

WCO news

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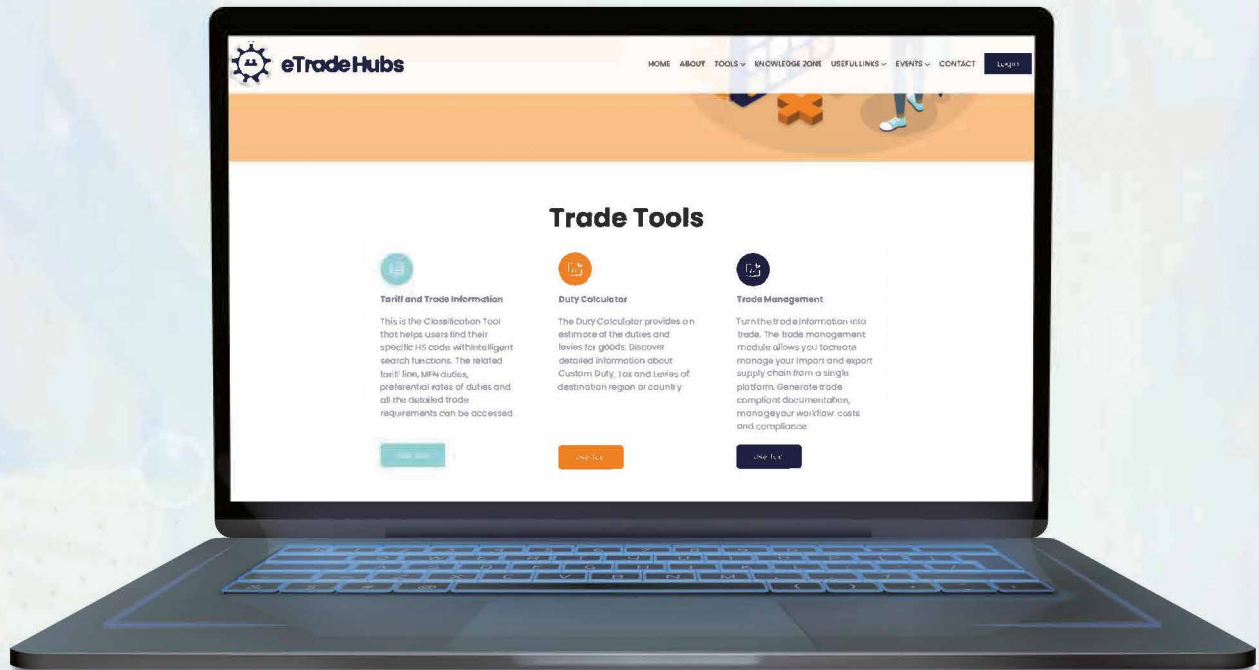
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WCO COVID-19 Project: results and way forward

When COVID-19 was declared a pandemic in March 2020, the Government of Japan decided to provide funding to the WCO Secretariat to ensure Customs administrations had at their disposal comprehensive guidance material and tools to effectively respond to such disruptive events and could receive assistance if needed. The WCO COVID-19 Project was born. This article provides an overview of what was achieved during the past two years.

In June 2011, Heads of Customs at the WCO Council session adopted a “Resolution on the Role of Customs in Natural Disaster Relief” to encourage all administrations to ensure efficient border procedures could be put in place in a timely manner if disruptive events were to occur. The Resolution particularly advocates the implementation of the measures set out in Chapter 5 of Specific Annex J to the WCO Revised Kyoto Convention (RKC) and Annex B.9 to the Istanbul Convention. It also urges countries to sign the “Model Agreement to expedite the import of relief consignments and possessions of relief personnel in the event of disasters and emergencies” – a document drawn up jointly by the WCO and United Nations Office for the Coordination of Humanitarian Affairs (OCHA), listing all the measures set out in various international instruments, or in instruments recognized as effective in practice.

The WCO Secretariat had been promoting these tools through regional and national workshops,

many of which were organized with the OCHA and the International Federation of Red Cross and Red Crescent Societies (IFRC) and included all stakeholders along the humanitarian supply chain.

Back in 2016, thanks to financial support provided by the Netherlands, it also launched a capacity building project entitled “Customs for Relief against Epidemic Diseases” (C-RED), aimed at providing support to six Customs administrations in West African countries affected by the Ebola Virus Disease (EVD) epidemic.

The COVID-19 pandemic renewed the spotlight on this area of work and on the need to develop a comprehensive tool which would provide direction as to how to prepare for and respond to epidemics, pandemics and natural disasters. Thanks to Japan funding, in July 2020 a project team was set up within the WCO Secretariat to develop such a tool, to familiarize administrations with its content, and to work with countries requesting technical assistance.

Over the last two years, the Project team has managed to:

- Develop the *WCO Guidelines on disaster management and supply chain continuity*¹ with the contribution of several Customs administrations. The Guidelines should be regularly updated. The first edition was approved by the Council in June 2021. Since then the document was updated twice by adding a chapter on enforcement issues, new best practices in the context of emergency situations and a self-assessment checklist to help Members assess their preparedness. The Guidelines are available on the WCO website in English, French, Spanish and Russian.
- Organize a series of regional workshops to introduce the Guidelines and enable Customs administrations to share experiences related to the management of the pandemic.
- Together with experts from partner international organizations, provide guidance to Customs of Madagascar, Benin, Guatemala, Angola, Comoros, Haiti, Tonga and Dominican Republic in identifying the bottlenecks in the importation of relief goods and equipment, and in streamlining clearance processes through the drafting of Standard Operating Procedures (SOPs).
- Support Customs administrations and stakeholders of Central America and the Pacific islands in drafting recommendations and regional roadmaps as part of joint emergency preparation exercises.
- Develop a mobile application enabling passengers to submit their Customs declaration electronically via their smartphone. Besides facilitating the declaration process, the application minimizes physical contact between Customs officers and inbound air passengers. The Customs Administrations of Benin, Cameroon and Madagascar received the application and the associated hardware.

Moreover, intensive work has been done with Madagascar Customs by conducting exercises to prepare for Tropical Cyclone Batsirai, which hit the island in February 2022. The newly drafted Customs Standard Operating Procedures were also evaluated, as well as the country disaster response plans, policies and procedures.

Customs administrations requiring help or advice in reviewing their procedures or wishing to share their experience in tackling disruptive events are invited to contact the Secretariat.

More information

<http://www.wcoomd.org/en/topics/facilitation/activities-and-programmes/natural-disaster/coronavirus.aspx>

New introduction course on the HS

A new e-learning course introducing the concepts and elements of commodity classification according to the Harmonized System (HS) has been published on CLiCK!, the WCO learning platform for Customs officers. It complements the “HS Advanced” course which zooms in on individual sections, chapters and headings of the HS, providing detailed information, examples of products, and plenty of exercises.

Entitled “HS Foundation”, the course is designed to be completed within approximately 6 hours and consists of three modules. The first two modules introduce the HS, explain how to navigate it and discuss product-specific aspects of classification while also addressing common challenges encountered by HS users. The third module deals with the standards Customs administrations should apply when managing tariff classification work and developing related infrastructure, including those related to advance ruling systems. An e-certificate is issued at the end of the learning pathway.

The course has been funded by the European Union (EU) under the EU-WCO Programme for Harmonized System in Arica (HS-Africa Programme).

More information

<https://click.wcoomd.org>
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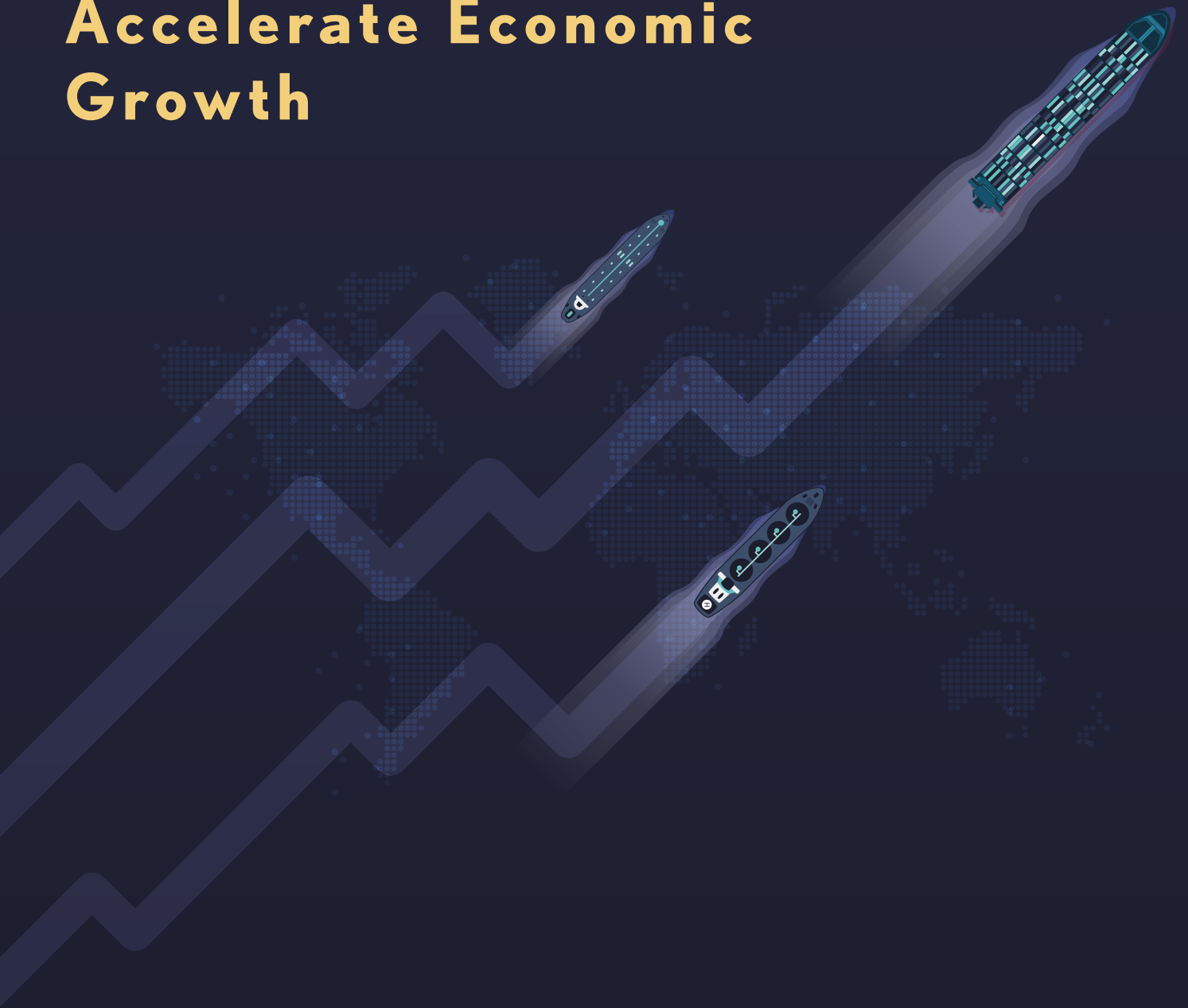
¹ <http://www.wcoomd.org/en/topics/facilitation/instrument-and-tools/tools/guidelines-on-disaster-management.aspx>



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New guide on human capital management

By Dr. Si Mohamed El Hail, WCO Secretariat

The workplace has undergone several radical changes in the past few years. According to literature, the traditional Human Resource Management (HRM) function has evolved to include new responsibilities such as an increased attention paid to people's wellbeing. People are now seen as a "Capital" rather than a "Resource". Human Capital Management (HCM) is more demanding, and its implementation requires adopting a specific toolset (methods, techniques, models) and acquiring a specific skillset (knowledge, understanding, abilities). To provide guidance to Customs administrations in this domain, the WCO Secretariat has produced a *Guide to Managing Customs' Human Capital through Crises and Beyond*.

New normal

When the COVID-19 pandemic hit some two years ago, those responsible for the overall management of staff within Customs administrations had to make decisions in a very short time frame, often without any data, previous experience or best practices to guide them. They had to decide who should come to the office or duty station to work and who should work from home. They also had to find solutions to provide training while respecting social-distancing rules, to support staff on a personal level and keep them motivated and engaged, to empower managers to lead remote teams and, finally, to prepare for a post-pandemic workplace.

In order to create this "new normal" and strengthen their organization's resilience, HR managers must shift away from inflexible and standardized approaches and adopt a personalized approach in which each employee is considered unique. In so doing, they take on the role of HCM professionals.

According to Professor Dave Ulrich, HCM professionals are required to play the following roles:

- Strategic positioner: they strategically position a business to win its market by evaluating the business environment, understanding stakeholders' expectations and aligning them with internal business processes.
- Credible activist: they are capable of building relationships of trust in the eyes of business and management by making proactive recommendations and providing results.
- Paradox navigator: they are able to manage tensions inherent in business (including long-term and short-term tensions, and top-down and bottom-up tensions) while balancing various internal and external stakeholders' interests and goals.

Their priorities should include:

- shaping staff behaviour through culture;

A Guide developed using a triangulation methodology

A **literature review** to identify the challenges faced by Customs administrations and solutions for HR management in times of crisis.

An **online survey** to collect data from Customs administrations; 200 respondents answered all 23 questions.

Structured and focused interviews with Customs administration representatives, the private sector and international organizations in order to refine and consolidate the findings arising from the survey.

- **19 guiding principles** which are recognized as critical within Customs administrations in enabling staff to thrive in times of crisis and beyond.
 - **Seven key HCM focus areas** to be considered while designing solutions and practices to help navigate through a crisis and to prepare for the post-crisis environment, namely: (1) leadership and communication; (2) HR business continuity; (3) staff well-being and resilience; (4) work design in a post-COVID world, (5) learning and development; (6) management of teams, individuals and performance; and (7) implementation of new HR roles to create more value for the organization and a better employee experience.
 - **22 case stories** from the public and private sectors which illustrate the key HCM focus areas and explain practical measures that can be implemented.
- redesigning processes with a focus on digitization to ensure that they are agile and relevant;
 - building a “humanistic-based leadership” culture within the organization, in other words ensuring staff adopt management practices that place workers’ needs front and centre;
 - upskilling and reskilling staff; and
 - improving employee experiences and the organization’s employee value proposition (EVP – the value a company offers to employees in return for the value they bring to the organization).

The guide has been developed as a practical tool with detailed instructions and examples to facilitate its use and maximize its impact. However, as always, the WCO Secretariat stands ready to assist any administration wishing to work with it in implementing HCM and actively influencing the adaptive capabilities of their workforce.

More information

Capacity.building@wcoomd.org

WCO guide

To develop the *Guide to Managing Customs’ Human Capital through Crises and Beyond*, WCO Secretariat staff conducted a survey among Customs administrations. They also interviewed Customs representatives as well as leaders in HR and emergency management from international organizations, the private sector and academia.

Finally, they reviewed extensive literature, set up expert focus groups and took into account the outcomes of the two regional WCO conferences that took place in 2021.

The guide therefore includes a broad range of perspectives and highlights solutions that can be replicated in a Customs environment. It particularly sheds light on:

Survey and interview findings

- 53% of the respondents considered that COVID-19 severely impacted their administration’s ability to deliver its mission and conduct operations.
- More than 40% also reported dissatisfaction with their organization’s overall response to the crisis.
- More than 50% considered that the HR service/unit’s response to the crisis was poor or very poor.
- Over 80% reported being not completely satisfied with the new work arrangements.
- Four top priority areas were mentioned: (i) leadership and organizational culture; (ii) competency and talent development (including upskilling and reskilling); (iii) staff resilience and well-being at work; and (iv) organizational/work design and change management.
- HCM professionals are expected to take on the role of strategic positioner, culture and change champion, and human capital curator.

