk level into three categories high, medium and low.

Overall, these innovative solutions and digitization efforts in customs operations are aimed at enhancing efficiency, reducing duplication and improving risk management in international trade processes.

In terms of other fields of Smart Customs, we found that some economies have developed clear and specific strategy or plan. For example, Ministry of Finance, Japan published"SMART Customs Initiative 2020", a Medium-to-long-term Vision for Customs administration, and "Action Plan 2022 for the Realization of SMART Customs". The Government of the Russian Federation approved the Strategy for the Development of the Customs Service of the Russian Federation until 2030. These practices demonstrate that a clear roadmap and step-by-step approach can contribute to the realization of smart customs.

What's worth mentioning is that, the concept of smart customs does not just apply to customs control only. It can also be put into practice in management. Take Indonesian Customs' New Ways of Working (NWOW) as an example. The work style is changing to adapt to the current situation, particularly when Covid-19 has brought so much inconvenience. The Directorate General of Customs and Excise (DGCE) of Indonesia has implemented a Flexible Working Arrangement consisting of Flexible Working Space (FWS) and Flexible Working Hours (FWH) by maximizing information and communication technology such as "office automation" application to increase and maintain employee productivity and ensure the fulfillment of their responsibilities. Such an innovation method has facilitated and shortened the completion of work, accommodated work mobility, facilitated and improved communication and coordination between team members, and facilitated control over work processes.

Australian Border Force (ABF) have designed and delivered a workshop program building innovation skills within the workforce. These workshops focus on problem solving techniques and building creativity to deliver innovative solutions to the challenges faced by the organization. This has been a key initiative in embedding a supportive innovation culture within the ABF.

In terms of the future trend, we can see that economies show their great interest in the following aspects.
Artificial Intelligence (AI) and machine learning are the hottest topic among Member customs. Hong Kong Customs is exploring the use of AI and machine learning in enhancing the ability of risk assessment in cargo screening in its future Customs Clearance Module of the Trade Single Window. Japan Customs, Singapore Customs and Indonesian Customs also express their interest in the application of Intelligence (AI) in various domains such as video analysis, and text or document analysis. Mexico Customs is interested in the use of AI designed to support data mining.

Automation is another field focused by Russia Customs, Japan Customs, Thai Customs, Chilean Customs and Australian Border Force aimed at developing systems or other software tools to innovate the mode of customs control, facilitate the inspection process or the tariff service, and detect a range of border threats. China Customs has launched a "Smart Inspection in Automated Terminal" Project in Shanghai. Shanghai Customs is equipped with H986 inspection system and

automated guided vehicles (AGV), extending the coverage of safety access risk control with less cost.

Big Data is considered very useful in risk management and trade facilitation. For such purpose, Peruvian Customs plans to explore the integration of customs intelligence information. Apart from the new technologies mentioned above, Member customs have also provided some insights in innovative solutions and some of the challenges they face implementing and utilizing these new systems.

Smart Border System and cross-border collaboration relevant to smart customs are developed to enhance the border control. Smart customs best-practice sharing, capacity-building assistance and customs-business engagement help to improve the efficiency and effectiveness of global customs via cooperation.

CONCLUSION AND NEXT STEPS

Smart Customs encourages technological innovation, optimization of management and modernization of Customs governance system and capacity. Smart Customs pursues smart Customs infrastructure, smart supervision and smart cooperation.

- **<u>Smart Customs Infrastructure.</u>** It is encouraged that software and hardware infrastructure be developed and deployed with the support of 5G, e-payment, IoT, cloud computing, geographic information, intelligent identification, traceability information, robotics, drones, and other new technologies, to promote the modernization of both supervision and internal administration, and to increase the scientific and technological support of APEC customs administrations.

- **<u>Smart Supervision.</u>** Customs clearance procedures should be streamlined. Efforts such as automatic collection of clearance data, intelligent identification and warning of potential risks, risk management and product information tracing should be strengthened to ensure a fairer, more transparent, more efficient and more targeted Customs supervision in APEC economies.

- **<u>Smart Cooperation.</u>** Information sharing and procedure optimization among domestic border agencies should be improved. Therefore, importers and exporters can avoid redundant submission and inspection. Cooperation should be carried out with other customs administrations, border agencies and stakeholders in the supply chains to increase cross-border administrative mutual assistance smart mutual assistance, so as to jointly meet the challenges facing APEC economies in border protection and trade facilitation.

SURVEY RESULTS

Australia

Survey Questions

1. **Please provide example(s) or good practice(s) showing your customs administration's use of new technologies.**

RESPONSE:
New smart technologies in proposed future cargo intervention model
- The ABF is exploring automated non-intrusive inspection (NII) technology which is enabled by artificial intelligence (AI) and machine learning (ML) and embedded in the supply chain. Automated Threat Detection (ATD) capabilities would increase intervention capacity without disruption to logistics flows and would be leveraged by customs officers to inform decision-making.
- Networked NII technology that transmits X-ray images to a remote control room where customs officers can analyse the images and determine if further examination is required. This would reduce the reliance on localised officers' knowledge and tradecraft.

Digital Verification Platform (DVP)
- The DVP was developed for creating and issuing Certificates of Origin which are an instantly authenticated, digitally verifiable credential. A proof of concept trial successfully demonstrated that this type of trade document could be created. A post-trial review found that the technology has limited scalability and the technical foundations would need to be redeveloped to ensure enduring capability that matches emerging technology and standards. As such, the DVP platform is being redeveloped and has not been implemented.

2. **Please provide example(s) or good practice(s) showing your customs administration's use of innovative solutions.**

RESPONSE:
The following are proposed innovative solutions that the Australian Border Force is seeking to implement through its Trade Modernisation Agenda.
- Embedding intervention in the supply chain
  The proposed future sea cargo intervention model will use networked X-ray technology to inspect containers at the terminal where they are unloaded. This model is expected to reduce inspection times and opportunities for criminal interference and provide scalability and flexibility.
- Centralised examination facilities with co-located border and law enforcement agencies
  The proposed future air cargo intervention model includes centralised inspection and examination facilities. The proposed model includes customs, biosecurity and police operations co-located at the facilities to enable covert inspection of high threat air cargo.

- Remote control room

  The proposed future air and sea cargo intervention models include a remote control room to centralise decision making on inspection outcomes and establish an economy's view of threat and detection trends by integrating data from networked NII technologies.
- Regulatory Sandbox

  The Customs Legislation Amendment (Controlled Trials and Other Measures) Bill 2022 is currently before the Senate. If passed it will establish a new regulatory framework (known as Regulatory Sandboxes) to undertake trials of new customs practices and technologies in collaboration with approved entities in a controlled regulatory environment, before committing to legislative change. These time limited trials will address regulatory burden within the Customs Framework, testing new technology and trade procedures, and is specifically designed to allow a modernised, best practice approach to legislative reform.

In addition, ABF have employed LEAN Continuous improvement methodology to come up with innovative and efficient processes. For example, recently a LEAN review of our Border Force Officer Recruitment process was able to reduce the process from 41 steps to 11 saving many months for and providing better outcomes for candidates and the organization. The same methodology has been applied in operational areas and Customs compliance areas to great effect.

3. **Please provide other example(s) or good practice(s) you think is relevant to Smart Customs.**

RESPONSE:
- Complete small scale testing of new technology and then refine it based on data and learning from trials before full implementation.
- Commencing customs activities at the pre-departure stage in the exporter economy.
- International collaboration and sharing best practices at the bilateral level and through international fora and platforms, such as the APEC Sub-committee on Customs Procedures and the World Customs Organization.

ABF have designed and delivered a workshop program building innovation skills within the workforce. These workshops focus on problem solving techniques and building creativity to deliver innovative solutions to the challenges faced by the organization.

Similarly the Innovation and Business improvement team have launched a curated case study program sharing the lessons learnt from officers who have innovated within the ABF. The series explains how each innovation was transformed from idea to reality. This has been a key initiative in embedding a supportive innovation culture within the ABF.

4. **Please introduce your customs administration's interested field(s) of using new technologies and innovative solutions.**

RESPONSE:
- Implementing a Trade Single Window to simplify trade and manage existing and emerging cyber-security threats – what are the implementation challenges and best practices?
- Digitally verifiable credentials and feasibility of integrating a DVP with international customs

counterparts.

- Effectiveness of 3D X-ray technology compared to 2D X-ray in detecting a range of border threats.
- Understanding how APEC member economies are developing automated threat detection algorithms for x-ray.

5. Other materials (e.g. pictures, videos, case studies, etc.)illustrating your good practices on Smart Customs.

RESPONSE:
None

Chile

Survey Questions

1. **Please provide example(s) or good practice(s) showing your customs administration's use of new technologies.**

RESPONSE:
CURRENT DEVELOPMENT OF THE SMART SELECTIVITY PROJECT
The Chilean Customs Service is currently working on data analysis and intelligence, as well as on the automatic selection and prioritization of control tasks in international trade operations. To carry out these activities, a set of tools is used in a legacy platform, installed locally (on-premise).

However, this platform has limitations in terms of capacity and obsolescence of both the hardware and software used in the analysis processes. For this reason, there is a need to modernise the existing components and integrate a set of systems to centralise control assignments, record of the tasks performed and the results obtained throughout the process, in addition to having information on seizures and other actions carried out by the institution, allowing its integration with other government entities involved in the fight against organized crime. Thus, as of 2022, the National Customs Service has initiated the development of a Smart Enforcement Programme, which comprises a series of initiatives aimed at providing support to Customs enforcement work. This programme includes the implementation of tools to strengthen analytical processes, the recording and monitoring of results, as well as integration with business processes related to the transactional systems of our Service.

Among the technological challenges that this programme seeks to address are the following:
- Eliminate the legacy on-premise platform.
- Having elastic storage for recording graphical evidence and developing analysis models (artificial intelligence, rule engine, etc.)
- Having platforms in place to re-engineer existing processes, which will facilitate increased collection and improved enforcement processes, automation of tasks, and support for current business applications.
- Ensure high availability for foreign trade systems.
- Implement government guidelines and international agreements
- Establish a healthier cyber security policy
- Ensure the availability of platform integration.
- Establish a service model for analytical platforms
- Incorporate new models and advanced intelligent analysis techniques to assess the risk and compliance with the operations and operators.

2. **Please provide example(s) or good practice(s) showing your customs administration's use of innovative solutions.**

RESPONSE:

The Enforcement Sub-directorate of the National Customs Service has led the development of statistical models for processing the complexity and risks involved in trade operations, providing useful information inputs for decision-making in the context of enforcement and facilitation.

The methodology for its development is based on two critical pillars. The first of these is related to customs risk management and the intelligence cycle, which makes it possible to make statistical and IT developments aware of the strategic, tactical and operational objectives of our Service, prioritising areas of interest for development, as well as providing methodological tools for risk characterisation, evaluation and monitoring, and for profiling. In general, the statistical models of customs categorisation or risk are part of researches of quantitative and longitudinal in nature, since they propose systematic evaluations of customs compliance or risk, providing our Service with the capacity to observe the historical trajectory they assume.

The general objective of such categorisation or risk models is to increase the understanding of phenomena of customs interest, as well as to determine the most relevant attributes contained in the databases of our Service, which allow us to describe or explain the areas of customs interest, defining their importance, weight and dependence, and thus triggering an enforcement action or an evaluation for the development of internal management processes.

The methodology used is based on the stages recommended in data mining projects in the SAS development environment (GUIDE, MINER, INVESTIGATOR) called SEMMA (SAMPLE-EXPLORE-MODIFY-MODEL-ASSESS), which is detailed in the following diagram, and is based on a recursive process of learning and development until an optimal modelling version is obtained.

SEMMA (SAMPLE-EXPLORE-MODIFY-MODEL-ASSESS) Methodology
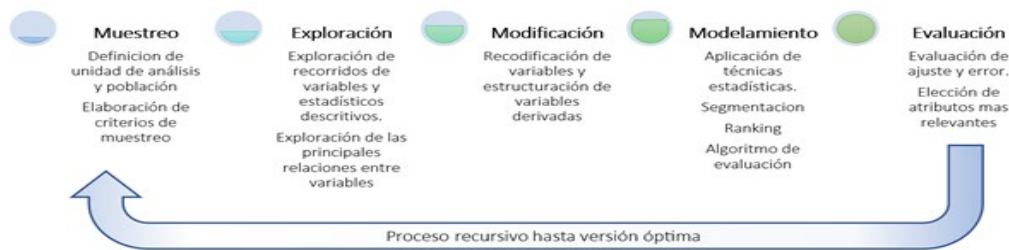
Examples of models and visualizers developed on the basis of the methodology described above.

- Intellectual Property Risk Prediction Model

- First Import Event Model

- Risk Entity Relationship Analysis Model

- Inland Freight Operations Monitor

- Risk Model Courier Undervaluation

- Export Anomalous Data Model

- Courier Guide Debugging Automation Model (Under US$ 30)

- Global Risk Index Model (GRI)

- Model of Categorisation of Importers / Exporters / Customs Brokers

- Enforcement Results Dashboard (SAS)

- Selectivity Dashboard (SAS)

- Traceability Sampling Dashboard

- Courier Descriptive Dashboard (SAS)

- AEO Operator Categorisation Dashboard

- Selectivity Indicators Dashboard

- Dashboard of land cargo movements

3. **Please provide other example(s) or good practice(s) you think is relevant to Smart Customs.**

RESPONSE:

- SMART SELECTIVITY PROJECT

As stated in the first question, since 2022 the SNA has been working on an intelligent enforcement programme proposed as an Integrated Assisted Audit System (SIFAS), in order to support analytical and decision-making processes, recording and monitoring of results, and integration with business processes linked to the transactional systems layer of our Service.

This measure, which is expected to be implemented between 2022-2024, will significantly improve the current situation of selectivity of operations, which is supported by an IT architecture that limits the possibilities of using different criteria (expert, probabilistic and risk-based) to nurture selectivity flows, generating a selectivity scenario with limitations in terms of adapting to the dynamics of international trade and transnational organised crime.

- STRENGTHENING PARTICIPATION AND DATA PROVISION IN INTERNATIONAL FORA; THE CASE OF THE WCO CUSTOM ENFORCEMENT NETWORK -CEN-PLATFORM.

The National Customs Service has proposed to promote instances of collaboration, operational participation and exchange between economies in the South American region, as well as exchange with other regions and jurisdictions of the World Customs Organisation.

Within the above meaning, the National Customs Service has been able to contribute with data related to relevant facts on Drugs, Intellectual Property and Public Health, Weapons, CITES, among others, reaching a total of 4,901 cases for the period 2022.

Achieving this data contribution is a relevant fact since it makes this information available to the WCO global network, contributing to the global statistics of seizures of interest (reports on illicit trade), and in turn, positioning our Administration in the first place in South America in reported cases for the period 2019-2022 (net counts and average annual report).

ECONOMY	(F) 2019	(F) 2020	(F) 2021	(F) 2022	SUMMATORY	ANNUAL AVERAGE (2019-2022)
CHILE	10	497	813	4.901	6.221	1.555
BRAZIL	1.393	1.007	650	826	3.876	969
ARGENTINA	598	576	590	645	2.409	602
PERÚ	297	225	315	404	1.241	310
COLOMBIA	257	92	141	186	676	169
ECUADOR	20	63	81	97	261	65
BOLIVIA	19	17	12	15	63	16
URUGUAY	225	36	32	6	299	75
PARAGUAY	2	8	0	2	12	3
VENEZUELA	18	0	0	0	18	5

Source: Own elaboration based on CEN data (Extracted on 09-03-2023).

4. **Please introduce your customs administration's interested field(s) of using new technologies and innovative solutions.**

RESPONSE:

Part of the strategic guidelines of the National Customs Service of Chile defines the framework of interest related to the implementation of information technologies. Strategic Definitions in WEB

These objectives are:

Enforcement

Develop and implement differentiated strategies for smart and agile enforcement, depending on the level of compliance of operators and the economy's priority risks.

Facilitation

Encourage voluntary compliance through the optimisation of processes and regulations based on international standards, and the design and implementation of programmes that facilitate customs operations.

Information and communication technologies

Establish strategies for the operation, development and maintenance of information technology platforms that support the processes, in order to guarantee an integrated and efficient management, and thus ensure the provision of a timely and quality service to our users.

Security and data management

Establish and develop a system of security and management of institutional data and information to contribute to the continuous and efficient improvement of processes, facilitating strategic decision-making based on data analysis.

More specifically, and related to the current smart selectivity project, interests related to the use of new technologies relate to the following:

- To have centralised information on the allocation of enforcement actions, a detailed record of the enforcement actions executed at the economy level and their results.

- To facilitate notification processes and the generation of documentation for the continuity of the subsequent process for internal and external users related to the infringement area.

- To have traceability of assignments, assignment records and results for the corresponding follow-up and management processes.

- To have a dashboard to visualise the results of enforcement actions at the economy level.

- To incorporate all areas of infringement - risk - defined in the enforcement process of the Customs Service.

5. Other materials (e.g. pictures, videos, case studies, etc.)illustrating your good practices on Smart Customs.

RESPONSE:

EXAMPLE : LAND CARGO MOVEMENT DASHBOARD
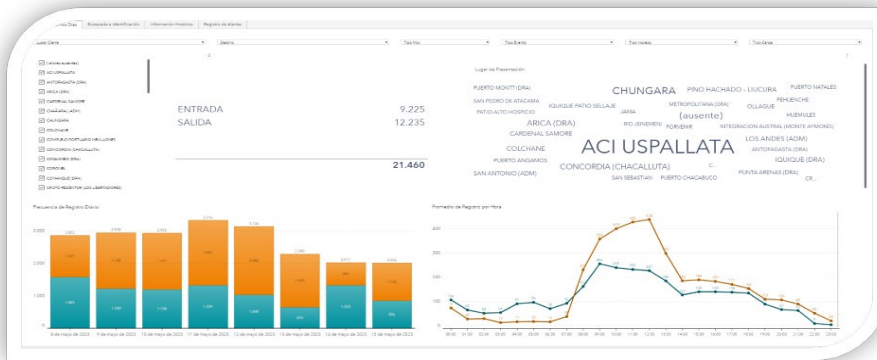
The People's Republic of China

Survey Questions

1. **Please provide example(s) or good practice(s) showing your customs administration's use of new technologies.**

RESPONSE:
- **5G Smart Inspection Project.**

Shenzhen Customs has taken full advantage of the features of 5G technology such as high bandwidth, low latency and high reliability and developed 5G Smart Inspection Project. With 5G tablet and smart glasses as the main devices, the 5G Smart Inspection can transmit audio and video information collected on site by the smart glasses to the surveillance department. In addition, the application of license plate identification and face recognition technologies helps to capture image information, break data barriers and form panoramic portraits of objects and personnel under supervision, which make it possible to carry out following multidimensional assessment and risk analysis and targeting, significantly increasing the efficiency of on-site supervision and clearance.During this process, the surveillance and command center can interact with field customs officers through real-time audio and video devices to directly acquire the inspection information,the on-site customs supervisory capability and collaboration between frontline officers and rear departments being greatly improved.

- **Smart Inspection in Automated Terminal Project.**

Taking advantage of Yangshan Port Area Phase IV, the largest automated container terminal in the world, Shanghai Customs, equipped with H986 inspection system and automated guided vehicles (AGV), has applied both machine inspection and AI-based image reading to logistics at the smart terminal to expand the coverage of safety access risk control with less cost. Meanwhile, Shanghai Customs obtains external information from port operators, transportation

companies, and importers and exporters through the Big Data Platform for Cross-Border Trade. With the integration of external information and internal customs data, the information silo is removed. An internal data analysis platform and big data pool are established and a new management system based on the honesty and self-discipline of enterprises is taking shape.

2. **Please provide example(s) or good practice(s) showing your customs administration's use of innovative solutions.**

RESPONSE:
The core concept of "Smart" has two implications: 1) application of new and advanced technologies and equipment; 2) develop innovative mindsets, scientific methods, and modern administrative systems. It integrates the application of modern technology and the theory of collaborative governance. Smart Customs is established to promote smart customs management, coordinated border management and global collaborative governance, to ensure trade security and facilitation around the world.

- **China-ASEAN SPS Cooperation Information Project.**
China Customs and ASEAN Secretariat have jointly built the China-ASEAN SPS Cooperation Information Website.The website is maintained by Nanning Customs. It is a specialized website in SPS field which provides one-stop services including regulations and standards inquiry, notifications, comparative reviews, trade hotspots and risk information. It serves as the first smart platform available in multiple languages that enables the exchange of China-ASEAN SPS regulations and standards, technical measures to trade and information of agri-food products.Taking the opportunity of the China-ASEAN Ministerial Meeting, several multilateral cooperation mechanisms have been set up with departments of agriculture, forestry and fisheries in ASEAN economies. With effective information collecting methods and convenient services, the website connects and serves supervision authorities, experts, practitioners and consumers from China and ASEAN economies and enhances the connectivity of resources and information in an all-round manner.