Evaluating the impact of training activities: overview of the WCO Secretariat's proposal

by Dr. Si Mohamed El Hail, WCO Secretariat

Most Customs administrations devote a significant portion of their resources to training and competency development activities. The development and delivery of training also feature among the core activities of the WCO.¹ But how can these training activities be assessed to find out whether they are producing the expected results and impact? This very issue was raised at the 2021 session of the Capacity Building Committee, where the WCO Secretariat was requested to develop a comprehensive and consistent evaluation model that could be applied to WCO training activities. This article presents the method and tools proposed by the Secretariat, as well as their resource implications.

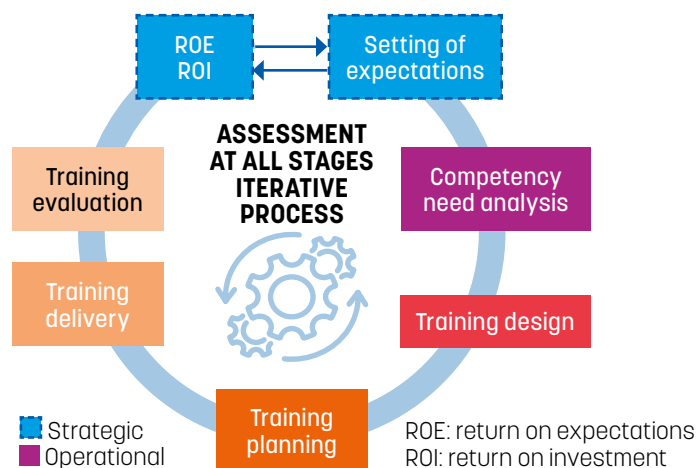
A process which begins before the training delivery starts and continues thereafter

To evaluate the impact of a training activity, the WCO Secretariat currently assesses only the satisfaction level of the participants, with a few exceptions. This may suffice for training activities delivered as a "one-off intervention", but this is wholly insufficient in the context of tailor-made and long-term capacity building programmes. In this regard, trainers, programme managers and, in some cases, donors need to understand which parts of a training programme are effective and which are ineffective or irrelevant, and to be able to determine where improvements could be made.

Figure 1 illustrates a possible WCO operating model for such training activities. It provides for an iterative process and evaluation at all stages, and is results- and impact-based. The initial step that would guide the whole process involves setting and agreeing on the beneficiary's expectations.

Through this approach to training, the evaluation supports and drives the training design, planning and delivery phases. It helps in calibrating both the administration's expectations and the trainer's objectives and service delivery. On that basis, the evaluation of training should be a process that begins before the training delivery starts and continues thereafter. If it were not so, there would be very little to evaluate.

Figure 1: Proposed WCO operating model for training activities



1 According to the WCO corporate plan, over 85% of the total number of activities conducted each year involve training and development.

For evaluation to be effective, it should focus on specific aspects of performance change that can be directly attributed to the training effort. Prior to the course conception and development, outcomes and indicators must be defined. In other words, it is necessary to specify what knowledge, skills and behaviours the participants are intended to acquire, as well as what they are expected to do differently after the training is completed. The evaluation process will be based on a clear description of those elements and involves collecting and analysing information/data at different stages to determine whether or not the aims of the training have been achieved and to decide on future activities. Reporting tools and templates are to be used for collecting this data.

WCO Training and Development Evaluation Framework

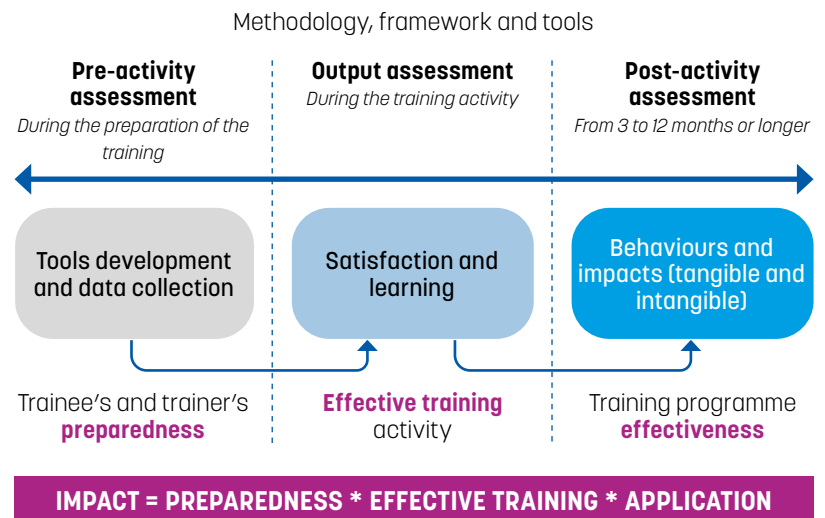
With all these considerations in mind, the WCO Secretariat has developed a Training and Development Evaluation Framework (TDEF) intended to provide a comprehensive and standardized approach to evaluating WCO training activities. As illustrated in Figure 2, the framework comprises three key phases of evaluation, each requiring the involvement of a number of stakeholders.

All phases work together, with each one complementing the others. The first phase relates to the “pre-activity assessment” and will help to assess the trainee’s and trainer’s level of preparedness. During this phase, activities must be conducted in parallel with the setting of stakeholder expectations, a needs analysis and the training design.

The second phase – called the “output assessment” – takes place during the training delivery stage and focuses on the evaluation of both trainee and trainer responses and the learning outcomes of the participants.

The third phase, referred to as the “post-activity assessment”, serves to measure training effectiveness per se. In practical terms, the tools used during this phase evaluate the participant’s level of application of the learning in the workplace and the extent to which this has impacted his or her job performance and, by a knock-on effect, organizational performance.

Figure 2: WCO Training and Development Evaluation Framework



Resource implications

Implementing such a framework requires resources to be allocated to the WCO Secretariat. This will involve the establishment of a Monitoring and Evaluation Unit with dedicated staff, whose responsibilities will include the development of a WCO training strategy aligned with the WCO Strategic Plan, and digital tools to collect data and enable a smooth and efficient reporting process. It is also necessary to establish a Training and Development Advisory Board to oversee the training system.

There is, moreover, a need to review and strengthen the WCO's expert accreditation policy through the implementation of a competency evaluation process. All trainers, whether they are national experts or Secretariat staff, should also regularly attend retraining and upskilling programmes to ensure the continuous development of their skills.

Finally, alongside the Monitoring and Evaluation Unit, all parties involved in the training will be required to take ownership of the proposed approach. From Secretariat staff, accredited experts and donor representatives to training participants and their supervisors, they will all have an important role to play in its implementation.

All the tools to evaluate WCO training and development activities will be compiled into a Guide which will be presented and discussed at the next Capacity Building Committee early 2023.

More information

Capacity.building@wcoomd.org

DOSSIER: Supporting the green transition



Issues, challenges and way forward

By Kunio Mikuriya, Secretary General, WCO

The WCO is celebrating its 70th anniversary this year and is taking this opportunity to look back at what it has achieved as well as at ways of responding to current challenges. One pressing issue is how to support the transition to a climate-neutral economy. At numerous events, including climate and biodiversity summits, representatives of national governments and international organizations have highlighted how imperative it is for trade to support environmental action and declare its readiness to take action. They have defended the idea that trade policies should support a green industrial revolution and serve an ecological transition. In this Dossier, we seek to give you an overview of the ongoing discussions and initiatives that aim to make modes of production and the supply chain more sustainable, and also provide a synopsis of the role of Customs in supporting this ambition.

Bolstering the implementation and enforcement of Multilateral Environmental Agreements (MEAs)

Let us start with the most obvious: the role of Customs in the effective implementation of Multilateral Environmental Agreements (MEAs). The objectives of MEAs include fighting illicit trade in hazardous waste and ozone-depleting substances, combating illicit trade in endangered species, and preventing the spread of plant and animal diseases, as well as of invasive alien species.

The provisions of these agreements are unequivocal, but their efficacy remains limited by the capacity of different countries to properly implement and

enforce them. Often, the resources allocated are insufficient and allow illegal trafficking to continue. We have written extensively about this issue¹ and about the initiatives the Secretariat of the WCO is leading to provide Customs administrations with the means to combat this type of illicit trade, or to strengthen their ability to do so, working together with the other public and private actors involved.

Recently, the Secretariat has stepped up capacity building activities related to the control of trade in waste, and more particularly the importation of plastic waste in countries of the Asia Pacific region. We provide assistance through two programmes: the Container Control Programme (CCP), which we have co-managed with the United Nations Office on Drugs and Crime (UNODC) since 2004, and the Asia Pacific Plastic Waste Project (APPW) created in 2020 with the financial support of the government of Japan. These activities are, of course, coordinated or co-organized with the Secretariat of the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal.

Our assistance is highly technical, but this is not the only form of assistance we provide. While we aim to improve or develop processes and procedures related to specific issues such as abandoned cargo, for instance, we also help Customs administrations to build relationships with the relevant national authorities and develop strategy and the related work plans with a holistic approach to the issue at hand.

¹ See February 2020 edition of the magazine: <https://mag.wcoomd.org/magazine/wco-news-91-february-2020/>

Removal of trade barriers to the green economy

Beyond environmental regulations, Customs administrations must be aware of, comprehend and contribute to the initiatives aiming to promote trade in environmental goods and services. The liberalization of such goods and services has been on the agenda of the World Trade Organization (WTO) since the beginning of the Doha Round in 2001. The removal of Customs duties and other trade barriers would simplify access to goods and services that prevent or reduce air, water and soil pollution, and so improve the protection of natural resources. Measures to protect the environment and technologies that increase energy and resource efficiency would then become cheaper.

This Dossier includes an article by the National Board of Trade Sweden which looks at the ongoing discussions, focusing on issues of special relevance for Customs and trade professionals. It highlights the importance of involving Customs officials in negotiations, and even recommends the appointment of a body of experts to support negotiators.

Circular economy

Another idea gathering mainstream attention is the adoption of a circular economy. The idea of a circular economy is to use resources more efficiently and to decouple economic growth from material inputs. This means accepting a systemic change that will transform how a business, or even an economy, functions, and how societies consume. Some companies that have ventured into this territory have reported regulatory hurdles, as well as practical and legislative barriers to working in a circular business model. We asked the International Chamber of Commerce (ICC) to explain some of those challenges in another article, and to explore what needs to be done to enable and accelerate such business models, including through the WCO.

Harmonized System

Be it promoting environmental goods and services or facilitating the adoption of circular business models, good trade-related policy requires good trade data, and this involves looking at the data generated by the Customs classification of goods. For trade beyond the imports/exports of a single Customs union or country, the comparison of data relies on its classification at the six-digit level, i.e., at the level provided by the Harmonized System

(HS). In their articles, both the National Board of Trade Sweden and the ICC highlight the critical role played by the HS. The WCO Secretariat is often asked extremely tricky questions about the HS, and so we have included in the Dossier an article answering some of the most common questions posed, such as why a commodity does not have its own HS code, why the specificity level so is variable, what the procedure is for amending the HS, and how to make a successful proposal for an amendment.

Lowering the impact of trade operations on the environment

The final article in this Dossier looks at the efforts of Singapore Customs to bring efficiency to the management of trade operations so as to reduce their environmental impact, as well as at the initiatives it has taken to support environmental policies. One important point it makes is that, although digitalizing processes facilitates logistics operations and eliminates the dispatch of documents, the creation, processing, storage and movement of data rely extensively on finite resources: electricity, water, metals, chemicals and man-made materials, such as plastics and glass. This is why it is important to undertake rigorous environmental impact assessments before implementing any technology-related solutions, and in particular to ensure that data centres are located in buildings that are highly energy efficient and effective in terms of their environmental performance. Singapore Customs also remind us that we cannot leave everything up to governments, but need to take responsibility as individuals and follow green guiding principles in every aspect of our lives.

In wrapping up, I would like to invite you to attend the Green Customs Global Conference which the WCO Secretariat is organizing at the end of June. We have invited representatives of Customs administrations, international organizations, academia, the private sector, civil society and non-governmental organizations (NGOs) to further explore how Customs and the WCO can contribute to achieving environmental objectives. You can attend the event online or in-person at WCO Headquarters in Brussels.

Finally, I would also like to thank all contributors to this edition of the magazine for taking their time to share their thoughts and experiences with us.

In this Dossier, we seek to give you an overview of the ongoing discussions and initiatives that aim to make modes of production and the supply chain more sustainable, and also provide a synopsis of the role of Customs in supporting this ambition.

Movement of waste: a self-assessment tool to ensure effective and efficient control

In February 2020, we published an [article](#)¹ highlighting the need for many Customs administrations to bridge the gap between the perceived importance of Multilateral Environmental Agreements (MEAs) and the capabilities to enforce them.

A new tool has been developed by the WCO Secretariat² to help implement one of these agreements: the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal.

Called *Self-Assessment Tool - Basel Convention*, it offers a methodology to help Customs administrations review the following:

- the strategy for controlling the movement of waste and the importance given to this area of enforcement;
- the legislation;
- the procedures governing legal trade and, in particular, risk management, as well as the requirements relating to import or export;
- the strategy and procedures to fight illicit trade in waste;
- cooperation mechanisms at national and international level;
- skills and capacity development.

Each of the aspects listed above has an associated table with columns to address:

- questions that need to be answered to analyse the current situation and determine priority areas;

- the answers to these questions, in the form of “Yes” or “No”, or on a scale of 1 to 5;
- potential solutions and opportunities for improvement.

Below each table is a summary of potential challenges Customs authorities may face when implementing and enforcing general waste and plastic waste policies. Further information is provided in publications and resources which can be consulted for more guidance (e.g. guidelines issued by international organizations or international conventions).

More information

www.wcoomd.org

¹ <https://mag.wcoomd.org/magazine/wco-news-91-february-2020/gaging-engagement-customs-community>

² This tool was developed under the Asia Pacific Plastic Waste (APPW) Project funded by the Japan International Cooperation Agency (JICA).

Circular economy and Customs valuation

In the traditional manufacturing industry, goods are generally sold for a price. The price of the goods forms the basis for determining the Customs value in international trade. By virtue of Article 1 of the WTO Customs Valuation Agreement (CVA), the Customs value is defined as the transaction value, that is to say, the price actually paid or payable for the goods when sold for export to the country of importation, adjusted, where necessary, in accordance with, in particular, Article 8 of that Agreement. The Customs value is primarily determined according to the transaction value method.

One of the challenges that may arise in a circular economy (CE) is that there may not always be a transaction value or a change in ownership. In a number of cases, goods are often leased rather than purchased outright, which means that there is no transaction value. Therefore, the Customs value of the imported CE goods cannot be determined using the transaction value of the goods and must be determined using one of the five alternative valuation methods to be applied in the order prescribed in the CVA. These

methods are, respectively, the transaction value of identical goods method, the transaction value of similar goods method, the deductive method, the computed method and the fall-back method.

Each of these methods has its own specific features. For example, in order to apply the transaction value of identical goods method, previous transactions involving goods identical to the one being valued must be identified, and the transaction values of identical imported goods that have already been determined and, where appropriate, adjusted under Article 1 may be used to value the goods in question. Identical goods means goods that are the same in all respects, including physical characteristics, quality and reputation. In determining the Customs value of CE goods not subject to a sale, it might prove difficult to identify such transactions involving identical or similar goods. It is therefore likely that, in cases where none of the previous methods apply, the fall-back method will be frequently used for the valuation of CE goods not subject to sale.

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The urgency of the climate crisis has given new momentum to negotiations in the WTO on environmental goods and services.

The crucial role of the WCO in trade liberalization of climate-friendly goods

By Emilie Eriksson, legal adviser, National Board of Trade Sweden

The National Board of Trade Sweden recently published a report entitled *Trade and Climate Change - Promoting climate goals with a WTO agreement*, which shows that trade policy-makers can do more to contribute to the promotion of climate goals.¹ Customs administrations, through the World Customs Organization (WCO), have a crucial role to play, writes Emilie Eriksson, legal adviser and co-author of the report.

In a report entitled *Trade and Climate Change - Promoting climate goals with a WTO agreement*, the National Board of Trade Sweden analysed the possibilities for the World Trade Organization (WTO) and its members to promote climate goals through a trade agreement. We examined issues specific to liberalizing trade in climate-friendly goods and services and reforming fossil fuel subsidies. As regards liberalizing trade in climate-friendly goods, the report highlights the importance of involving Customs officials in discussions, and recommends the appointment of a body of experts, including WCO Secretariat officials, to support negotiators. The report also highlights the importance of cooperation by negotiating parties in the WCO to better align the Harmonized System (HS) nomenclature to support the climate transition (for example, by developing new HS codes for the most important climate-friendly goods). This article looks at the ongoing discussions related to the liberalization of trade in environmental and climate-friendly goods, and discusses issues of special relevance for Customs and trade professionals working at and with the WCO. It also highlights challenges and opportunities for future work.

Ongoing discussions related to the trade liberalization of environmental and climate-friendly goods

Trade and the environment has been a long-standing topic in the WTO, and various – so far unsuccessful – attempts have been made to liberalize trade in environmental goods. The most recent of these related to the Environmental Goods Agreement (EGA), on which negotiations were halted in 2016. Outside the WTO, the Asia-Pacific Economic Cooperation (APEC) successfully concluded environmental goods negotiations in 2012.

The urgency of the climate crisis has given new momentum to negotiations in the WTO on environmental goods and services. In December 2021, a Ministerial Statement was launched in the context of the Trade and Environmental Sustainability Structured Discussions (TESSD). Of the WTO's 164 members, 71 members signed up to the Statement. One of the issues that the members agreed to was to explore opportunities and possible approaches for promoting and facilitating trade in environmental goods and services to meet environmental and climate goals, including through addressing supply chain, technical and regulatory elements. TESSD members have agreed a work plan to this end. The goal is to deliver tangible outcomes by the time

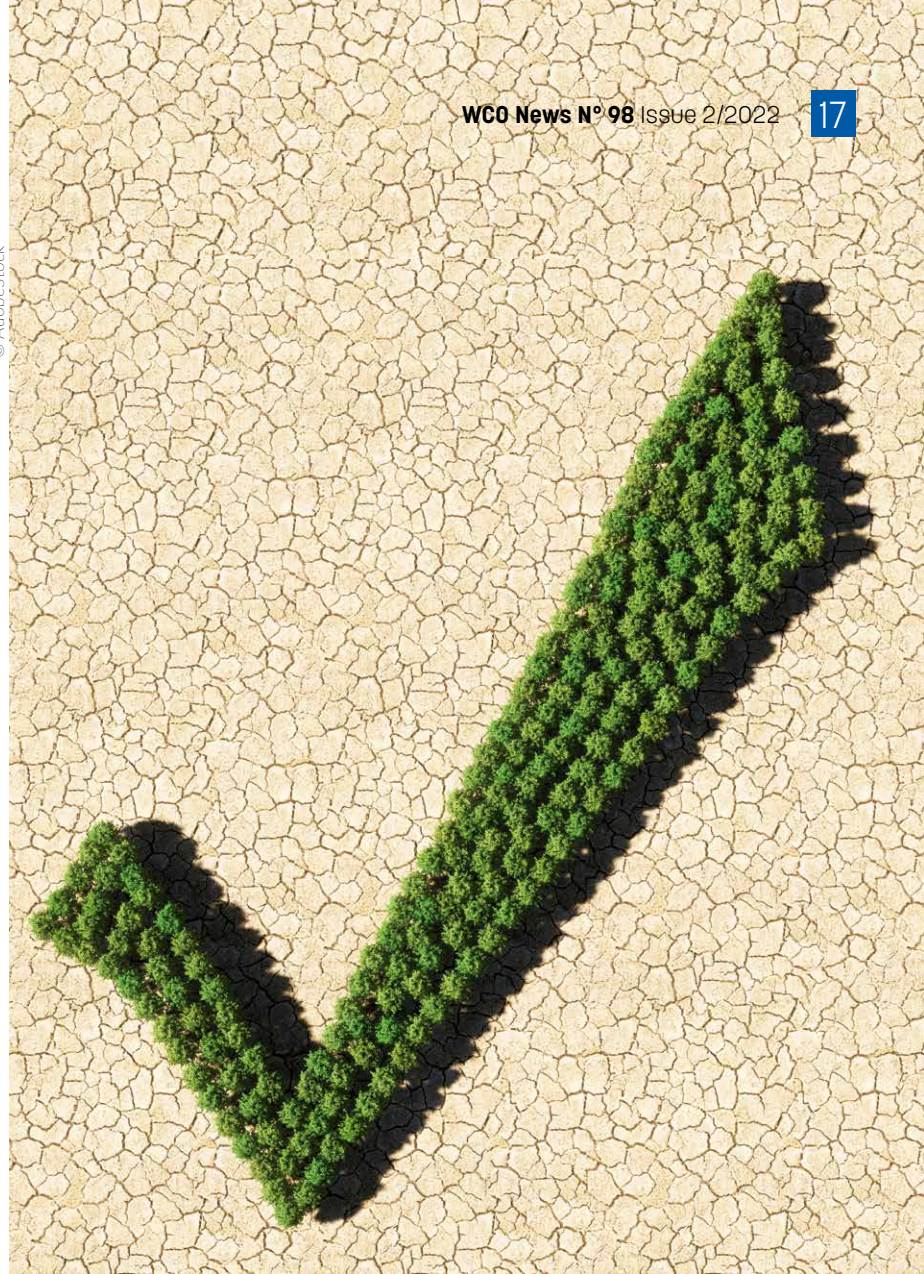
¹ The report is available at: <https://www.kommerskollegium.se/publikationer/rapporter/2021/trade-and-climate-change/>.

of the Thirteenth WTO Ministerial Conference². In parallel, a smaller group of countries, including New Zealand, Costa Rica, Fiji, Iceland, Norway and Switzerland, are also negotiating the liberalization of environmental goods and services as part of the negotiations on the Agreement on Climate Change, Trade and Sustainability (the ACCTS initiative).

Definition issues – what is a climate-friendly good?

Earlier negotiations have involved negotiations on “environmental goods”. As our focus was limited to identifying actions that can contribute to a reduction in greenhouse gas emissions (i.e. climate change mitigation), we chose in our report to focus on “climate-friendly goods”, which can be considered a subset of environmental goods. The main rationale for liberalization of climate-friendly goods is that this would lower the cost of reducing greenhouse gas emissions and promote the spread of climate-friendly technology, as well as the smoother flow of goods across borders. The report therefore recommended that negotiators aim for zero tariffs and address non-tariff barriers to as many climate-friendly goods (and their production inputs) as possible.

But what is defined as a “climate-friendly good”? Indeed, the main issue in previous negotiations on environmental goods has been that of definition and selection of goods for liberalization. This would also need to be handled in any future negotiations. The APEC environmental goods negotiations utilized the OECD/Eurostat definition³ to identify goods suitable for accelerated trade liberalization. The definition requires environmental goods to have an environmental end use in terms of environmental protection or resource management.⁴ However, the end use criteria in the OECD/Eurostat definition create two main problems: first, how to manage dual use goods that have both an environmental and a non-environmental end use (such as a pipe that can be used in a wastewater plant or to transport oil⁵);



second, the definition fails to include so-called “environmentally preferable products” (EPPs), which cause less environmental damage in terms of production, consumption or disposal than substitute goods.⁶ Examples include recycled paper or sustainable building goods.

With no ideal definition and with a range of lists identifying environmental goods,⁷ definition issues are an important part of negotiations. While a clear definition would be desirable,⁸ it is not vital as the APEC and EGA negotiations overcame the challenges by identifying candidate goods under environmental categories such as “cleaner

2 The date for the MC13 had not been set yet by the time the magazine went to print in June 2022. The WTO Ministerial Conference usually meets every two years and the MC12 took place in June 2022.

3 “The environmental industry consists of activities which produce goods and services to measure, prevent, limit or correct environmental damage to water, air and soil, as well as problems related to waste, noise and eco-systems. Clean technologies, processes, products and services which reduce environmental risk and minimise pollution and material use are also considered part of the environmental industry”, the Organisation for Economic Co-operation and Development (OECD) (2016), *OECD Expert Workshop on Optimising Global Value Chains for Environmental Goods and Services: Summary of the Workshop*. OECD Publishing, Paris.

4 Eurostat (2009), *The Environmental Goods and Services Sector*. Luxembourg: Office for Official Publications of the European Communities.

5 World Bank (2008), *International trade and Climate Change: Economic, Legal, and Institutional Perspectives*.

6 Balineau, G. & De Melo, J. (2013), *Removing barriers to trade on environmental goods: An appraisal*. *World Trade Review*. 12. 10.1017/S1474745613000074.

7 See Sugathan, M. (2013), *Lists of Environmental Goods: An Overview*, ICTSD, for a review of different institutional settings in which lists have been produced. In addition, definition issues are taken up in other fora.

8 Cosby, A. (2015), *Breathing Life into the List: Practical Suggestions for the Negotiators of the Environmental Goods Agreement*.

and renewable energy” and then negotiated lists based on suggestions.

Further categorization under the Harmonized System

The dual use problem can also be solved in a couple of ways. These include the use of “ex-outs”, which specify goods in more detail than is provided by the six-digit HS code of the WCO, or liberalization of the good for both environmental and non-environmental use.⁹ The EGA negotiations made extensive use of ex-outs to include goods and inputs with dual uses.

As the HS is used in tariff negotiations, definitions have to align and conform to these classifications. However, there is no specific chapter for environmental or climate-friendly goods, and the level of precision for descriptions within the HS for environmental goods varies between subheadings. Some six-digit subheadings identify a specific environmental good,¹⁰ while other subheadings contain both environmental and non-environmental goods.¹¹

The creation of ex-outs thus offers an opportunity to deal with the dual use problem and to specify goods in more detail than is provided by the six-digit code. This has been done by adding further sub-categorizations at 8-, 9- and 10-digit levels in a manner similar to that of nations and trading blocs for national and regional tariff schedules.¹² The recent HS review for the 2022 tariff schedule also added several new goods that are relevant to the climate¹³ and which could easily be included in a trade negotiation. The forthcoming review of the HS for 2027 also offers an opportunity to specify further climate-friendly goods. More precise codes would first and foremost facilitate more targeted liberalization, and lower administrative hurdles for trade negotiations. Moreover, more precise codes would allow for other trade policy instruments, such as rules of origin and standards, to be better aligned with climate policy. In our view, it would therefore be highly relevant for research to be conducted in collaboration with industry to identify technologies where specific

HS6 codes could be developed and thus facilitate more specific liberalization. The parties to a trade agreement could also commit to cooperation in the WCO to better align the HS nomenclature to support the climate transition.

Environmentally preferable products

As mentioned above, another issue in previous negotiations has been whether to include so-called “environmentally preferable products” (EPPs). EPPs are defined in relation to alternative products, raising the question of where to draw the line on the scale from the most damaging to the most beneficial goods. Decisions can be informed by criteria such as carbon footprint or lifecycle approaches.

There are legal limitations on liberalizing certain EPPs. The non-discrimination obligations (national treatment and most-favoured nation) in the WTO’s General Agreement on Tariffs and Trade 1994 (GATT 1994) do not allow discrimination between so-called “like products”¹⁴ (for example, products with the same physical characteristics but with differing production emissions). There are possibly long-term solutions, but political complexity makes it questionable if these are realistic in the near future. We therefore did not consider it advisable or desirable to include EPPs that are considered to be “like products”.

However, there are good climate reasons for including EPPs that can be readily identified, such as “products distinguishable by some observable or measurable difference in their chemical or physical characteristics”¹⁵, and those with a specific HS code, which could be considered to not be “like products”. In this regard, WTO members can contribute to the development of specific HS codes for EPPs via cooperation in the WCO.

Technological advancement and review clauses

The fast pace of technological advancement and changing product features and standards means that lists can quickly become outdated. To deal

There is huge potential to identify and liberalize climate-friendly goods under a trade agreement. We identified more than 450 unique HS6 codes containing over a thousand goods or production inputs which can be considered climate-relevant.

9 Kim, J. A. (2007), *Issues of Dual Use and Reviewing Product Coverage of Environmental Goods*. OECD Trade and Environment Working Papers 2007/1, OECD Publishing.

10 For example, HS 8502.31, electric generating sets, wind powered.

11 For example, HS 7308.20, towers and lattice masts, can be used not only for wind turbine towers, but also for oil platforms.

12 The United Nations Environment Programme (2014), *South-South trade in renewable energy: a trade flow analysis of selected environmental goods*.

13 For example, energy efficient LEDs, new heavy electric vehicles, Steenblik, R. (2020), *Code Shift: The environmental significance of the 2022 amendments to the Harmonized System*. International Institute for Sustainable Development.

14 Articles I and III of the GATT 1994.

15 Steenblik, R. (2005), *Liberalising Trade in 'Environmental Goods': Some Practical Considerations*. OECD Trade and Environment Working Papers, No. 2005/05, OECD Publishing, p. 3.

with these issues, we recommend in our report that a trade agreement include review provisions so that additional goods can be added, along with clauses to ensure that a review occurs every four or five years. Ideally, such a review should also be coordinated with an update to the HS nomenclature. Consequently, it would also be important to continuously involve and coordinate trade liberalization efforts with Customs and trade professionals working at and with the WCO.

Overview of existing lists which include climate-friendly goods

After reviewing the issues related to the definition and selection of climate-friendly goods for liberalization, we analysed the potential to include climate-friendly goods in negotiations, based on a selection of existing goods lists (see the table below for an overview of the lists). The lists were selected based on their relevance to identifying goods with the potential to mitigate greenhouse gas emissions, and were drawn from previous negotiations in the WTO and APEC, as well as from the grey literature. Most of these lists are outdated and would need to be reviewed in light of the technological development that has occurred since their publication.

Even though our aim was not to present a specific list of goods, the conclusion from the analysis was that there is huge potential to identify and

liberalize climate-friendly goods under a trade agreement. From the lists examined, we identified more than 450 unique HS6 codes containing over a thousand goods or production inputs which can be considered climate-relevant (see table below). Our suggestion would be to include as many climate-friendly goods as possible in any negotiations to ensure the largest climate benefits.

The assessment of new and existing goods' greenhouse gas mitigation credentials is technical and requires specific expertise. The appointment of a body of experts to provide guidance would therefore be a suitable way to support negotiators' assessments. Such a group could comprise experts in climate, industry and trade negotiation, as well as officials from Customs administrations and the WCO Secretariat to advise on HS classification and updates to the HS nomenclature.

Our report also compared the categories used for selecting relevant goods in the EGA negotiations with greenhouse gas mitigation options identified by the Intergovernmental Panel on Climate Change. We identified gaps that might be addressed with the inclusion of new categories that would broaden the scope, i.e. climate infrastructure, technologies to support behavioural change, circular economy, and agriculture, land and forest management (see diagram on the following page, "EGA categories").