- **China-Kazakhstan Cooperation on Intelligent Control for Trade Security and Facilitation Project.**
Urumchi Customs has built a Central Asia Biosafety Channel and set up a regular meeting mechanism with Kazakhstan, to advance work related to the verification of veterinary health certificates and sanitary certificates for imported animals and animal products to China such as stallions, donkeys and beef. A Memorandum of Cooperation was signed with the National Veterinary Laboratory of the Ministry of Agriculture of the Republic of Kazakhstan to unify detection standards of equine diseases. In addition, "Green channels" have been opened to Kazakhstan, Kyrgyzstan and Tajikistan to ensure fast customs clearance of agricultural products and the Internet of Things Supervision System of China-Kazakhstan Khorgos International Border Cooperation Center has been developed to collect, classify and verify information of passengers and their shopping records as well as sales information.

3. **Please provide other example(s) or good practice(s) you think is relevant to Smart Customs.**

RESPONSE:
- **China (Chongqing)-Singapore Digital Border Information Connectivity Project.**

The Chongqing Port and Logistics Office has been actively cooperating with Port of Singapore Authority to establish a trade data exchange platform for the real-time exchange of container logistics dynamics between ports in Chongqing and Singapore. Through this platform, cargo logistics information between the two places can be tracked and smart inquiries can be made in real time. Enterprises can better predict customs clearance procedures, production and product delivery. Import and export enterprises in Chongqing, especially SMEs can have better access to global market. Meanwhile, the Chongqing Port and Logistics Office also shares information with Singapore Customs such as risk reports on infectious diseases at ports, quality risks and safety problems related to import and export commodities, and border IPR infringement cases.

- **Road Port Customs Control Operation Reform Project.**

Based on the pre-arrival risk analysis, Hohhot Customs has reformed the customs clearance and control mode at road ports by changing the declaration method from "Customs declaration on arrival" to "Document examination in advance". Supported by local governments, IT projects at road ports in this customs district has been comprehensively pushed forward and a unified one-stop approach for customs inspection and release has been adopted, with information such as license plate number, weighbridge weight and images of vehicles collected and shared among different agencies. The efficiency of customs operations such as declaration, inspection and release have been greatly optimized. Customs operation is gradually upgraded from manual control to smart control, achieving unattended smart gate operation around the clock.

4. **Please introduce your customs administration's interested field(s) of using new technologies and innovative solutions.**

RESPONSE:
 AI image reading, smart customs workplan, customs modernization strategy

5. **Other materials (e.g. pictures, videos, case studies, etc.)illustrating your good practices on Smart Customs.**

RESPONSE:

None

Hong Kong, China

Survey Questions

1. **Please provide example(s) or good practice(s) showing your customs administration's use of new technologies.**

RESPONSE:

Hong Kong Customs (HKC) has formulated a "Smart Customs Blueprint (the Blueprint)" since 2019. Under the Blueprint, HKC has been employing innovative technologies, integrating Customs core business, and applying artificial intelligence (AI) and big data analytics to implement a series of smart initiatives so as to enhance customs clearance effectiveness, fortify law enforcement capabilities and upgrade services to the public.

The Blueprint covers three overarching directives, namely the extension of customs role, expansion of the service regime and enhancement of customs functions. In addition to maintaining its traditional role as "law enforcer and service provider", HKC will play a more diversified role by strengthening its role as "trade facilitator" and becoming an "economic development promoter". Meanwhile, the service regime will also be extended from conventional boundary and inland enforcement as well as provision of service for the domestic economy to making a contribution to the regional and global economic development. Covering all core aspects of HKC' business, the ultimate goal is to build up an all-in-one Smart Customs.

HKC has been introducing more advanced inspection equipment with automated contraband detection and AI function, including computed tomography (CT) scanners and auto-detection devices for existing X-ray checkers to facilitate passenger and cargo clearance. Besides, HKC also makes use of advanced systems, e.g. the Platform for X-ray Image Evaluation, Vehicle Inspection and Strategic Analysis System, Air Cargo Clearance Queuing System, Smart Liquor Duty Assessment, Cargo Big Data System, etc. to reinforce risk profiling as well as passenger, cargo and conveyance clearance. Moreover, an interactive response system which includes Customs Virtual Robotic Ambassador at control points and online chatbot at the website of HKC is being developed to provide instant and accurate responses to public enquiries. Meanwhile, HKC has been developing the Customs Crime Analytics System (CCAS) which will serve as a smart analytics platform to step up its capabilities in intelligence processing, case investigation and crime detection. Such systems / equipment will help to reinforce customs enforcement and enable more speedy passenger and cargo clearance.

Some more examples are:

● Use of AI-powered Video Analytics Technology

A pilot run on "AI-powered video analytics" technology for identifying container number and trailer number of cross-boundary goods vehicles has been kick-started at the vehicular lanes of Shenzhen Bay Control Point since September 2022. AI engine has been trained to analyse live video at a vehicular lane, as well as to identify the container number and trailer number of cross boundary goods vehicles. It aims to strengthen the risk assessment capability by gathering more data of cross-boundary goods vehicles for big data analysis.

● Application of Robotic Process Automation

HKC has been deploying the Motor Vehicles First Registration Tax System (FRT) to process applications related to motor vehicle trading industry and conduct assessment of motor vehicle

first registration tax. To further enhance efficiency, HKC has newly applied Robotic Process Automation (RPA), which is a technology that uses "software robot" to replicate repetitive work procedures and can largely expedite the overall process, to the FRT system with a view to substituting substantial manpower in processing the large amount of market researches on motor vehicle valuation.

● E-validation by Block Chain Technology and Dynamic QR Code

In order to strengthen the enforcement against money laundering, a two-tier registration regime for dealers in precious metals and stones (DPMS) has been introduced under the Anti-Money Laundering and Counter-Terrorist Financing (Amendment) Ordinance 2022 and HKC has developed the Dealers in Precious Metals and Stones Registration System (DRS) to support electronic registration for DPMS from application to issuance. The DRS applies Blockchain technology and a self-developed Dynamic QR code authentication technology to enhance online validation of a dealer's registration. HKC plans to extend the e-validation technologies to other areas regarding licensing and registration.

2. Please provide example(s) or good practice(s) showing your customs administration's use of innovative solutions.

RESPONSE:

On trade facilitation, HKC has worked with the Commerce and Economic Development Bureau in developing the Trade Single Window as a one-stop Information and Technology platform to traders for easy submission of trade documents. In addition, HKC has over the years put in place the "Single E-lock Scheme" and the "Smart Crossing Scheme", etc. to expedite customs clearance and facilitate cargo flow, thus providing a more business-friendly environment for local traders.

Besides, HKC has optimised the Hong Kong Authorized Economic Operator (HKAEO) Programme, such as the implementation of "Priority Processing of HKAEO's Applications" under Free Trade Agreements as well as the introduction of an online self-assessment tool, namely AEO iPASS to facilitate self-understanding of certifying standards and initial self-assessment by companies that are interested to join the HKAEO Programme. Moreover, HKC has developed the AEO Data Exchange Platform (APEX) for automated exchange of AEO information between HKC and its Mutual Recognition Arrangements (MRAs) signatories in a more secure, accurate and efficient way. Besides serving as a central repository of AEO records, APEX provides system interface with Customs and Excise Information and Risk Management System (CEIRMS) for connection with various HKC's cargo clearance systems to ensure the best facilitation to AEO consignments. Since April 2022, HKC has implemented automated exchange of AEO data with the General Administration of Customs of the People's Republic of China (GACC).

Meanwhile, the Hong Kong Customs College has adopted an innovative learning tool "Cave Automatic Virtual Environment" (CAVE) in the first quarter of 2023. By leveraging the latest technologies, such as VR and motion tracking, CAVE helps trainees learn abstract ideas and practical skills from veterans, hence deepening their impression. They are able to experience situations that are difficult or impossible to replicate in real life, such as sophisticated concealment or false compartment in containers, during cargo processing. Besides, the instructors can adjust the cargo processing scenarios and observe trainees responses, which facilitates a more accurate assessment and evaluation their learning progress. With the

immersive experience, the knowledge sharing process evolves into an interesting and interactive one.

3. Please provide other example(s) or good practice(s) you think is relevant to Smart Customs.

RESPONSE:
None

4. Please introduce your customs administration's interested field(s) of using new technologies and innovative solutions.

RESPONSE:

HKC has formulated a "Smart Customs Blueprint" to support the extension of Customs role,expansion of the service regime and enhancement of customs functions with the help of innovative technology under four key pillars, namely Smart Boundary Management, Smart Investigation and Case Management, Smart Trade Facilitation, and Smart Business Development.

Looking ahead, HKC will continue applying more innovative technology and smart initiatives to reinforce its role as "law enforcer and service provider", "trade facilitator" and "economic development promoter".

Moreover, HKC has put forward the Smart Customs Blueprint to bring it in line with the Smart Customs, Smart Borders and Smart Connectivity (3S) Initiative. HKC hopes to put more focus on promoting cross-border collaboration between the Mainland and Hong Kong Customs to help enhance the connectivity and contribute to the economic development of both sides.

Meanwhile, regarding cargo clearance module, HKC would explore to use AI and machine learning in enhancing the ability of risk assessment in cargo screening in the future Customs Clearance Module of the Trade Single Window. Application areas include classification of free-text cargo descriptions into HS codes, analysis on abnormal trade patterns, and visualization of relationship between entities. AI models could be used in automatic screening of consignment information against pre-defined risk products for more accurate and efficient risk assessment, which could in turn expedite the cargo clearance process.
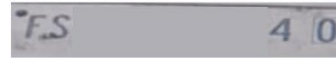
5. Other materials (e.g. pictures, videos, case studies, etc.) illustrating your good practices on Smart Customs.

RESPONSE:

Please see the video on "Smart Customs Blueprint" of Hong Kong Customs at:

https://www.youtube.com/watch?v=GxHDB8317EQ&list=PLEWgOkkD7S4TzhfYX4beWuGuu aqiOF8wt&index=8

Use of AI-powered Video Analytics Technology

Capture	Container
1/2/2023, 3:36:34 PM	FSXXXXXXX4
Serial code	Control digit
XXXXXXX4	0
Owner code	Owner city
FSXX	Hong Kong
Owner Country	Height
China	30

Capture
1/2/2023, 4:36:13 PM
Plate
XXXX6T
Country / Region
China / Hong Kong
Multiplate
2

An instructor of the Hong Kong Customs College uses CAVE to deliver training on cargo examination

Indonesia

Survey Questions

1. **Please provide example(s) or good practice(s) showing your customs administration's use of new technologies.**

RESPONSE:
Global industries and supply chains have been facing severe challenges recently due to the COVID19 pandemic and other global uncertainty, requiring Customs Administration to adjust its practice of serving public needs. On the other hand, the advent of information technology revolutions such as artificial intelligence, big data, cloud computing, and block chain has also brought opportunities for improving customs operations more efficiently and effectively.