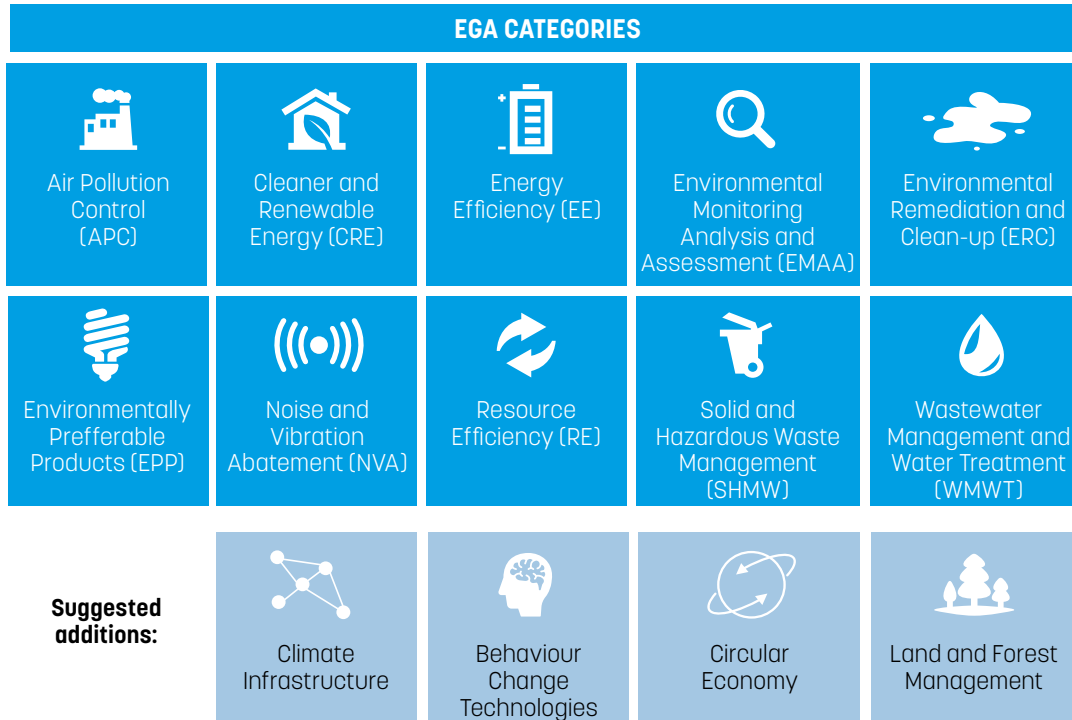
Table 1. The number of climate-friendly goods on existing lists

List	HS6 heading with a potential climate good	Total number of items specified under identified HS6 headings	Number of unique HS6 codes*	Items under unique HS6 codes**
APEC environmental goods list	38	104		
OECD Combined List of Environmental Goods	195	195		
Environmental Goods Agreement A and B lists	254	451		
ICTSD Buildings	49	70		
ICTSD Renewable Energy	85	296		
ICTSD Transport	83	301		
National Board of Trade electric vehicles list	50	80		
World Bank climate-friendly goods list	43	43		
Total	Omitted to avoid double counting	1540	454	1125

* Some codes feature on more than one list; column shows count with double entries removed.

** Several codes have more than one ex-out; the code with the highest item count is retained and the items counted.

Graphic 1. Categories used for selecting relevant goods in the Environmental Goods Agreement negotiations



Developing countries

In previous environmental goods negotiations, there has been limited participation by developing countries. There has been a concern that imports could disrupt home industries and employment. However, from a climate perspective, the participation of developing countries is highly desirable. The benefits are cheaper access to low carbon technologies, welfare gains from improved environmental management, and opportunities to participate in global value chains for climate-friendly goods.

Suggestions to encourage participation from developing countries include broadening the scope of negotiations to encompass, for example, more EPPs and agriculture-based products (for which some developing countries have a comparative advantage). Other suggestions include providing support to identify and list goods of interest for developing countries and capacity building.

Going forward

To conclude, a liberalization of trade in climate-friendly goods in the WTO could contribute to the climate transition and help countries achieve the goals of the Paris Agreement. It would reduce the cost of greenhouse gas mitigation actions, and

promote the spread of climate-friendly technology and the smoother flow of goods across borders.

The National Board of Trade Sweden's report highlights the importance of including relevant WCO working bodies and HS experts in discussions on any new negotiation. One of our key recommendations in the report is to appoint a body of experts to support negotiators on technical matters. Such a group could comprise experts in climate, industry and trade negotiation, Customs officials and WCO Secretariat representatives. We also suggest parties to a trade agreement could commit to cooperation in the WCO to better align the HS nomenclature to support the climate transition. As well as facilitating liberalization of climate-friendly goods, more precise codes allow for other trade policy instruments, such as rules of origin and standards, to be better aligned with climate policy. We recommend that an agreement should ideally include clauses to ensure that a review occurs every four or five years, and that such a review be coordinated with HS code revisions so that new codes can be added to the lists. Customs, through the WCO, could make an important contribution in all these areas.

More information

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Moving goods in a circular business model: challenges and way ahead

By Florence Binta Diao-Gueye, Global Policy Manager, Trade & Customs, International Chamber of Commerce

Why are we looking at circular economy approaches?

Global trade has experienced intense challenges for the past two years, with supply chains facing unprecedented pressures during the COVID-19 pandemic and more recently with the Russia-Ukraine war on the European continent.

At the same time, the planet has been heating up and people are waking up to the climate crisis which societies are facing. All these developments have added to a questioning of the current functioning of our global economy that is based on a linear and extractive model using finite resources.

The idea of a circular economy is to use resources more efficiently and to decouple economic growth from material inputs – providing a path to address climate change and biodiversity loss, and to find a workable solution to the current unsustainable consumption of natural resources.¹

Adopting a circular economy approach means accepting a systemic change that will transform how a business or even an economy functions and how societies consume. While some companies are pioneers in working towards a circular business model, there are regulatory hurdles, as well as practical and legislative barriers, in their way to becoming more circular.

Businesses depend on achieving economies of scale, even when it comes to establishing more sustainable systems, such as circular business models, which is why the ability for goods or components to cross borders is critical.

¹ ICC study, Christophe Bellmann (2021): *The Circular Economy and International Trade – Options for the World Trade Organization*. See <https://iccwbo.org/publication/the-circular-economy-and-international-trade-options-for-the-world-trade-organization/>, p.6, (30/05/22).

Challenges

In general, all circular models contain the following aspects: reducing, reusing, refurbishing, remanufacturing and recycling. For instance, IKEA is on an ambitious journey, with circular commitments defined until 2030. The company is focused on eliminating waste as much as possible, using recycling only as a last resort, and instead focusing on reusing, refurbishing and remanufacturing to enable the retention of most material and product value, while using renewable or recycled materials from the start.²

With complex value chains, it takes innovation and real commitment to get to a circular business. For a company that aims to transform its business, this can be a slow process since it requires a lot of investment, as well as learning and developing this new way of doing business. Practically, it means that new capabilities must be developed, measurable KPIs defined, and exploration and case studies completed before changing business operations.

In order to benefit from comparative advantage and economies of scale, supply chains have become very complex in a highly integrated world economy. While components and goods cross borders many times before becoming a product, there are challenges to operating a circular supply chain.

The lack of harmonization and alignment of local consumer regulatory rules, local Customs regulations, as well as (country) waste management regulations, can make complicated the cross-border movement of goods or components that are part of a circular supply chain.

For instance, Mercedes-Benz is also focusing on measures that are promoting the circular economy, not only by reducing its material consumption, but also through recycling of key components such as batteries. The aim is to reintroduce recycled materials into its supply chain, with its pilot CO₂-neutral recycling factory in Koppenheim (Germany) set to open in 2023. With a recovery rate for vehicle batteries of more than 96%, it is a critical step forward in its circular business model, which hinges on the ability of parts to cross borders, since a recycling plant

with this technological capacity cannot be built in every country.³

Businesses depend on achieving economies of scale, even when it comes to establishing more sustainable systems, such as circular business models, which is why the ability for goods or components to cross borders is critical. Harmonization and alignment regarding global trading regulations and country-specific requirements will be pivotal for all businesses that aim to reuse, refurbish, remanufacture and recycle (four loops of the circular economy).

While each circular supply chain will be designed differently, with varying aspects of the four loops, some of the challenges to materials crossing borders are prevalent. We have listed some in Table 1.

How to enable and accelerate circular business models

It is important to redefine waste as a resource to enable a circular economy. The legal definition of “waste”, that is still based on the Basel Convention, does not allow a distinction to be made between products/materials able to be reused, repaired, repurposed or refurbished, and what should actually be recycled/disposed of. “Waste” in the context of recycling is different from, for example, reuse, refurbishment and remanufacturing. Today, the legal framework does not take these distinctions into account. There are different approaches needed, depending on the “circular loop” (such as reuse, refurbish, remanufacture or recycle), and this should be recognized in the legislation. It is critical to have a clear definition in place that reflects the new needs in a circular society, in order to set the right conditions for legal obligations/rights.

There is also a need to make waste a (harmonized) resource. Not only is investment in better waste treatment infrastructure critical in order to greatly increase the use of recycled materials, but also harmonization of waste rules across markets is a prerequisite to close loops in an efficient way and to encourage greater cooperation among different markets in waste prevention, generation, collection, sorting and treatment.

² IKEA: Transforming into a circular business. See <https://about.ikea.com/en/sustainability/a-world-without-waste>, (29/05/22).

³ Mercedes-Benz: Mercedes-Benz establishes sustainable battery recycling: Own recycling plant to start in 2023. See <https://group.mercedes-benz.com/sustainability/resources/battery.html>, (29/05/22).

Table 1 - Prevalent challenges to materials crossing borders

Policy obstacles	Description
<p>Harmonized System codes</p> <p>Would specific tariff codes need to be adopted to enable and facilitate a circular global supply chain? What should tariff numbers cover when we consider the wide variety of recycled materials and eventual reverse flow of products that will be in play within the circular economy?</p>	<ul style="list-style-type: none"> • The current set-up within the Harmonized Tariff codes does allow for waste or scrap materials, but typically only by component materials. For example, there are tariff provisions for paper waste and scrap, which are different from the waste and scrap provisions for wood, and there is no provision for waste and scrap in the furniture section. Each chapter on metals has its own provision for waste and scrap, but there is no provision allowing for a mix of iron, steel, copper or zinc, etc. The textile provisions are similar and broken down by wool, cotton, synthetic/man-made, vegetable fibres, and silk. Other than some tariffs under 6310 (“Used or new rags, scrap twine, cordage, rope and cables and worn-out articles of twine, cordage, rope or cables, of textile materials”) and under section XVI (related to machines), there are no tariff provisions for materials or products for used, refurbishing or recycling purposes. • Tariff provisions would need to allow for bulk shipments of different/mixed materials that can be co-mingled. • Clear definitions and distinctions are needed to differentiate between the various loops of circular models, and tariff provisions aligned appropriately. An internationally harmonized and accepted definition of waste is needed, as currently what can be considered as “waste” in some countries is in others considered “material”. Definitions could distinguish between materials designated for waste or recycling, and those materials or products that are destined for refurbishing or reuse. • Among other regulatory provisions, tariff numbers are typically associated with a duty rate, as determined by each country. To encourage and create sustainable circular supply chains, countries should be encouraged to consider attractive tariff provisions, or even unconditionally duty free provisions, for circular approaches.
<p>Clear regulations</p>	<p>Regulation alignment for “used goods” is needed to:</p> <ul style="list-style-type: none"> • distinguish between “used” goods intended for resale and refurbishing, as used by another end consumer (securing basic consumer protections for used goods considered viable and acceptable to governments and consumers), and “waste/recycled” goods and materials (where the above-mentioned protections are no longer necessary); • enable cross-border flows - many countries today do not allow for cross-border flows of “used goods” or “waste materials”. <p>These clearer regulations would also be able to recognize the quality of recycled/recovered resources, keeping up with technological advances that are capable of recovering resources from waste. These available processes can offer opportunities to access valuable resources, whose safety shall be proven by case studies and established criteria attesting to their quality for different purposes (e.g. consumer, chemical processes or construction).</p> <p>For instance, the company Ragn-Sells has developed a process (ASH2@PHOS)¹ that produces clean phosphorus products from incinerated sludge ash. The recovered phosphorus could be used in fertilizers or feed phosphates, among other products - but it is not accepted as a safe raw material since it is considered as “waste”, even though the quality is higher than mined phosphorus (which can be contaminated by heavy metals, such as cadmium and uranium). This highlights the need to shift from today’s origin perspective to a quality perspective when looking at resources still considered as waste.</p>
<p>Burden of proof/enforcement</p>	<p>Once provisions are implemented to accommodate a cross-border circular economy, countries will need to adopt measures to apply and enforce such provisions. Guidelines on how to adequately establish a burden of proof for imported/exported goods intended solely for circular or recycling purposes will be needed and should be aligned across countries and within the international rules-based trade framework.</p>

¹ Ragn Sells (16/09/20): Ash2Phos - pioneering patent for vital nutrient. See <https://www.ragnsells.com/what-we-do/inspired/ash2phos---the-story/>, (31/05/22).

Policy obstacles	Description
Country of origin declarations	<p>In circular flows, shipments may comprise the various differing country of origin sources, or the country of origin may not be known or accessible, making it impossible for cross-border shipments under today's declaration requirements. To allow the establishment of a circular economy, Customs authorities should be encouraged to forego country of origin data/details for:</p> <ul style="list-style-type: none"> ● declaration purposes; ● certificate of origin purposes; ● exporter statement purposes; ● commercial invoice and/or packing list purposes; ● marking/labelling purposes.
Handling by agencies other than Customs	<p>Many countries have other government agencies for which Customs authorities collect data and/or enforce regulations. In a circular economy or recycle (reverse) supply chain, having to provide the requisite details for each piece in a shipment is impossible. Both Customs authorities and the other government agencies should be encouraged to waive such requirements for recycled/circular goods. Requirements should be reviewed and adapted for goods in refurbished and reuse loops, such as:</p> <ul style="list-style-type: none"> ● timber legislation and/or traceability requirements; ● consumer product protection requirements (lab reports, marking, flammability reports, labels, food contact); ● phytosanitary certificates, reports, details; ● quarantine requirements; ● carbon (CBAM-type) reporting details; ● formaldehyde reporting requirements.
Valuation determination for shipments of "used" goods or "waste" materials	<p>The international rules for Customs valuation require all imports and exports to have a value based upon the valuation definitions and rules provided for in the General Agreement on Tariffs and Trade (GATT). New valuation methods are needed and should be included in the GATT Article VII Valuation base, as indicated below.</p> <ul style="list-style-type: none"> ● When buying or obtaining "used products" in bulk intended for resale for refurbishing, recycling or reuse purposes, a piece-level price (typical for new products) may not be available. In conjunction with consideration of tariff provisions specific to the four loops of circular models (reuse, refurbishment, remanufacturing and recycling), the valuation methodology should allow for the total value of the bulk/batch buy to be allocated. ● For products considered waste/recycle materials and end-of-life, it is plausible that there is zero value. There may not be a buy/sell transaction. Waste/recycle materials would not have an inventory value, a book value or a commercial value. A zero-value provision should be considered, and requirements developed and provided on how it could be applied specifically for transactions associated with recycling/circularity.
Consistency in regulations	<p>There are misalignments in the framework of regulations within countries and among members of trading blocs with regard to their regulatory bodies and Customs regulations. For example, when working with recycled materials today, there is a discrepancy between EU fibre regulations and EU Customs regulations, as indicated below.</p> <ul style="list-style-type: none"> ● To describe the fibre content of a textile product as "fabric: 100% mixed fibres" would be acceptable under Regulation (EU) No 1007/2011 in relation to fibres, but not under EU Customs rules. ● A product described as "100% mixed fibres" cannot be classified under EU Customs legislation, and a tariff code may not be assigned². ● It is acceptable to use the term "100% mixed fibres" only if additional information is provided and one of the fibres is predominant: <ul style="list-style-type: none"> - 100% mixed fibres (100% recycled, min. X% fibre 1), where fibre 1 shall make up a minimum 51% of textile fibre content; - 100% mixed fibres (100% recycled, min. X% fibre 1, min. Y% fibre 2), where either one of the fibres 1 or 2 shall make up a minimum 51% of the textile fibre content. <p>Misalignments like these are a key obstacle to adopting and developing circular capabilities for businesses that wish to move towards more prominent use of recycled materials.</p>

² An article without tariff code may not be sold in another market than the market where it is manufactured.

Last but not least, consistent and safe international frameworks must be established. The promotion of a circular economy will have the most positive impact on the environment if it is adopted globally. We need cross-border collaboration among governments to enable supply chains that are resilient to change, creating business opportunities within the means of the planet. Export and import solutions should therefore account for the big picture, enabling the best preconditions for maximum positive impact, rather than focusing on limitations and bans.