Considering the responsibility of the customs administration to respond to those challenges and meet public expectations for improving trade facilities and trade securities, DGCE's has implemented good practices that using of new technologies among others:

- **CEISA 4.0**
CEISA 4.0 is the development version of the previous Customs and excise application system called CEISA which was first launch in 2013. The new CEISA 4.0 applies technologies that enable the system to accommodate with the rapid transaction in import and export that Customs must handle and monitor, such as import and export services, manifest services, consignment goods. The CEISA 4.0 will accommodate single core system that integrates all main systems of CEISA; smart customs and excise; support layer to automate DGCE's business process, using data analytics to support decision making for officer and official, Application Programming Interface (API), Facilitate Service User, and also Mobile application.

- **National Logistics Ecosystem (NLE)**
 NLE is a Logistics Ecosystem that synchronizes the flow of goods and documents from the arrival of transportation modes until the goods are received in the warehouse. The NLE is directed towards cooperation among government and private agencies through data exchange, simplification of processes, elimination of repetitions and duplications, and based on an information technology system that covers all related logistics processes and connects existing logistic system.

- **Dedicated Website FTA (https://fta.beacukai.go.id)**
In terms of Free Trade Agreement (FTA) implementation, several initiatives are being built and developed by DGCE involving technology to promote FTA utilization by enterprises, including SMEs, and assisting customs officers in verifying Certificate of Origin (CO) and Declaration of Origin (DO), which include the following:
a) Provision of a particular website related to the FTA (https://fta.beacukai.go.id). It is a knowledge based website that businesses or other interested people can utilize to seek information regarding the FTA cooperation that Indonesia has implemented. Today, Indonesia has ratified 17 FTAs with several counterpart economies. The website contains: (i). FTA agreement text; (ii). Legal basis for implementing FTA; (iii). A service desk that can allow

enterprises to inquire/consult on FTA matters; (iv). Regular online FTA class; (v) advance ruling on origin procedures; and (vi). other FTA learning materials such as glossaries, video tutorials, and infographics.

b) Risk Management system for CO and DO. With the increasing number of FTAs being implemented by Indonesia with its varying ROO provisions, a risk management system has been built. The system will assess risk on the customs declaration accompanied by the FTA facility. The system is expected to assist the customs officer in carrying out verification in granting preferential tariffs during clearance through validation and risk assessment of CO and DO. The risk management system applies big data and other technologies to collect, identify and compare risk information, so as to promote an early warning system for risk profiles.

c) Digitalization/Automation in the process of rejection and origin verification. In some FTAs, there are requirements for importing party to notify rejection of CO/DO when denying a claim for preferential tariff treatment; and send a request for a retroactive check when there is doubt about the validity and correctness of the CO/DO content. DGCE has developed an additional feature in CEISA 4.0 expected to help customs officers generate rejection/retroactive check notifications with a standardized format and contain required information elements in accordance with the FTA agreement. This innovation also provides a database of customs determination on the origin verification process, which further can be used for the evaluation or data/statistical analysis on the FTA implementation.

d) Electronic data exchange for CO (e-Form). Indonesia already develops an electronic system for CO's data exchange with Dialogue Partners under some FTA, such as bilaterally with China in ACFTA; Korea in AKFTA, Japan in IJEPA, and ASEAN in ATIGA. Digitalizing CO can enhance efficiency and transparency in the implementation of FTA. Importers do not need to submit CO to Customs so the customs clearance process will be more efficient. For Customs, the process of CO verification will be faster and can focus more on the nature of the goods, combating certificate fraud, and will be helpful for data/statistical analysis.

● **Advance Rulings of Origin through Application Systems**

To implement one of the WTO Trade Facilitation Agreement (TFA) commitments, on February 2022, DGCE issued Ministry of Finance Regulation No 7/PMK.04/2022 regarding the procedures for requesting and issuing an advance ruling of origin (ARO). Importer or Exporter may inquire to the Customs regarding the origin of goods before their importation by submitting online through the ARO system. Customs will determine the ruling in 30-40 days since the application was complete. ARO help traders make informed decisions on their business transaction and planning while assisting customs authorities in managing risk for future importation. This facilitation also builds cooperation and confidence between traders and customs while reducing time-consuming complaints and appeals.

● **Single Window**

Indonesia has implemented a single window licensing system that allows verification of import license fulfilment to be carried out by the system so as to speed up the clearance process.

● **The usage of face recognition for passenger inspection**

We had implemented face recognition using high resolution camera at main airport to identify person of interest to Customs (AI suggestion or officer targeting) for physical inspection

2. **Please provide example(s) or good practice(s) showing your customs administration's use of innovative solutions.**

RESPONSE:
Directorate General of Customs and Excise (DGCE) made some innovations to modernize the management system and capabilities by utilizing cutting-edge technology and creating a more efficient and effective workforce. Some of the innovations that have been implemented are:

● **Electronic-seal (e-seal)**
Usage Electronic-seal, so we can monitor live tracking the goods that in customs inspection. The implementation of electronic seal has started from the beginning of 2023 at Cikarang Dry port and in the middle of 2022 at Soekarno-Hatta airport.

● **Joint Inspection**
Joint inspection is a joint inspection programme between customs and quarantine to reduce repetition and duplication. Physical inspections by quarantine agencies and customs agencies are carried out simultaneously to reduce the time and costs required to carry out inspections.

● **Electronic Customs Declaration (E-CD)**
E-CD is a digital application for notification to Indonesia Customs of goods carried by passengers or crew members. Customs notification for passengers can be done through electronic applications so as to streamline the time needed for clearance. Currently, E-CD has been implemented in Soekarno-Hatta International Airport and Ngurah Rai International Airport.

● **Vessel Declaration System (VDS)**
VDS is an electronic registration system for Yacht/Cruise foreigners who will visit the territorial waters of the Republic of Indonesia. VDS is a web-based application designed to help make it easier for foreign Yacht/Cruise owners and entrepreneurs Yacht/Cruise of Indonesia

3. **Please provide other example(s) or good practice(s) you think is relevant to Smart Customs.**

RESPONSE:
Good practices that relevant to Smart Customs that applied in DGCE, among others:

● **New Ways of Working (NWOW)**
The work style is changing to adapt to the current situation. The Pandemic Covid-19 has accelerated such changes at the Ministry of Finance (MOF), including DGCE to implement New Ways of Working/NWOW. One of them is the implementation of a Flexible Working Arrangement consisting of Flexible Working Space (FWS) and Flexible Working Hours (FWH).

FWS provides flexibility in work location by maximizing information and communication technology to increase and maintain employee productivity and ensure the fulfillment of their responsibilities. FWH provides flexibility for employees in working time for a certain period with still paying attention to their performance achievement.

To support this flexible arrangement, MOF has (i). developed an "Office Automation" application to provide a collaborative, responsive, integrated, and more digital workplace; (ii). Improved the perimeter of information security from the end-user side; and (iii). Partnered with Microsoft to provide collaboration tools through Office 365 products as collaboration tools among Customs and MoF employees. With this innovation, it will facilitate and shorten the completion of work, accommodate work mobility, facilitate and improve communication and coordination between team members, and facilitate control over work processes.

- **Electronic-CoO**

We have been implemented e-coo data exchange with China, South Korea and ASEAN economies since 2017. With this implementation of data exchange, our officers can make better decision in approval of preferential tariff since we received e-CoO data directly from origin economies.

- **Knowledge Management System**

Our Contact Center namely Bravo Bea Cukai 1500225 developed a web-based application for Knowledge Management named SPLIT. It is maintained and regularly updated by Directorate of Communication and Stakeholder Council. The application is accessible for all vertical unit in Indonesian Customs. Knowledge mentioned has wide-range of form, starts from the latest rules and regulations about Customs and Excise, lated entrusted regulations from other government agencies, teaching-materials from training and so forth

4. **Please introduce your customs administration's interested field(s) of using new technologies and innovative solutions.**

RESPONSE:
Changes in the global situation, international trade practices, and technological development increase the diversity and complexity of customs operations. In response to that situation, DGCE actively supports and implements the measures of smart customs initiatives to make our work more sophisticated, efficient, and convenient. For the future, we acknowledge the following area need to develop to realize smart customs continuously:
  a. Expand and strengthen cooperation and information-sharing with relevant agencies and trade related businesses to further implement and facilitate trade and strengthen border control.
  b. Actively incorporate AI and other cutting-edge technologies into customs operations to make customs procedures convenient and more effective and efficient (digitalized customs procedures, including the related ministry/agency).
  c. Best-practice sharing and capacity-building assistance between customs administration supporting the smart management of the customs.
  d. Intensify customs-business engagement to encourage smart customs initiatives so both can achieve mutual benefits and win-win solutions (e.g. AEO MRA program, cooperation with the marketplace in e-commerce, etc)

5. **Other materials (e.g. pictures, videos, case studies, etc.)illustrating your good practices on Smart Customs.**

RESPONSE:

- **CEISA 4.0**
https://www.youtube.com/watch?v=2-vtVV49J60

- **NLE**
https://www.youtube.com/watch?v=c2tL-AJ9zNM

- **E-CD**
https://www.youtube.com/watch?v=XpGjPl3zLE8

Japan

Survey Questions

1. **Please provide example(s) or good practice(s) showing your customs administration's use of new technologies.**

RESPONSE:
Japan Customs has introduced glasses-shaped wearable devices (smart glasses), which enable customs officials to share images of cargo on a real-time basis with relevant divisions and to consult with them.

Japan Customs utilizes camera-equipped drones in order to improve the sophistication and efficiency of monitoring and control of coastlines, etc.

2. **Please provide example(s) or good practice(s) showing your customs administration's use of innovative solutions.**

RESPONSE:

Japan Customs is promoting the automated cargo inspection process at customs inspection stations by utilizing cutting-edge technologies.

Regarding the inspection of international mails, Japan Customs developed and utilized AI system to identify the contents based on x-ray images and to automatically sort high-risk mails to be inspected.

Japan Customs utilizes big data such as information on import and export declarations to improve sophistication and efficiency of customs operations.

Japan Customs has started exchanging the data of Certificate of Origin.

Japan Customs expedites further digitization of customs procedures by utilizing the Electronic Customs Declaration Gates (e-Gates) and unifying electronic customs declaration tools to facilitate the smooth entry of passengers at international airports.

Japan Customs utilizes Robotic Process Automation (RPA)for routine and repetitive tasks such as data entry.