Multilateral institutions such as the WTO and WCO have the potential to enable and accelerate

the adoption of circular economy approaches through the harmonization and alignment of standards, regulations and agreements – providing a framework that accommodates the adoption of a circular business model.

To learn more about this topic, I encourage you to read the ICC study *The Circular Economy and International Trade: Options for the World Trade Organization*⁴, which provides an in-depth review of the major policy frictions in transitioning to a circular economy.

More information

<https://iccwbo.org>

⁴ ICC study, Christophe Bellmann (2021): *The Circular Economy and International Trade – Options for the World Trade Organization*. See <https://iccwbo.org/publication/the-circular-economy-and-international-trade-options-for-the-world-trade-organization/>, p.6, (30/05/22).



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Some common questions about the HS, and how to change it to meet needs

By Gael Grooby, Deputy Director, Tariff and Trade Affairs, WCO Secretariat

Good trade-related policy requires good trade data.

While it may occasionally be necessary to implement policies and trade measures without a data-driven understanding of the underlying trade, there is always the risk that doing so could deliver unpredictable results or miss the desired objectives. Good trade data is also essential for monitoring and assessing the implementation of trade policies.

Commonly for trade-related issues, a major part of examining the data involves looking at the data generated by Customs classification. For trade beyond the imports/exports of one Customs union or one country, the comparison of data relies on classification at the six-digit level, i.e., at the level provided by the Harmonized System (HS). Over the last few years, a wide range of events and issues have generated increased interest in how the HS can be utilised to increase data specificity, to expand the range of goods for which focused trade monitoring is possible, and, in many cases, to also act as a basis for trade measures – for example, for environmentally preferable goods.

The pandemic, the climate crisis, other environmental issues such as the accumulation of plastics in the environment, the fragility of food security, the circular economy model – these are all examples of critical, urgent or emerging topics that have been occupying many minds in governments, international organizations and academia, and have also been behind enquiries to the WCO about current classifications and how to increase the available data and specificity of classification in the HS for critical goods.

As part of this development the Secretariat is often asked some quite difficult questions, and, in this article, I will discuss the answers to some of the most common questions posed.

There is a lot of trade in this commodity – why doesn't it have its own HS Code?

Every good is classified, but not all goods are specified by name in their own HS code. The question of the varying levels of specificity around goods in the HS can be puzzling to people when they realise just how variable this is.

Let us look at an example. “Salicylic acid and its salts” were highlighted as ‘products of interest’ in relation to the pandemic and they have their own subheading, which is “2918.21”. Salicylic acid is used in its own right to treat a range of skin conditions, but its main point of interest in terms of the pandemic is that it is the principal ingredient used to manufacture

acetylsalicylic acid, commonly known as aspirin, used to treat pain, fever and inflammation.

But what about aspirin tablets or capsules themselves? They are a compounded medicament consisting of acetylsalicylic acid and various other, non-active ingredients put up in a measured dose, i.e., as tablets or capsules, and are covered under subheading "3004.90 - Other". This is a very broad category, covering thousands of different products.

So while we can track, with a good level of precision, trade in pure salicylic acid or in pure acetylsalicylic acid (subheading "2918.22 -- O-Acetylsalicylic acid, its salts and esters"), we can't use the HS to track international trade specifically in ready-to-use aspirin.

Nevertheless, knowing these non-specific classifications is still vitally important at the national level. If you want to insert domestic subheadings for aspirin tablets or capsules, or

you want to introduce concessions or measures for them, then you do need to know that these should be applied under subheading "3004.90". However, the classification will not tell you what proportion of international trade under "3004.90" consists of ready-to-use aspirin, as it lacks that specificity.

Why is the specificity level so variable?

The HS was created from what was included in its predecessor, the Brussels Nomenclature, and was then modified over the years on the basis of proposals submitted to the Harmonized System Committee (HSC) by representatives of the Contracting Parties to the International Convention on the Harmonized Commodity Description and Coding System Convention (HS Convention) or an intergovernmental organization (IGO) representing such Contracting Parties. Hence, those classifications which are highly specific reflect the types of trade items which were preoccupying these parties at the time when the relevant proposals were considered.



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So, an area like textiles – which has a long history of quotas, sensitive trade negotiations and economic importance – includes many provisions which are highly specific. For example, “5206.33” covers “cotton yarn (other than sewing thread), containing less than 85 % by weight of cotton, not put up for retail sale, in the form of multiple (folded) or cabled yarn, of uncombed fibres, measuring per single yarn less than 714.29 decitex but not less than 232.56 decitex (exceeding 14 metric number but not exceeding 43 metric number per single yarn)”.

In fact, heading “52.06” has 20 subheadings detailing the various possibilities for “cotton yarn (other than sewing thread), containing less than 85% by weight of cotton, not put up for retail sale.” And “52.06” is just one of two headings covering “cotton yarn (other than sewing thread), not put up for retail sale”. Taking headings “52.05” and “52.06” together, there are 44 subheadings for this subset of goods.

If we compare this to something like heading “90.18”, an important heading during the pandemic that covers “Instruments and appliances used in medical, surgical, dental or veterinary sciences, including scintigraphic apparatus, other electromedical apparatus and sight-testing instruments” (in other words, a large proportion of the crucial medical equipment), we can see that “90.18” has not been heavily specified. Compared to the 44 subheadings for “cotton yarn (other than sewing thread), not put for retail sale”, the entire category of “Instruments and appliances used in medical, surgical, dental or veterinary sciences, including scintigraphic apparatus, other electromedical apparatus and sight-testing instruments” has only 13 subheadings, of which only eight name product types with relatively high specificity. The other five are “Other” subheadings.

The difference in specificity between these examples relates to what the Contracting Parties to the HS have proposed for inclusion. The choice as to where efforts should be made to increase specificity lies in their hands of the Contracting Parties. The HS is Contracting Party-driven and proposals come from Contracting Parties, or from intergovernmental organizations representing them.

Why is country x classifying this item differently from country y?

One question that arose frequently during the early days of the pandemic was why differences in classification at HS level sometimes emerged when countries compared classifications. For example, why might some countries classify paper masks under “4818.50”, which covers “Articles of apparel and clothing accessories”, while other countries classify them under “4818.90” (“Other”)?

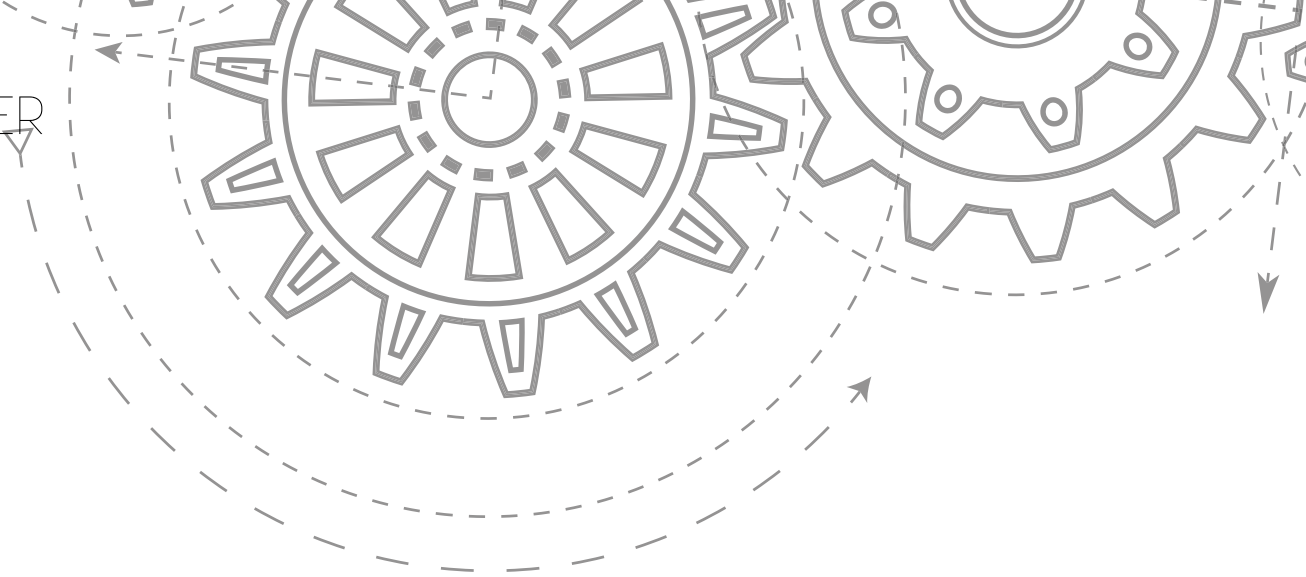
Of course, the obvious answer is that there are different understandings of what “articles of apparel and clothing accessories” means. But this is a fundamental issue where legal provisions are concerned – the understanding of words and phrases can differ.

The HS is language-based. The inherent lexical ambiguity level of most languages is very high. There are estimates that in the English language, over 80% of words have more than one meaning. For perfect clarity between HS Contracting Parties, there would have to be a perfect shared understanding of the intended meaning of the corresponding English and French words or phrases used in the provisions, and words or phrases that correspond perfectly to that understanding of the meaning would have to exist in every language into which the HS is translated. Given that this is impossible, ambiguity will always be an issue.

This issue is sometimes addressed by the existence of a legally binding definition within a Note to the Section, Chapter or Subheading concerned. Definitional Notes serve a vital purpose in providing greater legal certainty in the HS, but they are not without problems.

These Notes can be very helpful, but they do add to the difficulties facing HS users as their existence is not obvious to someone reading a provision unless it is actually specified in the terms of that provision (and it usually isn't). There is also the risk that a definition may make sense when it is created but then become outdated over time, as the goods evolve.

More problematic still is the fact that it can be difficult, or even impossible, to draft and negotiate a definitional Note successfully in the case of a very broad term such as “apparel” or “accessory” that is causing consistency problems.



The other tool used for increasing consistency in practice is the Harmonized System Explanatory Notes. Although the Explanatory Notes are not legally binding (unless a Member has made them so at the national level), the value of proposals to update the Explanatory Notes should not be underestimated as they are very influential in classification.

The other source of ambiguity is inherent in the requirements set out in the legally binding rules governing classification in the HS, known as the *General Rules for the Interpretation of the Harmonized System*, for making certain judgements when there is more than one possible heading or subheading for a commodity. Here, I am referring mainly to the requirements for judging specificity or essential character, although these are not the only aspects of the Rules which require a judgement call. In particular, judgements on what constitutes the “essential character” of a particular item are a relatively common source of disagreement between HS Contracting Parties or other users of the HS.

Classification resolution

So, if Contracting Parties disagree, how can they seek international classification resolution? Firstly, they will normally talk to each other. Often, once they have exchanged information about the goods and their views, they can reach agreement. If not, then the normal process is for one of the Contracting Parties to the HS to refer the matter to the HSC for a decision on classification.

One point that can puzzle users unfamiliar with the system is that the process can take quite a long time. A classification may be decided within a single meeting, but for some matters the Committee may first ask for more information and consider it during a subsequent meeting, or the matter might be postponed if the HSC has insufficient time to get through all of its Agenda:

as Agendas normally cover a very large number of items, this can easily happen. In addition, when there is no consensus within the Committee the matter is decided on a simple majority vote, and a period of time is allowed for a Contracting Party to enter a reservation against the decision, requesting a re-examination. So, it can sometimes take multiple meetings to arrive at a final decision, and as the meetings only occur twice a year, the time span can be quite long if a matter is complex, unclear or contentious.

One last point to note on this subject is that the publication of a Classification Opinion is a separate matter from a decision; if a Classification Opinion is wanted, then after the decision is final a draft Classification Opinion will be presented to the HSC for approval at its next meeting.

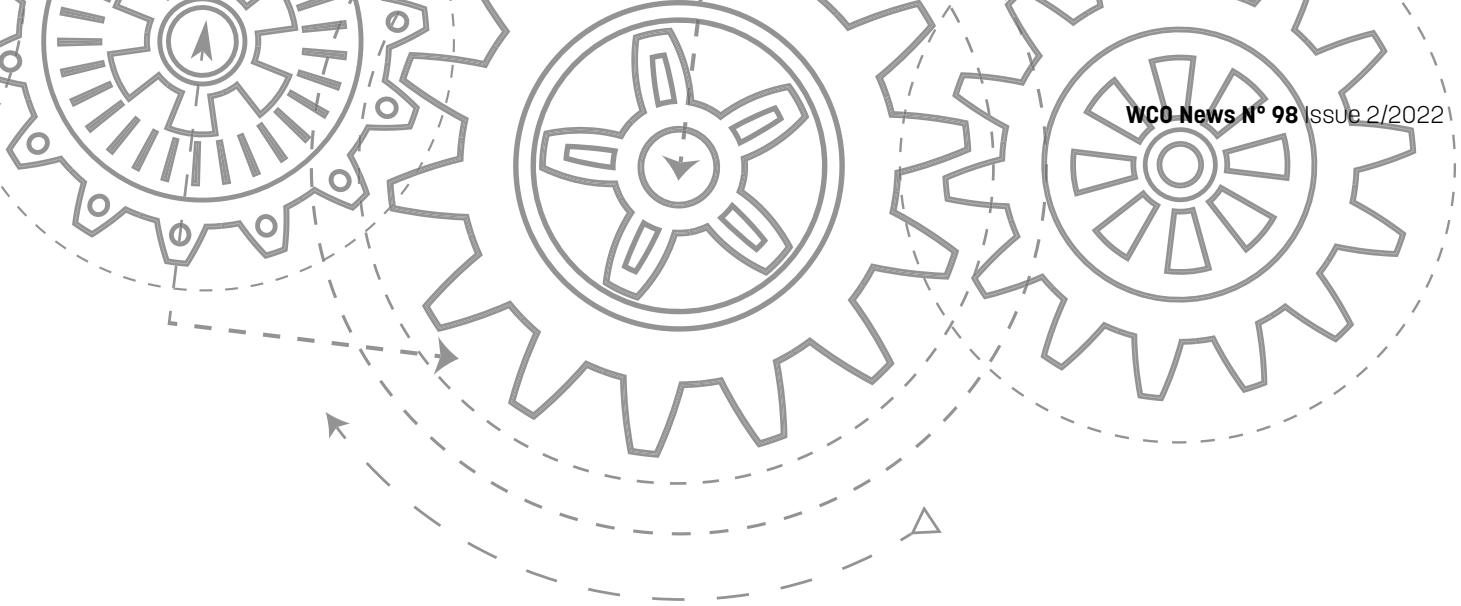
What is the procedure for changing the HS?

Having looked at issues related to variations in specificity, the inherent ambiguity of the language used in the provisions, and the potentially long timeframes for resolving classification differences, where does that leave us in terms of how we can change the HS to clarify the classification of critically important goods?

The Harmonized System is actually the Annex to the HS Convention. So, when we change the HS we are changing an international Convention, and this is not done lightly.

As previously mentioned, we first need proposals. If a Contracting Party identifies changes that it believes are needed, or has accepted a proposal from its national industry, seeking changes, then the government concerned sends a proposal to the WCO Secretariat for presentation to the Harmonized System Committee (HSC) and its Review Sub-Committee (RSC). As noted, this can also happen via an IGO.

Getting a proposal on the table in good time is often more important than having it perfectly formulated at the time of introduction. The RSC and HSC usually improve proposals during the negotiations, often turning an unlikely proposal into a successful proposal in the process.



The RSC is the drafting body. If there is sufficient interest in proceeding with the change, the RSC will work on the drafting of the new or altered texts. This Sub-Committee works on a consensus basis, and when it has either reached consensus on the wording, or has gone as far as possible towards achieving consensus, the draft is sent to the HSC.

The HSC is the voting body which decides on the provisional adoption of the proposed changes. Unlike classification decisions, which require only a simple majority, the provisional adoption of a change to the HS requires a two-thirds majority vote in favour.

At the end of the five-year negotiation period, all of the changes provisionally adopted during that period are gathered into a draft Recommendation and sent to the WCO Council, which meets each June. The Council consists of WCO Members' Heads of Customs or their appointed representatives, and they determine whether to recommend to the HS Contracting Parties that they accept the draft Recommendation. If, at the end of a six-month period starting from the Council meeting, there is no outstanding reservation by a Contracting Party against any part of the draft Recommendation, then the Recommendation is deemed accepted in its entirety and a Notification is sent out.

HS Contracting Parties, the Secretariat and users then have approximately two years to prepare for the new edition of the HS.

OK, I have all that – now, how do we make a successful proposal?

Not all proposals are accepted by the RSC and the HSC. So, making a proposal with a strong chance of success requires careful attention. I will outline

some of the points to consider if you want to give your proposal the best chance.

However, if HS Contracting Parties or IGOs are having difficulties with any of the aspects explained below, they are welcome to discuss the matter with the Secretariat and we may be able to assist. Getting a proposal on the table in good time is often more important than having it perfectly formulated at the time of introduction. The RSC and HSC usually improve proposals during the negotiations, often turning an unlikely proposal into a successful proposal in the process.

Here are the points worth considering.

A clear rationale – the “Why”

Why would this proposal represent a good use of an HS code? There are millions of products, but there is limited capacity in a usable Customs nomenclature with a six-digit limit. As a result, goods are not added lightly¹. The HSC looks primarily at trade value and global relevance, so do you have any indicators of the trade value of the goods you would like to specify, and how widely they are traded? The HSC also considers goods which don't have a high trade value, but are a high priority for reasons of 'global good', for example because they are globally regulated or have a high impact internationally in such areas as security, health and the environment.

But even if you can claim a global good, there is still a need for consideration. Let's look at an example. There has been interest, in the past, in creating provisions for biodegradable plastic bags. But even this apparently simple aim can raise questions about whether the rationale justifies the proposal. The HSC might question, for example, whether it would be preferable to highlight alternatives to plastic or reusable

¹ We currently have 5,612 six-digit subheadings, and only a proportion of these specify goods narrowly.

plastic bags instead, if the aim is to substantially reduce pollution from plastic bags. It might ask whether the end products of the biodegradation will be safe, or if there are different levels of environmentally preferable products falling under the broad scope of the term.

When writing your proposal, it is useful to think what questions might be asked about the rationale behind it. Many of the questions that can be raised around rationale can also cross over into the second requirement for a good proposal, i.e., a well-defined scope.

A robust definition – the “What”

This is perhaps the most important aspect of a proposal. Can the goods be defined clearly? Is the scope of the terms clear internationally? Can the definition or understanding of the scope be protected against legal challenges? Do you understand how the goods will be presented at the border?

Staying with the example of biodegradable plastic bags, because there is no globally accepted international standard defining the term “biodegradable plastics”, it is unclear what this term would cover. What does “biodegradable plastics” actually mean? What about plastics that only partially biodegrade and form micro-plastics – are they meant to be covered? If a plastic can biodegrade but contains toxic additives, is it covered? If a plastic will biodegrade under industrial composting conditions, but survives for years under most normal environmental conditions or in home composting, is it included?

Understanding how the goods are presented at the border is also critical. For example, if you want a heading to cover a specific chemical, is it imported in pure form or as a mixture? Is a machine imported fully assembled, or do its components normally arrive in separate shipments? Misunderstandings on these matters can mean the provision does not cover the goods intended.

As the HS is a global instrument and is intended to be applied, without any change of scope, by all Contracting Parties, the answers to questions of this kind about what is covered are of vital importance in terms of ensuring uniform classification.

So, in cases where no agreed global definition or understanding exists, it would be advisable to think about whether a proposal would need to include a legally binding Note to define the scope, what the provision would cover, or the meaning of the terms used. Such definitions would need to be acceptable to Contracting Parties.

This leads us to the third requirement of a good proposal.

Use of verifiable provisions – the “How”

The ability to verify whether goods claiming a classification actually comply with the conditions is essential for an HS provision. The HS forms part of Customs law in the Contracting Party States, through its incorporation in their tariff legislation. For the HS to be part of the law, it needs to be enforceable. If there is a suspicion that a claim is factually false, it needs to be possible and practical for the claim to be verified – in other words the degree of difficulty involved, or the level of expense, time or resources required, should be reasonably within the capacity of Customs in both developed and developing countries.

It is important to remember that Customs classifies goods at the border in the condition in which they are presented. This means that the goods need to be objectively assessable for classification as imported, and that classification should not be dependent on what happens with the goods after their importation.

So, is the applicability of the proposed new provision verifiable by inspection of the physical characteristics of the goods at the border? If not, are there analysis or testing authorities that would be available to provide acceptable evidence of applicability? If laboratory testing by Customs is required for verification, is there an accepted testing method and how difficult is it to perform the test? Are there other characteristics, in terms of how the goods are presented or put up, that would answer the question of applicability?

Returning to the biodegradable plastics example, if the only available tests for the biodegradability of plastics involve exposing samples to controlled conditions and generally take between 28 days and 6 months, then the practical difficulties of using this as a border verification method are clear.

Where you have a definition of goods that is very difficult or impossible to verify at the border, it is advisable to look at whether you could achieve the same objectives by changing the definition to be verified. Do the goods that you want to specify share a common physical characteristic, such as material composition, size, or the presence of a specific component? Can you narrow or broaden your scope to change verifiability and still achieve the policy aim of the proposal?

If the only way to verify the applicability of a proposed provision is a post-import audit of the actual usage of the goods, then it is highly unlikely to be accepted. For provisions that require this type of verification, the best option is generally to consider the introduction of measures through tax administrations or other agencies that work within national borders and are already set up to perform a retrospective assessment of taxes or rebates.

In addition to the above, we need to look at the issues of “Where”, “Who” and “When”.

An indication of where the goods are currently classified – the “Where”

When goods move to a new provision, their duty rates are expected to move with them. In addition, the statisticians will want to be able to make the necessary adjustments to preserve time series information. This means it is important to be able to identify where the goods are currently classified.

It can happen that goods from an undefined range of positions are moved to a new heading. This usually occurs if a type of item is classified as a “part” and is used for a wide range of goods, but – for reasons of economic importance or because of the difficulty of identifying what a part is for in order to classify it – it is decided to give this item its own classification. Flat panel display modules are an example from HS 2022. However, this is a difficult situation for the transposition of duty rates and the collection of statistics, so it is only done in exceptionally rare cases where there is strong justification.

If you have goods that are not currently classified in a specific or narrow range of headings, it can be very problematic to create a new provision for them and the justification for such an action would need to be very strong.

Finally we turn to “Who” and “When”.

“Who” and “When”

Creating provisions requires proposals. As noted, these come from either Contracting Parties to the HS Convention or an intergovernmental organization representing such Contracting Parties. As to the “When”, in terms of the HS review cycle it is always later than you think!

Proposals normally progress through the Review Sub-Committee (RSC), a consensus body that works on drafting and meets twice a year, then passes its drafts to the Harmonized System Committee (HSC), a voting body that is responsible for deciding on whether to provisionally adopt a proposal. So if a proposal goes through, say, three sessions of the RSC for drafting, and then is considered at two sessions of the HSC, then starting from its first presentation at the RSC it will take two years to be provisionally adopted. The period can be shorter than this, or longer, and it is not unusual for a complicated proposal to take multiple years.

At the end of each negotiation cycle, the provisionally adopted provisions are sent to the WCO Council for approval as a Recommendation to WCO Members. For HS 2027, the final HSC meeting of the negotiation period will take place in March 2024, and the draft Recommendation will be submitted to the Council in June 2024. The Council’s approval, which must be unanimous, is followed by a six-month period for possible objections. For HS 2027, the six-month period will expire in December 2024.

Then, under the terms of the HS Convention, Contracting Parties have two years to prepare for entry into force, meaning that the new Edition will come into force on 1 January 2027.

So, how long is left before the HS 2027 negotiations come to an end? The last RSC drafting session is in November 2023, and, as indicated above, the last HSC voting session for HS 2027 will be in March 2024. Given the time it takes to get most proposals through, it is recommended that you get proposals in as soon as possible.

More information

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Some thoughts on Customs' role in sustainable development

By Singapore Customs

This article looks at how Singapore Customs strives to bring efficiency to the management of trade operations to lower their impact on the environment as well as at the initiatives it has taken to support environmental policies.

The most frequently cited definition of sustainability is in *Our Common Future*, the 1987 United Nations-commissioned study known as the Brundtland Report: "Humanity has the ability to make development sustainable to ensure that it meets the needs of the present without compromising the ability of future generations to meet their own needs."

Sustainability has always been a part of Singapore's DNA. Even before the term became widely used in the 1990s, Singapore has always pursued sustainable development by balancing economic growth with protecting our environment. As early as 1967, Singapore had the vision of a "Garden City" and took active steps to make it a reality. In the 1980s, the government undertook the monumental task of cleaning up the rivers, and made Singapore River the icon it is today. The government also put in place a strong Climate Action Plan. The country significantly reduced

the use of coal-generated power many years ago, and does not subsidise the use of fossil fuel. It is the first Southeast Asian country to implement a carbon tax (in 2019), it made early investments to boost our climate science capabilities, and has been a strong advocate for a robust multilateral rules-based approach to addressing climate change.

The [Singapore Green Plan 2030](#)¹, or the Green Plan, unveiled on 10 Feb 2022, builds on the efforts of the preceding decades, with sustainability as an engine of growth. It aims to bring the nation together as it seeks to transit into a more sustainable future. The Green Plan charts ambitious and concrete targets, strengthening Singapore's commitments under the United Nation's 2030 Sustainable Development Agenda and Paris Agreement, and positioning Singapore to achieve net zero emissions.² Examples of such targets include:

¹ [Singapore Green Plan 2030 | Overview](#)

² "The term net zero applies to a situation where global greenhouse gas emissions from human activity are in balance with emissions reductions. At net zero, carbon dioxide emissions are still generated, but an equal amount of carbon dioxide is removed from the atmosphere as is released into it, resulting in zero increase in net emissions." Source: <https://www.weforum.org/agenda/2021/11/net-zero-emissions-cop26-climate-change>



- Doubling the annual tree planting rate between 2020 and 2030;
- Increasing the area of nature parks by 50% from 2020;
- Reducing the amount of waste to landfill per capita per day by 30%;
- Achieving 75% mass public transport peak-period modal share;
- Achieving two-thirds reduction of net carbon emissions from schools;
- Increasing solar energy deployment by five-fold;
- Ensuring that all new car and taxi registrations are for cleaner-energy models from 2030.

What about trade?

As Singapore is one of Asia's largest trading hubs, readers may ask "What about international trade and transport-related emissions?" The Maritime and Port Authority of Singapore has launched the Singapore Green Initiative, which seeks to reduce the environmental impact of shipping and related activities and to promote clean and green shipping in Singapore. Singapore Customs also has an important role to play by ensuring efficiency in the management and processing of trade operations.

Digitalisation: improving efficiencies to lower the impact of trade operations

One way to reduce the impact of trade operations on the environment is to facilitate legal logistics flows and Singapore Customs has been instrumental here by developing efficient procedures and processes, digitalising them, and building a new trade information management ecosystem.

In 1989, we released our National Single Window, TradeNet, which has helped to reduce the use of

paper and travelling (i.e. collection and delivery of documents to local and overseas players) among supply chain players by allowing the trade and logistics community to fulfil their trade formalities electronically.

Riding on the digitalisation drive, Singapore Customs launched the [Networked Trade Platform \(NTP\)](#)³, a one-stop trade and logistics information management ecosystem which supports digitalisation efforts and connects players across the trade value chain in Singapore and abroad. Key features of the NTP include:

- Document hub for digitisation at source that enables reuse of data to cut costs and streamline processes;
- Trade information management system offering a wide range of trade-related services; and
- Gateway for G-2-G digital connectivity with Singapore's trading partners.

We have also continued our efforts to digitalise trade procedures and processes and reduce the use of hardcopies, such as:

- Participating in China Customs' [Electronic Origin Data Exchange System](#)⁴ which eliminates the need for hardcopy Preferential Certificates of Origin to be despatched overseas;
- Implementing the Self-Service Printing of Certificates of Origin and the Verification Portal which enables businesses to print their certificates themselves, and Singapore Customs to avoid having to keep duplicate hardcopies;

3 See <https://mag.wcoomd.org/magazine/wco-news-87/going-beyond-the-single-window/>

4 See <https://mag.wcoomd.org/magazine/wco-news-96/recent-changes-in-china-rules-of-origin/>

- Full digitalisation of the Hand-Carried Exports Scheme endorsement, where traders can receive digital endorsement instead of waiting for the physically endorsed documents to be sent to them, thus reducing paperwork; and
- Implementing the Electronic Banker's Guarantee Programme, where traders no longer have to collect the Banker's Guarantee lodgement from the issuing bank and send it to Singapore Customs.

Lessening the impact of our activities

The creation, processing, storage and movement of data rely extensively on finite resources: electricity, water, metals, chemicals and manmade materials, such as plastics and glass. This is why it is important to undertake a rigorous environmental impact assessment before implementing any technology related solutions. Processes have to be efficient so that data is not stored or sent twice. We are looking closely at discussions on products and solutions to build the data centres of the future. Sweden and Finland have already designed data centres that reuse the heat they produce to power homes. In 2018, Microsoft launched Project Natick to understand the benefits and difficulties in deploying subsea data centres.

In 2005, Singapore's Building and Construction Authority launched the Green Mark certification scheme. It is a green building rating system designed to evaluate a building's environmental impact and performance. All government data centres are to achieve Green Mark Platinum by 2025. The Singapore Customs Headquarters and the Customs Operations Command buildings are already certified Green Mark Platinum while our new Tuas Export Inspection Station is certified Green Mark Gold. Moreover, recycling programmes are implemented at major locations. Another initiative worth mentioning is that, to reduce our carbon footprint, solar photovoltaics (PV) have been installed at our new facility in Tuas and we are undertaking a feasibility study on the use of PVs on the rooftops of our existing buildings.

Singapore Customs has also put in place green procurement practices to source for green products that maximise energy efficiency:

- All new office IT equipment is to meet the latest ENERGY STAR standards.
- White printing paper is to be accredited with the Enhanced Singapore Green Label by the Singapore Environment Council.
- Electrical appliances (e.g. lamps, air-conditioners, refrigerators, televisions) are to meet high standards set out in the National Environment Agency's Mandatory Energy Labelling Scheme to raise the average energy efficiency.
- Events and functions organised by Singapore Customs are to be held in venues with at least a Green Mark Certified rating.
- Stopping the use of disposable bottled water in meeting rooms on Customs premises.
- All new Singapore Customs operational vehicles will be of a cleaner energy model.
- Smart facilities management solutions will be deployed to enhance productivity and sustainable maintenance of our buildings.
- A new electronic email and records management system will be launched where we are digitising and doing away with hardcopy filing.

Ensuring compliance of trade with environmental policies

Singapore Customs administers the collection of excise duties on fossil fuels and motor vehicles to support Singapore's drive towards the broader objectives of reducing carbon emissions, combatting climate change, and encouraging less car usage. In addition to the existing duties on motor fuels such as petrol and natural gas, Singapore introduced a duty on diesel in 2017. Over the last few years, the diesel duty was doubled and petrol duty was raised by 23%. Singapore Customs worked with industry stakeholders, such as the petroleum companies that are licensed by Customs, to implement these changes in a timely manner and to ensure that duties and taxes were collected correctly and efficiently.

To support green technology adoption, Singapore Customs partners with domestic agencies to facilitate the establishment of such facilities in Singapore. A recent example is the planned set-up of an electric vehicle manufacturing facility at which Singapore Customs worked closely with the company on the Customs documentation and licensing requirements.