3. **Please provide other example(s) or good practice(s) you think is relevant to Smart Customs.**

RESPONSE:

Ministry of Finance, Japan published "SMART Customs Initiative 2020", the Medium- to long-term Vision for Customs administration in June 2020

(https://www.customs.go.jp/english/smart_e/index_e.htm), and "Action Plan 2022 for the Realization of SMART Customs" in November 2022

Collaboration and cooperation with businesses including customs brokers and e-commerce platform operators (such as cooperation with e-commerce platform operators on IPR border enforcement)

Strengthening the partnerships with businesses (actively holding exchanging opinions to understand their needs and to promote their understanding of the current system)

Promoting the efforts to expand the use of the Authorized Economic Operator (AEO) program (including simplification of reduction/exemption procedures regarding goods for process or repair, and introducing flexibility of customs office for declaration using ATA Carnet.)

Further improvement of telework environment (creating an environment for flexible working styles)

4. **Please introduce your customs administration's interested field(s) of using new technologies and innovative solutions.**

RESPONSE:

The use of underwater drones for monitoring and control

Further utilization of AI

Further utilization of big data analysis while ensuring privacy and security, etc,.

Implementation of NQR (Nuclear Quadrupole Resonance) device (for stimulant concealment detection)

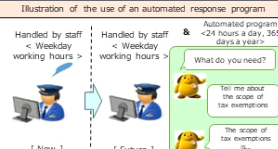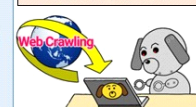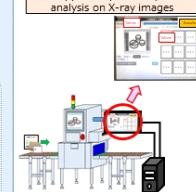Expansion of the operations and areas of RPA

Further automation of the cargo inspection process at customs inspection stations

Expansion of CO data exchange with other member economies

5. **Other materials (e.g. pictures, videos, case studies, etc.)Illustrating your good practices on Smart Customs.**

RESPONSE:

- Working toward being the **world's leading customs**,
for sound development of trade, a safe and secure society, and a prosperous future -

Solution

Aim to ensure more appropriate and prompter customs clearance by providing solutions to improve compliance and convenience in customs procedures for trade-related businesses, travelers, and others.

① **Deal with questions and inquiries 24 hours a day, 365 days a year through using automated response programs, etc.**
② **Automate customs inspections to further speed up customs clearance**

Illustration of the use of an automated response program

Multiple-Access

Aim to expand and strengthen information-sharing with relevant agencies and trade-related businesses to further implement both facilitating trade and strengthened border control.

① **Enhance information-gathering** for counter-terrorism and **obtain/use advance information (PNR, etc.) on cargo and passengers more efficiently and quickly**
② **Investigate the use of web crawling technology that automatically collects information on the Internet** to further improve the efficiency of information-gathering

Illustration of web crawling technology

Resilience

Aim to maintain and develop customs administration while ensuring the convenience of customs procedures in preparation for changes in social structure and disaster risks.

① **Consider the use of unmanned aerial vehicles (e.g., drones) and satellite technology** to ensure efficient and effective monitoring and control of coastlines, etc.
② **Create an environment for flexible working styles** by improving the environment for telework, etc.

Illustration of drone use

Technology & Talent

Actively incorporate AI and other cutting-edge technologies into customs operations and aim to enhance operations by improving convenience and implementing more effective, efficient, and sophisticated enforcement. In addition, we also aim to train personnel, review operations, and improve the work environment.

① **Initiate AI analysis of big data** to support customs inspections and post-clearance audits
② **Support inspection by AI analysis on X-ray images**
③ **Introduce RPA and expand the operations to which it can be applied**, thereby automating and improving the efficiency of routine tasks
④ **Carry out research on NQR device (for stimulant concealment detection)** and aim for early deployment
⑤ **Develop a the system for consideration and Human resource, and Secure staff resource** for introducing AI and other cutting-edge technologies

Support inspection by AI analysis on X-ray images

The Republic of Korea

Survey Questions

1. **Please provide example(s) or good practice(s) showing your customs administration's use of new technologies.**

RESPONSE:

Korea Customs is conducting R&D projects to meet the very needs of customs administration to upgrade its system. We have mainly 7 projects.

- X-Ray inspection equipment for small cargo

- X-Ray reader training system

- 3-D integrated radiation equipment to inspect goods to be cleared

- AI-based tracking camera system to target high-risk passengers

- THz equipment to detect hidden items

- Develop robots to inspect container cargo

- Technology, using bio-signals and facial expressions of passengers

2. **Please provide example(s) or good practice(s) showing your customs administration's use of innovative solutions.**

RESPONSE:

None

3. **Please provide other example(s) or good practice(s) you think is relevant to Smart Customs.**

RESPONSE:

None

4. **Please introduce your customs administration's interested field(s) of using new technologies and innovative solutions.**

RESPONSE:

None

5. Other materials (e.g. pictures, videos, case studies, etc.)Illustrating your good practices on Smart Customs.

RESPONSE:

None

Mexico

Survey Questions

1. Please provide example(s) or good practice(s) showing your customs administration's <u>use of new technologies</u>.

RESPONSE:

The use of new technologies applied to IT has enabled Customs to systematize processes and methodologies, which may include:

- Mexican Single Window (VUCEM)- Integral service platform that facilitates compliance with Customs Clearance, guaranteeing transparency, simplifying, and enhancing foreign trade operations.
- Integral Customs Operation System (SOIA)- System for real-time consultation of the status of foreign trade operations carried out during the Customs Clearance process.
- Integral Customs Automation System (SAAI)- Software with a set of records which allows the digital and electronic information review of the different import declarations.

As part of the tools used for the follow-up and analysis of foreign trade operations, there is a Video Surveillance System, which allows the real-time analysis by officers through visualization of the operation in Customs, along complementing the activities carried out on the ground.

2. Please provide example(s) or good practice(s) showing your customs administration's use of innovative solutions.

RESPONSE:

An innovative solution was the implementation of the AEO (Authorized Economic Operator). The AEO implementation by sectors allows that customs processes rely on secure chains of customs brokers, carriers, air and maritime terminals, maneuverers, warehouses, etc.

In addition, the implementation of virtual training, due to the sanitary pandemic of 2019, forced to use computer systems to their maximum capacity, resulting in crowded sessions with specialists to acquire greater knowledge of various specialized topics.
Another innovative solution was the application of business intelligence and interconnectivity among the different customs systems, such as local, central and in cloud services, aimed at detecting illicit goods.

3. Please provide other example(s) or good practice(s) you think is relevant to Smart Customs.

RESPONSE:

The use of cloud technology that provides immediacy and speed of information for safer and more agile operations, decreasing waiting times.

Another example is the Customs modernization through the installation of Non-Intrusive Inspection Systems which facilitate and expedite the inspection of goods during foreign trade operations.

4. Please introduce your customs administration's interested field(s) of using new technologies and innovative solutions.

RESPONSE:

The topics of interest of using new technologies and innovative solutions would be:

- Immersive technologies such as augmented reality.
- Use of Artificial Intelligence designed to support data mining.
- Use of integrated technology in consolidated information analysis tasks for the identification of risk patterns.
- Use of standards for international data exchange.

The video surveillance system and its equipment, will be updated to align them with new technologies that are emerging in the market in order to provide greater analysis tools, which allow detection of possible risks during customs operations and at the arrival of international passengers to the national territory, allowing better resolution in visibility through video surveillance cameras.

5. Other materials (e.g. pictures, videos, case studies, etc.) illustrating your good practices on Smart Customs.

RESPONSE:

The material is rarely available for public, except for which is accessible for external users through the customs website, such as technical documentation, manuals, bulletins, and test environments; the customs authority uses handbooks and didactic videos to train personnel in the use of internal systems. Technical guides, manuals and brochures for the use of customs systems are available on the Agency's inner portal.

New Zealand
Survey Questions

1. **Please provide example(s) or good practice(s) showing your customs administration's use of new technologies.**

RESPONSE:

Customs develops and uses a range of innovative tools to streamline and enhance Customs processes.

<u>New Zealand Traveller Declaration</u>

The New Zealand Traveller Declaration (NZTD)system allows travelers to complete a digital arrival declaration for entry into New Zealand. The New Zealand Traveler Declaration aims to help passengers move through airports more efficiently and improve the safety and security of New Zealand. Travelers can complete a declaration at www.travellerdeclaration.govt.nz/ or by downloading the NZTD mobile app. The New Zealand Traveler Declaration allows us to respond to border risks and streamline the processing of travelers into New Zealand. It will help educate travelers before they arrive in New Zealand, making entry requirements easier for them to understand and comply with. Travelers arriving into Wellington, Christchurch or Queenstown airports now have the option to complete a digital declaration instead of a paper Passenger Arrival Card, before traveling to New Zealand. From late August, travelers arriving into Auckland Airport will be able to complete a digital declaration.

<u>COLIN (Customs OnLINe) app</u>

COLIN is the Customs mobile application that frontline Customs officers can access when undertaking frontline inspections and search activity across freight, mail, and passenger pathways. It also allows for officers to complete required reporting as they are undertaking the function in whatever location they should be in, e.g. a freight forwarder's warehouse. This makes the process more efficient than before, as previously officers made written notes to transcribe into an electronic report once they returned to the office. Officers can add photos of the interaction to the COLIN report and record the tools used, officers present, and outcome of the inspection or interaction.

COLIN reports are linked to our CusModdatabase and are also available to be viewed via a 'webapp'. Information captured in COLIN reports can be used to inform other Customs business units of what has occurred and also serves as a memory aide to the author when required to recall what has occurred e.g. when providing evidence in court. Once analyzed, this information assists Customs in targeting the highest areas of border risk and to facilitate legitimate border crossings.

<u>Digitalization of AEO Secure Exports</u>

Exporters and other businesses in the export supply chain can now apply to become members of Customs' AEO Secure Exports Scheme (SES) online through Business Connect. Business

Connect allows businesses to access a range of government services from one place, such as licences, permits and registrations.

Providing this digital channel makes applying to be an AEO SES partner fast and easy for small and medium businesses. Using this digital channel means most of those applying will be able to complete all the information without needing assistance from Customs. Being a partner in the scheme provides them with benefits both in New Zealand and when their exports reach their overseas destination.

<u>Data science applications</u>

New Zealand Customs' team of data scientists and analysts build technologies that can distil data into analytical products to inform and improve decisions made at the border. They do this by:

- Developing analytical models of current and historical border data to make predictions about future events.
- Applying analytics to data from the border sector and beyond to build meaningful analytics outputs.
- Refining, enhancing, and improving raw data using enrichment tools to help improve quality issues in data entry.
- Optimising existing ways of working by applying different types of tools, experience, and data.

2. **Please provide example(s) or good practice(s) showing your customs administration's use of innovative solutions.**

RESPONSE:
None

3. **Please provide other example(s) or good practice(s) you think is relevant to Smart Customs.**

RESPONSE:
None

4. **Please introduce your customs administration's interested field(s) of using new technologies and innovative solutions.**

RESPONSE:
 None

5. Other materials (e.g. pictures, videos, case studies, etc.)illustrating your good practices on Smart Customs.

RESPONSE:
None

Peru

Survey Questions

1. **Please provide example(s) or good practice(s) showing your customs administration's use of new technologies.**

RESPONSE:

Considering the new technologies mentioned above (Mobile Internet, Big Data, Blockchain, Cloud Computing), Peru Customs has developed the following technological solutions:

- **Virtual Assistant (Chatbot) SOFIA (Automated Guidance and Facilitation System).**

It is a virtual assistant based on artificial intelligence for Tax and Customs Guidance that includes: tracking of postal packages; vehicles for tourism; migratory incentives; import of goods; donations; seizures and immobilizations of goods and, recently, tariff classification and prohibited and restricted goods.

Link:Conoce al Asistente Virtual Sofía - Orientación - Superintendencia Nacional de Aduanas y de Administración Tributaria - Plataforma del Estado Peruano (www.gob.pe)

- **"Welcome to Peru" mobile application on Baggage and Money Declarations.**

This app allows passengers entering Peru to register in advance a Baggage Affidavit (when the passenger has goods to declare), as well as a Money Affidavit - Entry (when the passenger is carrying cash and/or negotiable financial instruments exceeding USD 10,000). These declarations can be made at land borders, international airports or by sea, without the need of an internet connection to fill them out. The app is also available in English and Spanish and allows the consultation of the history of the declarations made by the passenger.

Recently, the options for the Declaration of Temporary Exit of Goods and the Affidavit of Exit Money have been implemented, thus completing the functionalities of the application.

Link: SUNAT - Bienvenido al Perú

- **Remote physical inspection at the port of Callao.**

In association with one of the private Administrators of the port, a physical inspection area has been defined for maritime containers covered by cameras, in which only authorized stevedoring personnel transit. The Customs officer and the importer or his Customs agent participate remotely from their premises or an external environment of the port and follow the action through monitors, giving instructions for selection and opening of packages. The objective is to reduce the risk of transit inside the port and achieve social distancing. This practice has been recognized in Peru as a successful public-private partnership.

- **Export Declaration System associated with electronic invoices**

In Peru, SUNAT is an agency that integrates Customs and Internal Tax Administration. Its major digital transformation effort in recent years is the implementation of the CPE (Electronic Payment Voucher) system, which currently represents 96.3% of the total vouchers issued in the economy, with 750,000 issuers. This system is based on cloud-based services and storage. In order to achieve traceability and data integration, the new Export Dispatch System, implemented in 2021, takes as a basis the electronic export invoice generated in the CPE system to prepare the Customs Export Declaration, forming a robust database that integrates the internal tax and Customs systems.

Link: Comprobantes de Pago Electrónico - CPE | Comprobantes de Pago Electrónicos (sunat.gob.pe)

2. **Please provide example(s) or good practice(s) showing your customs administration's use of innovative solutions.**

RESPONSE:

Other innovative solutions developed by Peru Customs are:

● 100% digitalization of procedures (numbering of declarations, sending of documents, filing of dossiers, notifications, release authorizations).

● Risk management system and selection of customs declarations for control, based on analytical models, data mining, neural networks and other tools.

● 100% electronic payment of import taxes, using private banks.

● Online measurement of the release time of import and export goods and dissemination to foreign trade operators through a microsite on the Customs website.

3. **Please provide other example(s) or good practice(s) you think is relevant to Smart Customs.**

RESPONSE:

Other best practices recently developed are:

● Control of the Customs Transit Regime through an electronic sealing system: RFID technology.

● Seizures Acts System (use of mobile App to record inspection, immobilization, seizure, money retention and other incidents).

● CADENA Project (Blockchain) for Mutual Recognition Agreements (MRA) of AEO (Authorized Economic Operator) Programs. With the support of the Inter-American Development Bank (IDB), the CADENA system is being implemented, based on the public

Blockchain platform LACChain, for the secure exchange of data and operations of AEO certified companies, within the framework of Mutual Recognition Agreements (MRA). Mexico, Peru, Chile and Costa Rica are participating in the Latin American region.

4. Please introduce your customs administration's interested field(s) of using new technologies and innovative solutions.

RESPONSE:

Based on current institutional plans and projects under development, the following are aspects of interest for Peru Customs:

- Non-intrusive control systems (image analysis supported by artificial intelligence and image exchange with destination and origin Customs).

- Integration of customs intelligence information.

- Camera monitoring systems for customs control (located in customs warehouses and other places in the primary zone).

- Electronic financial guarantees

- Customs valuation (valuation databases and automated verification systems).

5. Other materials (e.g. pictures, videos, case studies, etc.)illustrating your good practices on Smart Customs.

RESPONSE:

Attached are presentations by:

- SOFIA Assistant in customs consultations on tariff classification and prohibited and restricted goods.

- Customs Innovations Peru (Electronic Seals, Electronic Records).

- CADENA Project (prepared by IDB).

Russia

Survey Questions

1. Please provide example(s) or good practice(s) showing your customs administration's use of new technologies.

RESPONSE:

Technologies that have influenced the development of customs administration in the Russian Federation include the following:

- electronic declaration of goods;

- automatic registration of a customs declaration submitted as an electronic document and automatic release of goods;

- mandatory preliminary information;

- centralization of customs payments using single personal accounts;

- electronic declaration of customs transit procedures.

2. Please provide example(s) or good practice(s) showing your customs administration's use of innovative solutions.

RESPONSE:

Innovative solutions that have influenced the development of customs administration in the Russian Federation include the following:

- the transition of federal executive authorities to the technology of paperless legally significant electronic document flow and the transfer through the infrastructure of the system of interdepartmental electronic interaction of information in electronic form on issued documents in near real time;

- reforming the system of customs authorities, carried out from 2018 to 2020, to create e-customs and e-declaration centres located on state-owned premises and processing at least 95% of all goods declarations submitted electronically;

- introduction of a subject-oriented model of the risk management system based on the distribution of participants in foreign economic activity into three categories of risk level (low, medium and high);

- creation of mobile groups in places close to the state border of the Russian Federation in order to comply with prohibitions and restrictions imposed by the Government of the Russian Federation;

- implementation of the services of the automated software tool "Personal Account", which provide for the automation of processes in the implementation of various customs procedures.

3. Please provide other example(s) or good practice(s) you think is relevant to Smart Customs.

RESPONSE:

In 2020, the Government of the Russian Federation approved the Strategy for the Development of the Customs Service of the Russian Federation until 2030 (hereinafter –- the Strategy), according to which the strategic goal of the FCS of Russia is:

"Formation by 2030 of a qualitatively new, saturated with "artificial intelligence", quickly reconfigurable, informationally connected with internal and external partners, "smart" customs service, invisible to law-abiding business and effective for the state."

Achievement of this goal will be ensured through a set of measures, the most ambitious of which are as follows.

- **Functioning of the Main Data Processing Centre of the FCS of Russia,** which:

will ensure fast, uninterrupted and reliable operation of the Unified Automated Information System of the customs authorities;

create conditions for the introduction of artificial intelligence mechanisms and further improvement of processes for automating customs operations without the involvement of customs officials.

- **Creation and implementation of the model of an "intelligent" checkpoint.**

The architecture of an "intelligent" border crossing point will consist of information and technological elements, optimally built and adapted for the conditions of each particular border crossing point, taking into account the type of transport.

Inspection and inspection complexes, weight and dimensional complexes, a system for recognising vehicle registration numbers, a system for detecting fissile and radioactive materials – these are the main elements whose operation will be integrated into a single information space of border crossing points.

The full-scale implementation of the "intelligent" border-crossing point models into practical activities will allow to:

transform the performance of all necessary forms of customs control into a "seamless" process, significantly speeding up the movement of goods through the checkpoint;

reduce logistics and transport costs;

create incentives and conditions for the development of the authorized economic operator (AEO);

increase the share of preliminary declaration of goods.

- **<u>Development of a unified transit system in the EAEU.</u>**

One of the main elements of such a system is the use of modern technologies, including those that allow for the automation of customs operations.

The FCS of Russia has ensured the use of electronic declaration of transit procedures, and automated technologies for this process are being actively introduced.

The development of electronic transit contributes to the maximum reduction of contacts between officials and participants in the transport process and the establishment of their interaction in electronic form.

An important element of the unified transit system in the EAEU is the large-scale use in the work of customs authorities of cutting edge technologies and technical means of tracking the transport of goods, primarily electronic navigation seals.

The introduction of electronic navigation seals makes it possible to simplify transit procedures, minimise the risks of declaring false information during customs declaration of goods and contribute to the full collection of customs duties.

- **<u>Development of e-commerce.</u>**

There is a phased introduction of the institution of an Internet trade operator that performs customs operations with respect to goods moved within the framework of international e-commerce and forwarded as international postal items or delivered by carrier as express cargo.

This institution is introduced to simplify the procedures for payment of customs duties, customs operations and the convenience of recipients of goods. The operator will declare goods on behalf of the consignee and pay customs duties. This allows simplifying the clearance of goods moved through e-commerce while maintaining the proper level of control.

- **<u>Implementation of technology for automatic real-time assessment of the risk level of each consignment of goods.</u>**

The main element of the proposed model is an analytical circuit operating on the basis of artificial intelligence and machine learning technologies.

The introduction of technology for automatic risk assessment of commodity consignments will contribute to reducing the administrative burden on law-abiding businesses. The customs authorities' decision on the need to apply risk minimization measures will depend on the total amount of all characteristics of goods, the conditions of their movement across the customs border and the declarant's category.

Integration of the prospective model into the existing risk management system is scheduled to take place by 2024.

- **<u>Development of international customs cooperation in the following areas:</u>**

exchange of preliminary information on goods and means of transport and information used within the framework of the risk management system;

mutual recognition of customs control results and the status of AEO;

joint measures to simplify customs procedures in mutual trade;

cooperation in combating counterfeiting and illegal movement of funds;

introduction of an electronic system of certification of origin of goods;

exchange of statistical data on mutual trade.

With regard to the digital transformation of technologies for customs operations and customs control before and after the release of goods using artificial intelligence and big data processing, the following can be described.

(1) One such area is the goods labeling mechanism aimed at reducing the share of "grey" imports.