The creation, processing, storage and movement of data rely extensively on finite resources: electricity, water, metals, chemicals and manmade materials, such as plastics and glass. This is why it is important to undertake rigorous environmental impact assessment before implementing any technology related solutions.



On the illicit trade front, Singapore Customs collaborates with other competent authorities as part of a whole-of-government approach in preventing cross-border illegal trade and ensuring the effective and efficient implementation of various environmental treaties, protocols and Multilateral Environmental Agreements. Intelligence is shared between competent authorities and checks are conducted not only on import but also on export and transshipment cargoes. For example, we worked closely with National Parks to ensure compliance with the Convention on International Trade in Endangered Species of Wild fauna and Flora and we have run many enforcement operations against illicit wildlife trade together. Singapore Customs, the National Parks Board (NParks), the Immigration & Checkpoints Authority (ICA) and China Customs have received the UN Asia Environmental

Enforcement Awards in 2019 for the seizure of 11.9 tonnes of pangolin scales and 8.8 tonnes of elephant ivory which were transhipped through Singapore.

Our People

Singapore's efforts toward sustainability will only be successful if people's mindset change. At Singapore Customs, we encourage our officers to cultivate 'greener' habits and work towards more sustainable living, for example by recycling goods, using energy-saving appliances, choosing cleaner transport options, etc. When organizing staff bonding activities, we also choose activities related to the protection of the environment, such as tree planting or beach clean-ups.

More information

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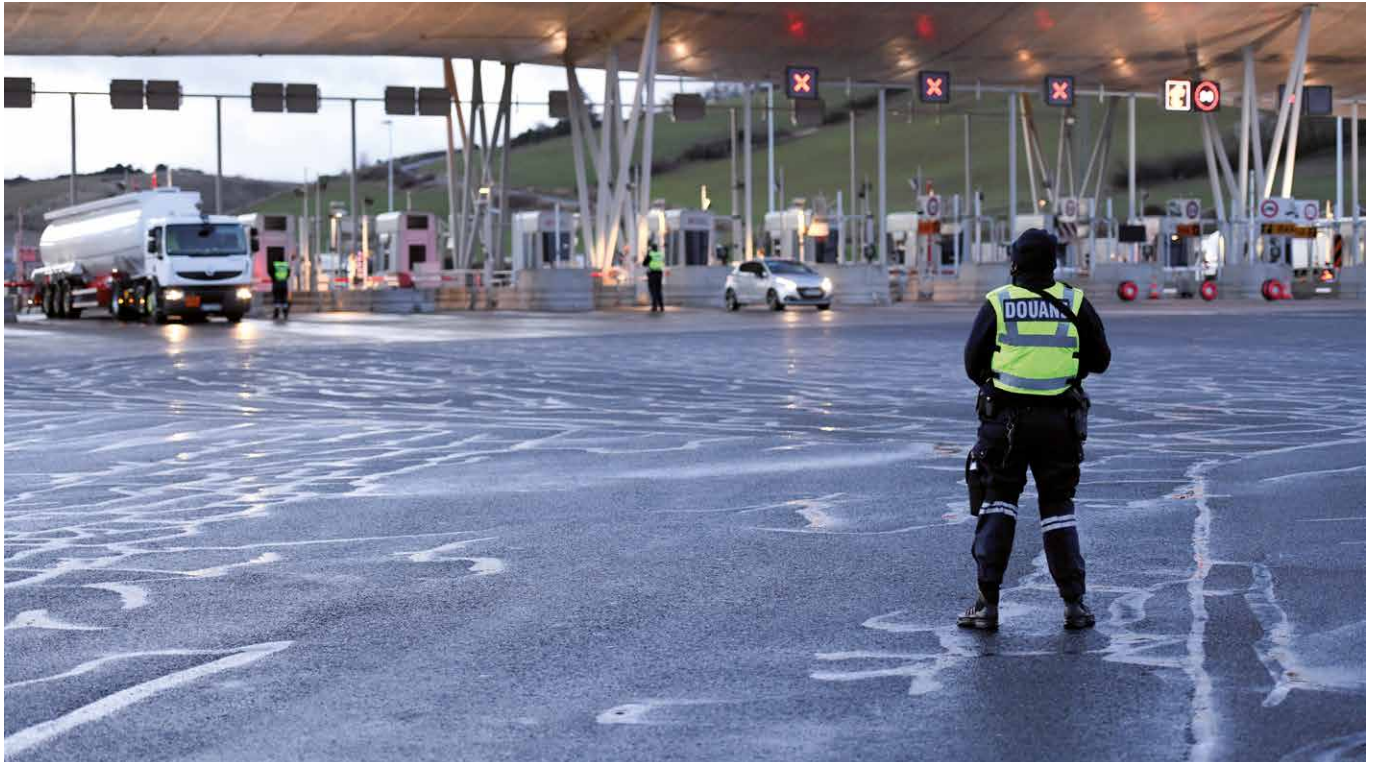
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French Customs puts data science to work for all its officials

By French Customs

In late 2019, French Customs set up a programme called “Valorisation des Données” (“Data Exploitation”), placing data at the heart of its various lines of work. Its intention in embarking on this project was to seek out new tools to transform the way in which its officers carry out their jobs. The objective was to optimize all activities: targeting, interactions with the economic operators that it advises, resource management, operational efficiency, etc.

At the end of June 2022, as this article is published, six apps are already up and running. The development of these tools went hand in hand with the building of a “Big Data” platform to host all the data required by Customs and, in due course, additional external data. This means

that French Customs now has a robust, state-of-the-art platform that is second to none.

This data exploitation approach is also accompanied by action in the fields of data governance, essential in order to “urbanize”¹ the data layer of the information systems and make the data accessible, and of the in-housing of competencies.

Apps

Below is a brief overview of the apps that have been developed.

“Minoration de valeur” (“Undervaluation”) app

Developed for the national risk analysis and targeting service, this app helps to detect

¹ The term “urbanization” likens the organization of an information system to that of a town. If a town is properly planned, it is able to meet the needs of its users. There are networks for natural exchanges between the various districts, and each district develops without adversely affecting the whole, as the overall structure allows for development of this kind. When applied to information systems, “urbanization” makes it possible to “arrange” the information system. This is about establishing or reestablishing a link between the information systems and the organization’s strategy.

instances of undervaluation by flagging import flows with abnormal values. Feedback collected in March 2022 shows that users are satisfied overall. As one of them explains, “the data provided are signals that need to be verified and converted into an operational target when necessary”. Another user says that the tool “saves time when you are studying transactions and makes it easier to draw up the analytical report on price quotations for goods”.

“Atypie” (“Atypicality”) app

With this app, the user can model any trend observed in the flows declared that does not conform to the reference model. Feedback from a satisfaction survey carried out in March 2022 is very positive, with some users describing the tool as “innovative, completely transforming working methods”, while others even talk in terms of a “revolution”.

“Vision 360 des opérateurs économiques” (“360-degree view of economic operators”) app

Developed both for the services responsible for advising companies in their international trading operations and for economic operators, this tool provides a simple, comprehensive statistical display of import and export operations by country, by region and by operator. By rapidly accessing a display of the background to the flows, Customs officers are better able to meet companies’ needs quickly and comprehensively. Some of them describe an amazing saving in terms of time. Companies that have access to this tool can view only the data relating to them.

Originally, the aim was to meet the needs of large companies, which wanted greater visibility of their Customs operations, in particular to identify the risks of non-compliance and their fiscal impact. These companies have said that they are very pleasantly surprised by the tool’s functionalities, which exceed their expectations.

Officers say that many other smaller operators were waiting for a tool of this kind. Since it was launched on 21 June 2021, an average of 20 private-sector users log on every day. Changes are being made as and when required to meet their needs. To date, there have been no reports of any anomalies.



“Aide à la décision – déploiement routier” (“Aid to decision-making – Deployment on the roads”) app

France is a transit country within the continent of Europe. One of the hallmarks of French Customs is that it has inland Customs units to combat major trafficking on the highways that criss-cross the country.

Developed specifically for these units that check vehicles on the roads and motorways, the purpose of this app is to optimize the deployment of personnel and the control strategies on these roads. It reconstructs on a map the history of the units’ activities and the record of legal action. An algorithm analyses these data to recommend that checkpoints be set up on particular dates

The «Vision 360» application provides a simple, comprehensive statistical display of import and export operations by country, by region and by operator.

and within specific time slots. By providing greater visibility for these operations, the tool also facilitates the dialogue between the various levels of the Administration and improves the coordination of the units at national level.

“Simulateur de mutation” (“Transfer simulator”) app

As part of his or her career development plan, an officer may ask to be transferred, in other words change his or her job with a relocation and/or a change of duties. A mapping tool has been developed to give the officers concerned easy access to the list of vacancies and related information, such as the number of mobility points required in order to be eligible. Between February 2021, when it was launched, and March 2022, the tool recorded an average of 80 visits a day. According to users, “the simulator is practical and user-friendly and, most importantly, it gives you all the information you need”.

What next?

A year from now, the “Data Exploitation” programme will have produced around 20 apps. For example, three other apps are due to be released shortly:

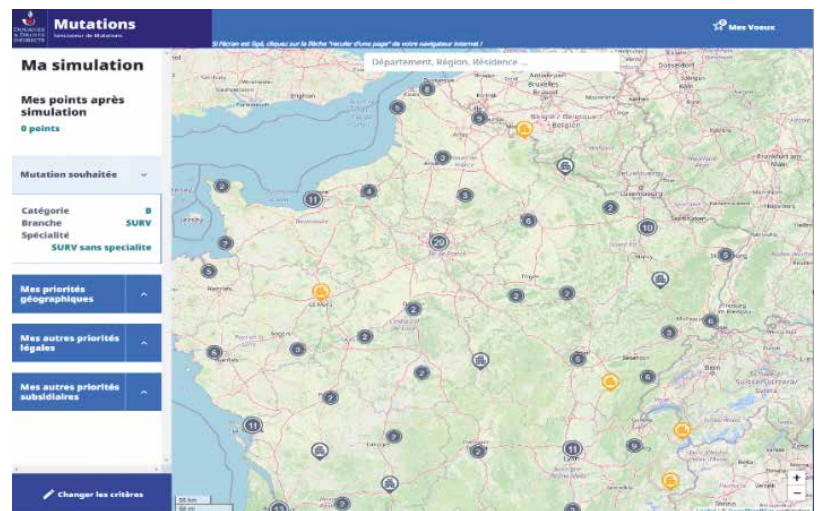
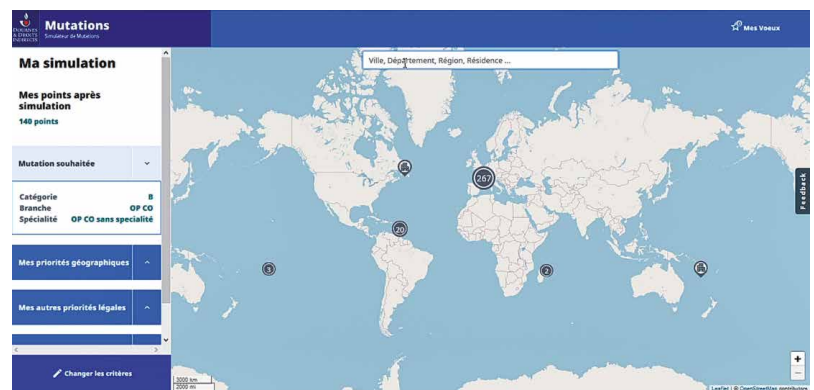
- for all Customs officials: a “human resource chatbot” which will answer officers’ HR questions;
- for staff combating online tobacco trafficking: an analytical tool using web scraping techniques (techniques that extract website content) to identify illicit tobacco sales on public social networks and web-based collaborative platforms;
- for enforcement staff: a mapping tool displaying tobacco flows and enabling fraud risks to be evaluated.

Major technical work

Underlying the introduction of these apps is major work on the infrastructure. To avoid the creation of silos, that is to say sets of data that cannot be shared or be put to any other use within the Customs Administration, a “Big Data” platform was set up back in 2016. A “best of breed” approach was adopted, according to which the platform designers sought out specialized solutions meeting specific functional needs, rather than relying on all-in-one or integrated suites.

Like most other French authorities, Customs has also opted to host the platform components (routers, switches, firewalls, storage systems, servers, etc.) on its own infrastructure, which, among other things, it makes available and maintains (servers, premises, power, etc.).

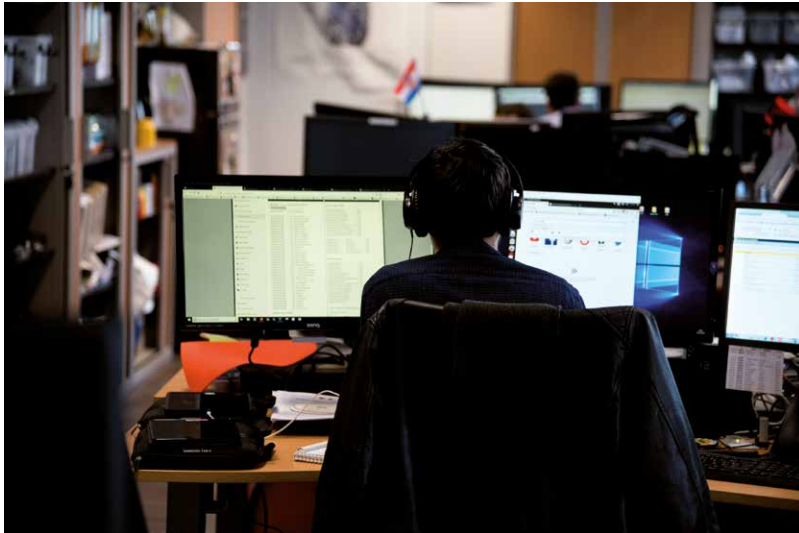
The platform construction phase is coming to an end with the installation of the main components. In 2022, it is planned to integrate other



components, providing the means to implement various artificial intelligence techniques.

Customs also works with other national authorities, in particular with the tax authorities, to look into the conditions according to which they might bring their respective data platforms together. Sharing data in this way would mean that the databases could be enriched and human and material resources could be pooled. Lastly, the data lake could be populated with data from outside the Customs information systems in the years to come (such as data from carrier companies).

The Transfer Simulator give easy access to the list of vacancies and related information.



© French Customs

Performance

The data platform also provides an opportunity to take a fresh look at performance steering tools. Early in 2021, an experiment called “Pilote Performance” was launched in order to define the indicators for nine topics (the fight against trafficking, Customs clearance, etc.) and to present the results in the form of interactive dashboards. The users taking part in the pilot programme stressed significant time-saving compared with the previous performance measurement procedures and the production of more plentiful information.

Governance and bringing competencies in-house

French Customs has realized that it needs to administer its data so that their potential can be fully exploited. The databases and the fields of these databases are currently being documented, the quality of the data is starting to be evaluated, the principles of compliance with the regulations on data protection and security have been clarified and communicated, and working procedures have been developed, which have also been circulated.



The team in charge of the Data Exploitation programme

The Administration used the services of external experts to develop both the data platform and its apps, while working on the development of key competencies in-house. The future challenge is to build up the Administration’s self-reliance in the implementation of the programme, not least by speeding up this in-housing process. The services concerned are becoming engaged. Among other things, training and awareness-raising activities about the challenges presented by data are being developed, not only for the officials in charge of the data, but also for those who have to use them or work on their exploitation. Recruitment efforts are also planned, along with an action plan focusing on the attractiveness of the Administration and employee retention.

More information

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Mexico Customs is granted greater autonomy

By the National Customs Agency of Mexico

On 1 January 2022, the National Customs Agency of Mexico (ANAM) officially came into existence, becoming an independent body under the Ministry of Finance. Customs-related functions were previously handled by the General Administration for Customs which was one of the units of the Tax Administration Service (SAT).

In keeping with the Mexican Government's desire to strengthen public institutions, the new Agency has been given technical, operational, administrative, budget and management autonomy and will therefore have greater control over modernization projects.