In the Russian Federation the goods labelling is carried out in stages: every year all new categories of goods are included in the list of goods subject to mandatory labelling based on the results of experiments. Control over the movement of labelled goods is ensured by the presence of a marker (a means of identification in the form of a two-dimensional digital DataMatrix code) on each item, which makes it possible to trace the path of goods from production or sale to the end consumer at retail.

The interaction between the participants of movement of goods with government agencies is based on the digital platform "GIS MT" (State information system for monitoring the movement of goods subject to mandatory labelling with means of identification).

(2)The National Traceability System (hereinafter – NTS), launched in July 2021, has become another mechanism for controlling commodity flows.

The NTS applies to foreign goods released under the customs procedure of release for domestic use. All information on the movement of goods from documents is consolidated in the NTS, where it is collated and thus ensures traceability of imported goods throughout their life cycle.

Within the NTS, goods are assigned a registration number consisting of the goods declaration number and the serial number of the goods in the declaration.

The difference of the traceability system is the documentary approach, which does not imply significant business costs, as it does not require rearrangement of warehouse logistics and the use of physical devices for tracking goods – companies only need to improve their accounting and reporting system.

(3) The FCS of Russia is developing other tools for customs control after release using digital technologies.

It is important and relevant for businesses to be able to check their activities by customs to identify risks of violating legislation. It is equally important for business to be able to correct mistakes made without being punished by control authorities.

For this purpose, a new tool –customs monitoring - has been introduced into the practice of customs authorities.

This mechanism insures a comprehensive assessment by the customs authority of a foreign trade participant's activities, including the use of "digital twin" technology, and warning of potential risks that may later lead to negative consequences in the form of legal or economic sanctions.

Based on the results of customs monitoring, a foreign trade participant will be given the right, within the framework of self-control, to minimise risks and eliminate violations, including voluntary payment of customs duties, within the time limit established by law.

Currently, an experiment on customs monitoring has begun (until 1 November 2024).

(4) The FCS of Russia is working to increase the level of automation of the selection of objects of control using information technologies.

A new model for selecting customs control objects has been developed, taking into account "digital twin" technology.

"Digital twin" means a constantly changing digital copy (digital profile, digital model) of a foreign trade participant, which allows using methods of mathematical and statistical (predictive) analysis to assess and model (predict) the behavior of this object or the development of processes with it in order to determine the need to carry out control measures in relation to it.

For this purpose, it is planned to apply an automated algorithm that allows to assess the object itself, as well as its behavior, including changes in this behavior that are critical from the point of view of consequences.

The implementation of such a model should ensure the selection of objects of customs control after the release of goods with the highest risks of violating customs laws and eliminate unreasonable control burden on business.

4. **Please introduce your customs administration's interested field(s) of using new technologies and innovative solutions.**

RESPONSE:

The Strategy stipulates that in the period from 2021 to 2030, the priority of the Federal Customs Service's activities will be the creation and improvement of information and software tools and technologies to ensure the automation of customs operations and customs control, including after the release of goods, as well as human resources, law enforcement, and legal support for the activities of customs authorities.

5. **Other materials (e.g. pictures, videos, case studies, etc.)illustrating your good practices on Smart Customs.**

RESPONSE:
None

Singapore

Survey Questions

1. Please provide example(s) or good practice(s) showing your customs administration's use of new technologies.

RESPONSE:

a) We had conducted a proof-of-concept to use Artificial Intelligence (AI) in image analysis of scanned x-ray images. Our use case was to flag out objects of interest as well as help train our human analysts in recognizing objects.

b) Singapore Customs had worked together with the General Administration of Customs of the People's Republic of China on the container track and trace service. The service makes use of the blockchain technology to bring data from various sources across two economies for a united view. The trader only needs to log into the Networked Trade Platform (NTP), key in the container number and they will be able to have full visibility of the status of their goods. Since it is data provided onto the platform by customs agencies, traders will feel more assured of the accuracy of the data.

2. Please provide example(s) or good practice(s) showing your customs administration's use of innovative solutions.

RESPONSE:

a) Our risk analysis makes use of multiple analytical tools to ensure thorough analyses is conducted. We make use of rules-based detection to detect anomalies, predictive analysis based on historical trade data, visual and network analysis through use of dashboards and text analytics to flag mismatches between permits and supporting documents.

b) We have implemented a web application to allow travelers to easily declare and pay their taxes for their overseas purchases, which can be done anytime, anywhere before they arrive in Singapore. One of the features is that we allow up to 3 days of advance declaration and payment. They could draft the declaration and retrieve it later to make changes. It is easy to use and payment can be made on the go. Once the travelers reach Singapore, they can directly exit the checkpoints without making an additional stop to pay the taxes.

3. Please provide other example(s) or good practice(s) you think is relevant to Smart Customs.

RESPONSE:
None

4. Please introduce your customs administration's interested field(s) of using new technologies and innovative solutions.

RESPONSE:

Singapore Customs is continuing to explore the application of Artificial Intelligence (AI) in various domains of customs work. For example, in the areas of a) video analytics; and b) text/document analytics. On video analytics, Customs enforcement officers will leverage on AI video analytics tools to analyse video footages to identify entities of interest in a more efficient and productive way. On text/document analytics, we are studying the use of intelligent document processing (a combination of AI technologies such as natural language processing, computer vision and machine learning) to capture, extract and process data from unstructured/semi-structured information from commercial documents (e.g. invoices, packing lists) into usable data. The data could be used by traders to speed up their customs declaration processes and also provide additional data inputs for Customs' risk analysis.

5. Other materials (e.g. pictures, videos, case studies, etc.)illustrating your good practices on Smart Customs.

RESPONSE:
None

Chinese Taipei

Survey Questions

1. Please provide example(s) or good practice(s) showing your customs administration's use of new technologies.

RESPONSE:
None

2. Please provide example(s) or good practice(s) showing your customs administration's use of innovative solutions.

RESPONSE:

Since 2009, under the "Ubiquitous Economy and Trade Network Plan," we completed building and launched the Customs-Port-Trade Single Window System in 2013. This system integrates the business processes of customs, port, and trade licensing, aiming to provide B2G, inter-agency, and international interoperability services on cargo clearance, e.g. application, query, compliance-check, and data exchange, which strengthen the service with a high-quality clearance environment.

To provide convenient bonded service and enhance the effectiveness of administrative supervision, Chinese Taipei Customs built the Bonded Intelligence Service Platform, which was launched on October 27, 2019. It integrates services for nine bonded areas, including duty-free shop, offshore island duty-free shop, bonded warehouse, logistics center, bonded factory, science park, technology industrial park, free-trade zone (FTZ), and agricultural technology park, and provides full-process e-application service and intelligent bonded management operation. The platform provides bonded operators with functions such as online application submission, attachment delivery, and progress inquiries, all conducted without paper, as well as provides customs officers with remote monitoring and online approval functions.

Official Website: https://bis.sw.nat.gov.tw/BIS/

3. Please provide other example(s) or good practice(s) you think is relevant to Smart Customs.

RESPONSE:
None

4. Please introduce your customs administration's interested field(s) of using new technologies and innovative solutions.

RESPONSE:

None

5. Other materials (e.g. pictures, videos, case studies, etc.)illustrating your good practices on Smart Customs.

RESPONSE:

Introduction of CPT Single Window

https://www.youtube.com/watch?v=SPHRFQMQtIQ

Thailand

Survey Questions

1. **Please provide example(s) or good practice(s) showing your customs administration's use of new technologies.**

RESPONSE:

Thai Customs administration considered technologies as a significant tool in enhancing customs operations and ensuring the safety and security of the economy. The overview of new technologies implemented by the Thai Customs Administration as below:

● **Raman Spectrometer**

Raman spectrometers are used for chemical analysis and identification of substances. In customs, Raman spectrometers can be utilized to detect and identify various types of drugs, explosives, or hazardous materials. They work by shining a laser on the substance and analyzing the scattered light to determine its unique molecular fingerprint.

● **Tracking systems(E-Lock)**

E-locks, or electronic locks, are advanced locking systems used for securing cargo containers during transportation. These locks typically utilize electronic mechanisms, such as passwords, biometrics, or electronic keys, to control access to the container. They provide improved security by preventing unauthorized access and tampering of cargo.

● **Risk Assessment and Data Analytics**

Risk Assessment and Data Analytics can indeed be used for profiling purposes. Profiling involves the analysis of data and identification of patterns or characteristics that are indicative of potential risks or suspicious activities. By leveraging data analytics techniques, customs administrations can develop risk profiles and identify high-risk shipments, individuals, or entities for further scrutiny.

● **Big Data:**

Big Data is the project that provides hardware and software to collect data from any source. The purposes of this project are to manage the data of goods import and export, revenue collecting, and support the growth of data in the future. This project is also can display the data as a report for the executive (Executive Dashboard) and a report for the user (Operational Report) on web browsers and mobile devices to support the information on the purpose of management, trade facilitation and Enhance revenue collection efficiency and effectiveness.

2. **Please provide example(s) or good practice(s) showing your customs administration's use of innovative solutions.**

RESPONSE:

The overview of innovative solutions implemented by Thai Customs Administration as below:

● **Online Customs Registration and Customs Trader Portal**

For the initiative of paperless customs procedures, providing electronic Customs procedures as the options for traders; the website "Online Customs Registration" and platform "Customs Trader Portal". Moreover, also provides the system "e-Tracking" for checking the registration information and tracking the status of customs clearance. Furthermore, an importer, exporter, or agent can submit import-export declarations and sign with a digital signature through the systems "e-import" and "e-export".

● **National Single Window(NSW)**

Thailand's National Single Window system is the online platform that integrates various trade-related processes and data from multiple government agencies and the private sector, enabling traders to submit information once and have it shared across relevant authorities and enhancing efficiency.Thai Customs has adopted international recommendations on Single Entry/Single Submission to implement the National Single Window (NSW). The Single Web portal and one-stop data entry have been established to facilitate the submission of similar requirements for the import or export of restricted goods directly to the relevant agencies. Also, the processing of the submitted-once information is also handled by the NSW to transmit that specific information to participating parties simultaneously.

● **Blockchain Technology**

Thai customs administrations have started exploring the use of blockchain technology for trade facilitation and enforcement. Blockchain provides a secure and tamper-proof platform for recording and verifying transactions, making it useful for supply chain management, documentation, and authentication of goods. It can enhance transparency, reduce fraud, and expedite the customs clearance process. In the Pilot project, we have implemented fuel declaration for aircraft and set up a sandbox for import formality in specific areas.

● **e-Advance Tariff Ruling**

importers and exporters can submit the requests through this webpage.(tariffeservice.customs.go.th).The example requests are e-Advance Tariff Ruling, registration, application submission, consultation, payment, and notification of the result of the advance ruling application. It is a 24-hour-online service for importers/exporters who are interested in or planning to import goods to Thailand. The benefits of using the system are time and cost savings, Applicants do not need to come to the Customs Tariff Standard Division office.

Customs officers and the applicants can contact via the system or email which is more convenient to submit additional information in the form of photos or files.

3. Please provide other example(s) or good practice(s) you think is relevant to Smart Customs.

RESPONSE:

The good practices of Thai Customs Administration that are relevant to Smart Customs can be briefly elaborated as below:

● **Customs Data Exchange**

Establishing secure and efficient data exchange mechanisms between customs administrations, government agencies, and international partners is crucial for effective risk assessment and border control. Implementing standardized data formats and utilizing secure data exchange platforms enables real-time sharing of information, supporting accurate risk profiling and coordinated enforcement efforts. Thai customs established the Thai Customs Electronic System (TCES) since 2008

● **Trusted Trader Programs**

Trusted trader programs aim to facilitate trade for compliant and low-risk businesses while maintaining robust customs controls. Customs administrations can develop partnerships with trusted businesses and provide them with benefits such as simplified procedures, priority clearance, and dedicated support. These programs enhance trade facilitation while allowing customs to focus resources on higher-risk shipments.

● **Electronic Payment Systems**

Thai Customs Department Adopting electronic payment systems simplifies and accelerates the payment of customs duties and fees in 2019. Online payment platforms and electronic funds transfer mechanisms reduce paperwork, manual processes, and transaction delays, promoting efficient revenue collection and trade facilitation.

● **National Single Window Systems**

Implementing single window systems allows traders to submit all necessary information and document electronically through a single platform. This streamlines administrative procedures, reduces duplication of data, and promotes the seamless exchange of information between traders and government agencies involved in trade facilitation.

4. **Please introduce your customs administration's interested field(s) of using new technologies and innovative solutions.**

RESPONSE:
The overview of customs administration's interested fields of using new technologies and innovative solutions as below:

- **Smart Border Management Systems**

Smart border management systems utilize advanced technologies to streamline border processes, enhance security, and facilitate the smooth flow of goods and passengers. These systems may include automated passport control, biometric identification systems, e-gates, and electronic visa systems. By leveraging these technologies, customs can expedite clearance processes, reduce wait times, and enhance the overall border crossing experience.

- **Automated Customs Tariff service Systems**

Implementing advanced automated systems that use technologies like artificial intelligence (AI), machine learning, and data analytics to analyze HS code or reduce time in customs clearance processes, reduce officer, reduce cost, expedite processing and increasing the transparency of Customs Department.

- **Blockchain-based Trade Platforms**

Utilizing blockchain technology to create secure and transparent trade platforms that enhance supply chain visibility, improve traceability of goods, and facilitate customs procedures, such as document verification and digital signatures.
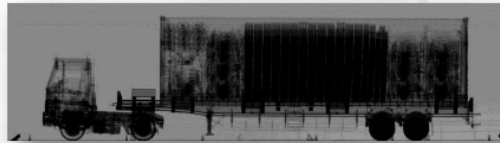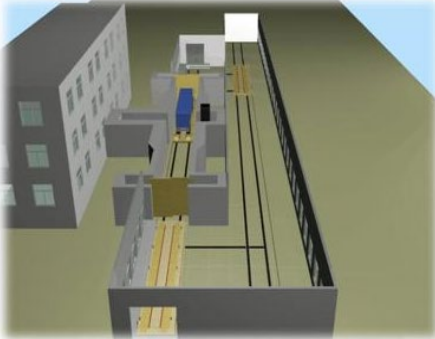
5. **Other materials (e.g. pictures, videos, case studies, etc.)Illustrating your good practices on Smart Customs.**
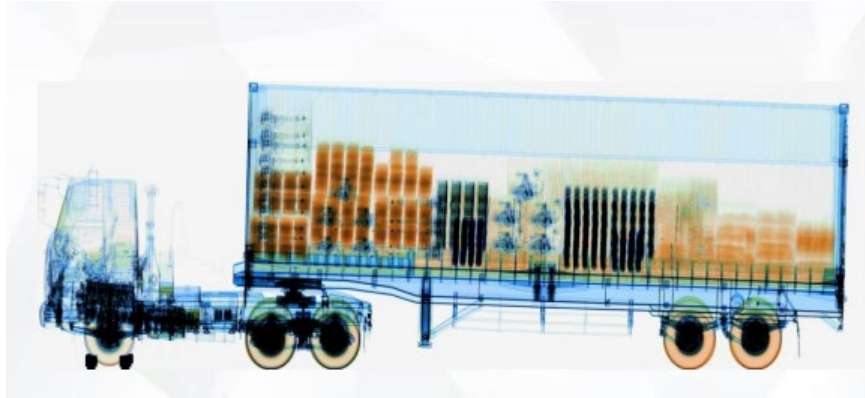
RESPONSE:
Thai Customs Administration has implemented the project that considered as good practices on Smart Customs as below:

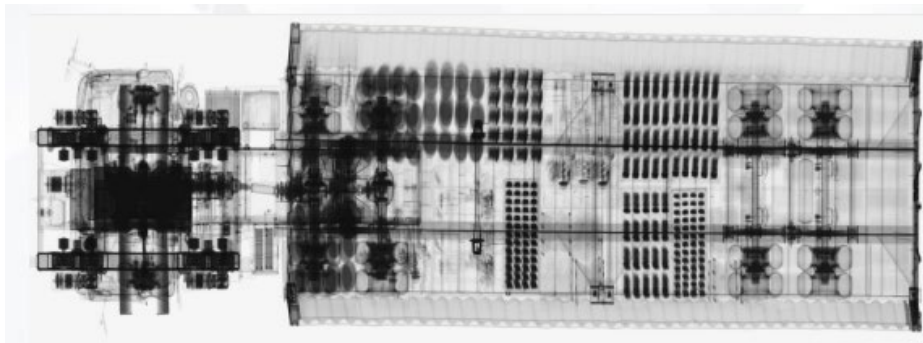- **Project to integrate X-ray and CCTV into container inspection system for customs clearance :**

Vertically (Side-view)

Horizontally (Top-view)

- <u>**Thai Customs Electronic System mapping**</u>

Thai Customs Electronic System Architecture
สถาปัตยกรรมระบบพิธีการศุลกากรอิเล็กทรอนิกส์
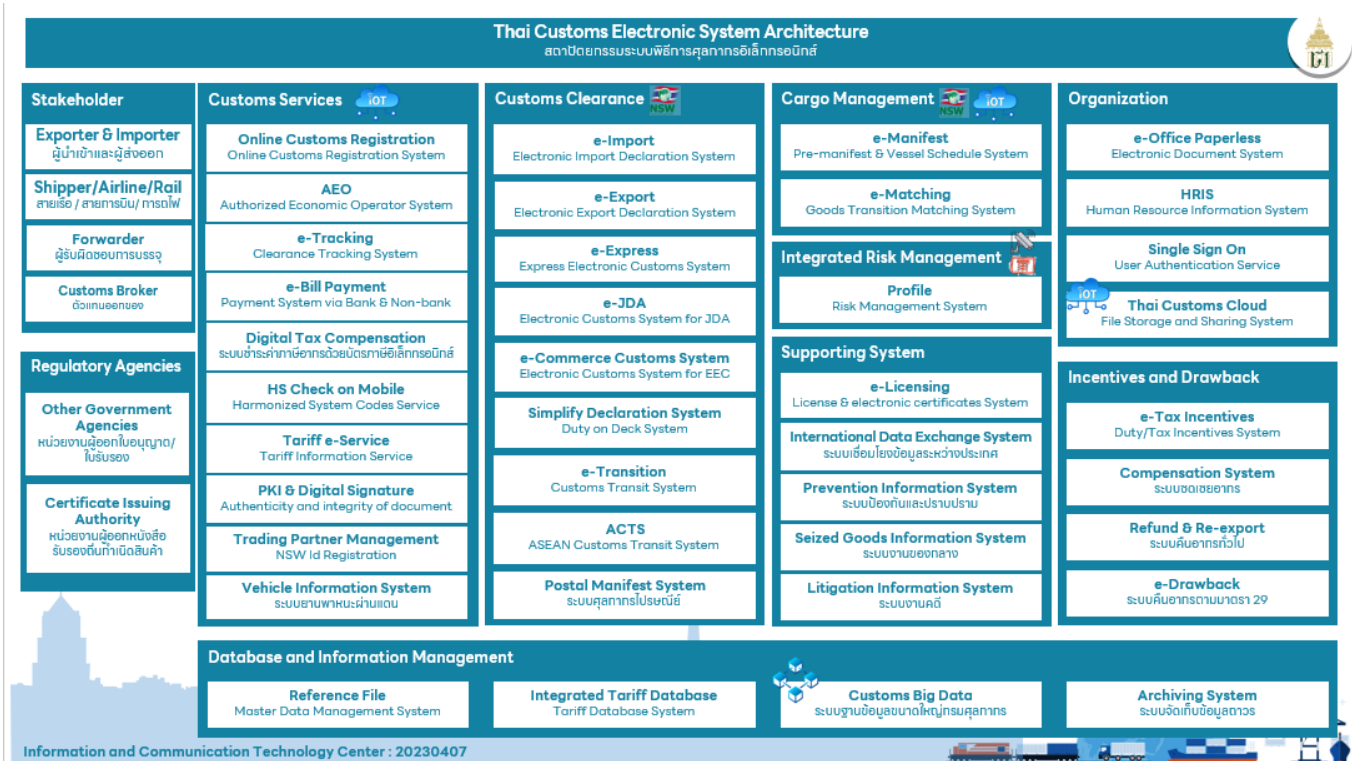
- **Case Studied**

Single Entry of Hazardous Substances /Rubber Export

Thai Customs Department started to introduce the Single Entry for the submission of import/export permit regarding hazardous substance since there were most relevant agencies responsible for its issuance which could facilitate the traders to apply for selected goods through the Single Web Portal or one-stop data entry. Furthermore, the complex procedures of rubber export have been addressed by the Single-Entry application for certifying the rubber quality, permitting the exportation, and proceeding the payment via the NSW with several relevant agencies including the customs administration.

Single Submission of electronic Manifest

Thai Customs Department implemented Single Submission regards to the synchronous transmission of the electronic manifest for import and export from the shipping and airline agents to the required parties like customs, marine department, and port authorities through the NSW. Its expansion is gradually developed for the exchange of advanced electronic information of some agencies for specific regulatory purposes.

- **Online Customs Registration website**

- **e-Tracking**