The Agency also has new administrative and legal powers to combat threats to national security. Led by the former General Customs Administrator, Mr. Horacio Duarte Olivares, it is responsible for traditional Customs functions as well as for coordinating activities with the armed forces and other national security services to protect the country's maritime ports.

The Inter-American Development Bank (IDB) noted that such autonomy will additionally enable Customs to acquire the financial resources needed

to better manage trade flows in the current environment. Furthermore, this autonomy offers an opportunity to rethink Customs management and eliminates external influences on decision-making, particularly by allocating resources to achieve the institution's goals.

At the end of 2021, the accumulated revenue collected by Customs reached a historic amount equivalent to 48,939 million US dollars. This was, in part, due to the launch of a comprehensive anti-corruption initiative and to a focus on tax evasion, drug and arms trafficking, and fuel smuggling.

With the opening of its fiftieth Customs office, at the new Felipe Angeles International Airport (AIFA) north of Mexico City, ANAM aims to increase the number of Customs controls alongside its revenue collection capacity.

The new Agency is also expected to enhance its results by simplifying formalities, making use of innovations, implementing a comprehensive anti-corruption strategy, investing in its infrastructure, and creating new programmes and mechanisms to develop the skills and knowledge of its staff.



How United States customs scientists at the border are stemming the flow of opioids and other dangerous drugs

By Marcy Mason, Writer, US Customs and Border Protection

At the Memphis forward operating lab, CBP forensic scientist Shelby Stotelmyer, left, examines and extracts an unknown substance that was concealed inside a parcel selected for examination by CBP Officer Michael Hughes, shown here. Photo by Jerry Glaser

Five years ago, when the United States started to see a rapid rise in opioid overdose deaths, U.S. Customs and Border Protection was encountering large quantities of an unknown substance arriving in international mail and express courier shipments at the U.S. ports of entry. CBP officers suspected it was an illicit drug. They attempted to use tools to identify the substance, but the technology was limited. Novel drugs that had never been identified before were not in the equipment's library and the tools wouldn't work. The suspected substances were sent to scientists at CBP's regional labs where they were identified as fentanyl, a highly dangerous, addictive opioid narcotic. But identifying the drugs at the regional labs was a slow and inefficient process for mail and express shipment environments. So CBP's Laboratories and Scientific Services came up with an innovative solution—locating lab scientists on-site at the U.S. ports.

Timing is everything when it comes to stopping the flow of illicit drugs from entering the U.S. That is why five years ago, when the country was in the throes of the opioid crisis, with more than 47,600 overdose deaths in a single year, U.S. Customs and Border Protection located agency laboratory scientists on-site at the U.S. ports of entry. The scientists were part of a special operation known as Operation Sustain, which was designed to stem the flow of fentanyl and other narcotics found smuggled in shipments at international mail and express courier facilities. The faster the scientists could analyze the suspected drugs, the quicker CBP officers could seize and destroy the white powdery substances or work with other agencies such as Homeland Security Investigations, HSI, to make law enforcement-controlled deliveries that could potentially lead to arrests and shutdown dealers and their networks.

In late October 2016, when CBP Officer Tom Pagano started working at the international mail facility at John F. Kennedy International Airport in Queens, New York, where 60% of U.S. international mail is processed, there weren't any scientists working on-site. It was also the first time Pagano encountered fentanyl. "I had never heard of fentanyl. When we started finding it, I was curious. I thought, 'What is this stuff?'" said Pagano. "After we found it a few more times, we were warned, 'Hey, watch out. This drug is deadly.'"

Pagano and the other CBP officers at the international mail facility had tools to test the unknown substances for an initial or presumptive analysis, but the technology was limited. If a substance had never been identified before, the tools weren't able to match it with drugs that were part of the equipment's library. Instead, the officers collected and sent samples of the suspected drugs to a CBP regional field laboratory. The field labs would place the samples in a queue where they waited with other samples that needed to be tested. After the scientists analyzed the samples, they would send the results to the officers. It was a lengthy process that could take anywhere from 30 to 45 days for a presumptive analysis and six months to two years for confirmatory final results.

"I was able to look for drugs as much as I wanted, but the labs weren't ready for that because I was finding so much. I could just walk into the mailroom and select 10 parcels and all 10 of them had drugs in them," said Pagano. "I was only



allowed to submit 20 samples a day, but there were times that I would find 200 or 300 packages with suspected drugs. They would have to wait to be processed. It was creating a backlog and we couldn't store the packages anywhere."

For a while, a CBP scientist was assigned to work at the international mail facility one day a week. "If we had samples we believed were fentanyl, we would give them to him," said Pagano. "When he was on-site, he was able to tell us presumptive findings right away. But if we found something on a day he wasn't there, we would have to wait for him to do the tests to possibly get an answer. If he took a day off, it could be two weeks before we would hear anything back on what the substance was."

Pagano and the officers started to notice that as opioid deaths continued to rise so did the number of interceptions at the JFK international mail facility. "We kept seizing more and more parcels containing narcotics. And it wasn't just fentanyl. It was every drug imaginable," said Pagano. We seized LSD, PCP, marijuana, magic mushrooms, bath salts and other synthetic designer drugs. Basically, any illicit drug you can think of was coming through there and we were finding it."

Fentanyl on the rise

The port of Memphis, where the FedEx Express World Hub is located, was wrestling with similar issues. As early as 2014, when U.S. trade increased with China, CBP officers started noticing unknown substances in shipments. "We started seeing an increase in international freight on direct flights from China and Hong Kong. With the increase, we began seeing unknown powders and liquids," said Lori Breakstone, who was CBP's

Alexander Cheung, a CBP scientist at the San Ysidro, California, forward operating lab, photographs a sample of an unknown substance taken from a suspected drug seizure at the port of entry. Photo by Immanuel Albrecht

assistant area port director for Memphis at the time. By 2016, there was a substantial uptick. “Until that time, we were finding traditional narcotics such as cocaine, heroin, meth, marijuana, hashish. We were not used to seeing fentanyl or synthetic opioids,” said Breakstone. “When we first started to see fentanyl, we had no idea what it was. We had never seen anything like it before.”

Similar to the JFK international mail facility, the port of Memphis did not have a permanent lab on-site or the tools to identify fentanyl. “We had to package up the samples individually, mail them to CBP’s Houston regional lab, and then wait for results,” said Breakstone. “As we started detaining more and more shipments, the Houston lab could not keep up and we couldn’t keep up on our end.”

The shipments were held in a storage area until the sample results came back from the lab. “It would take weeks, months, sometimes over a year for a determination. On average, we had 400-600 shipments sitting on the shelves,” said Breakstone.

The long wait impacted enforcement actions. HSI was reluctant to take the seized shipments for controlled deliveries and turned most of them down. “We were making seizures and stopping narcotics from entering the U.S., but we weren’t disrupting the drug flow,” said Breakstone. “Investigators weren’t given a chance to break the network and dismantle it overseas where the shipments were originating from. The timing of an investigation ties in heavily with the lab. It’s critical in an express environment. If a package is not delivered, drug dealers know something is wrong.”

Breakstone reached out to CBP’s Laboratories and Scientific Services to make a plea for an on-site lab. Pagano had already done the same for the JFK international mail facility. In June 2018, Operation Sustain was launched at both locations. “This was our response to the opioid crisis,” said Patricia Coleman, deputy executive director of CBP’s Laboratories and Scientific Services. “We detailed scientists at the JFK international mail facility and the Memphis FedEx Express hub to see how effective it would be to provide on-site support for our officers when they interdicted unknown substances.” The operation, which ran through September 2018, was an immediate success and led to the creation of forward operating labs, where permanent CBP forensic scientists were hired to perform on-site scientific analysis at ports of entry.



Within weeks of Operation Sustain’s startup, in July 2018, a shipment manifested as an “organic pigment set” arrived from China at the FedEx Express hub in Memphis. Inside the package was a makeup jar filled with an unknown white powder. An on-site CBP forensic scientist tested the substance and identified the powder as butyryl fentanyl, a potent synthetic opioid found in overdose deaths. “We tested the substance and seized it the same night,” said Chief CBP Officer Victor Watson, who oversees CBP’s operations at the FedEx Express hub. “It took 10 minutes for the on-site lab to identify that the substance was butyryl fentanyl.”

The lethality of fentanyl is a major concern. “Until the on-site lab was set up, we did not know how dangerous this drug is,” said Watson. “Even a small amount of fentanyl is deadly. We were examining shipments that were almost 100% pure fentanyl, so the lethality was huge. An officer who opens a package not knowing that it’s fentanyl could accidentally touch or ingest it, putting his or her life at risk,” explained Watson. “By having the lab here, we’re able to identify that it’s fentanyl and follow the safety protocols we have in place to quickly contain it. Having a scientist on-site has been a significant safety enhancement for our front-line officers.”

Hitting pay dirt

The on-site lab also increased the potential for controlled deliveries to make arrests. Officers could make quick enforcement decisions, which is paramount in an express mail environment. “For FedEx, this is the main international sorting facility. It’s one of the top five largest cargo airports in the world by volume,” said Watson. “Each night, approximately 250,000 pieces of

From on-site testing, CBP forensic scientist Shelby Stotelmyer determined that a sticky, brown substance found inside a parcel at the Memphis express courier facility was DMT, the No. 1 drug seen at CBP’s forward operating labs. Photo by Jerry Glaser



CBP scientists Shannon Vonn Dyke, left, and Terra Cahill analyze fentanyl data at the forward operating lab in Nogales, Arizona. The Nogales lab was one of the first labs to see a steady increase of fentanyl coming across the border from Mexico during the pandemic. Photo by Jerry Glaser



As part of her work at CBP's forward operating lab in Chicago, CBP forensic scientist Neele Shepard, left, assists CBP officers at the international mail facility in Chicago. Here, Supervisory CBP Officer Dwayne Washington consults Shepard about a suspicious package that arrived at the U.S. Postal Service facility. Photo by Ralph Piccirilli

international cargo flow through the facility in a 4-1/2 to 5-hour time frame, which means our officers only have a narrow window to inspect and clear packages before shipments are routed on to their next destination. If flights are delayed, businesses will be disrupted. So the timing of targeting and testing shipments is critical for the success of controlled deliveries.”

One stunning example that illustrates how vital an on-site lab can be occurred in September 2020, when a shipment from China, manifested as 1.5 kilograms of “silicon dioxide,” or sand, was selected for examination at the Memphis FedEx Express hub. “The shipment did not make sense to me,” said Michael Hughes the CBP officer who targeted the package that was valued at \$10. “Am I going to spend \$10 to order 3-1/2 pounds of sand from China when the airway bill cost more than that? Why would you do it? It just didn't make sense.”

Inside the package, the CBP examining officer found a small, silver bag that contained a white powdery substance. He took it to the on-site CBP scientist who tested the substance and quickly discovered it wasn't sand. It was xylazine. “Xylazine is a sedative for farm animals. It's approved for veterinary use, but it's not FDA approved for people,” said Shelby Stotemyer, the lead forensic scientist at CBP's Memphis forward operating lab. “Drug traffickers use it as a filler agent for heroin, fentanyl, and other narcotics to increase the amount they can sell and for enhancement effects.”

The package was seized and HSI in Memphis was notified to see if agents were interested in making a controlled delivery. Stotemyer sent the results with her daily report to headquarters. In Washington, scientist Michael McCormick from the White House's Office of the National Drug Control Policy and a liaison to CBP, studied the report and flagged it. “Our law enforcement partners in New Jersey had been reporting large quantities of xylazine showing up in the toxicology of heroin and fentanyl overdose victims, and this shipment was destined for Philadelphia, which is a hop, skip, and a jump from New Jersey,” said McCormick, who passed the information to CBP's National Targeting Center to see if there was any other derogatory information associated with the parcel, the shipper, or the receiver. “The National Targeting Center looked into it,” said



CBP scientist Shelby Stotelmyer adds a solvent to a suspected drug sample to extract the substance for analysis at the Memphis forward operating lab. Photo by Jerry Glaser

McCormick, “and referred the case to HSI for further investigation.”

In Philadelphia, the case caught the attention of Ryan Landers, an HSI supervisory special agent who oversees a cybercrime investigation task force that mainly investigates drugs smuggled on the darknet. Landers was acutely aware of the trending intelligence regarding xylazine and decided to take action. “Normally, we wouldn’t take a case like this,” said Landers. “Controlled deliveries typically involve a controlled substance such as illicitly used drugs or prescription medications regulated by the government. Xylazine is currently not a controlled substance in the United States, so we took an unconventional approach and executed a controlled delivery with a non-controlled substance.”

Landers’ team delivered the FedEx Express parcel containing the xylazine at the address listed on the manifest and conducted surveillance. Shortly thereafter, an individual arrived at the location in a vehicle and retrieved the parcel. HSI special agents followed the individual to a home at a second address and established surveillance there. Later that day, the individual emerged from the residence in a highly suspicious manner and drove away in his vehicle. Local law enforcement, working in tandem with HSI, detained the individual at a traffic stop and searched the vehicle.

The payoff was huge. The individual, a convicted felon, was arrested and HSI and the state police seized nearly 6 pounds of fentanyl, a stolen, untraceable firearm with a sizeable amount of ammunition, a large quantity of U.S. currency, and the original shipment of xylazine that was

delivered to the first address. “To take a non-controlled substance and link it to a deadly fentanyl-based drug distribution network is unusual,” said Landers. “This case is significant for both HSI Philadelphia and on a grander scale for the war on drugs.”

The lab’s role was also significant, said Landers. “The on-site labs are critical to what we do. The speed and nature of their ability to test is crucial to the investigative integrity of a case,” said Landers. “If something is lagging at a port of entry for weeks and months, from an investigative standpoint, that lead is dead.”

Likewise, Landers credited the success of the case to HSI’s partnership with CBP. “HSI can do very little without the partnership of CBP. Whether it’s the Office of Field Operations or the scientists at the forward operating labs, we are tied to a cooperative and collaborative working relationship with CBP on a daily basis,” said Landers. “When we’re investigating international drug smuggling or importations, it’s imperative that we work hand in hand with the officers who are on the front line at the border inspecting the commerce that comes in and out of the country. They are our eyes and ears on the front lines of that port of entry. We can’t do what we do without that relationship and partnership.”

Labs at high-risk locations

By 2019, CBP’s Laboratories and Scientific Services fully embraced the concept of having scientists on-site at forward operating labs and began establishing more labs at high-threat locations. Many were along the Southwest border, but also in locations such as Chicago, Miami, Detroit, Los Angeles, and Puerto Rico. CBP currently has 14 forward operating labs in operation.

The on-site labs provide multiple benefits including helping CBP identify trends. For example, starting in October 2020, the forward operating labs began seeing an increased amount of *N,N*-dimethyltryptamine or DMT, a hallucinogenic drug, smuggled across the border. “DMT has been the No. 1 drug seen at CBP’s forward operating laboratories. We’ve seen it coming from South America,” said McCormick. “Once we spotted it, we told our state and local partners, so they could have appropriate standards in place for detecting this material in their street drugs.”

Another trend that the forward operating labs recently discovered is a new fentanyl analogue coming across the Southwest border. A fentanyl analogue is a drug designed to mimic the pharmacological effects of fentanyl, but its molecular structure is just different enough that it is not detected in standard drug tests and can evade legal restrictions on banned substances. “Fentanyl analogues are starting to trickle in from Mexico,” said McCormick. “We don’t know a lot about them pharmacologically, but they are likely to be as dangerous or more dangerous than fentanyl. What is unique is that this particular analogue was once seen coming from China, but after there was a class ban on fentanyl analogues in 2019, prohibiting anything with the fentanyl core structure from entering the U.S., the analogue shipments from China dropped to nearly zero. So it was strange to suddenly see fentanyl analogues coming in from Mexico.”

The forward operating lab at the port of Nogales, Arizona, on the border of Mexico, was one of the first labs to note the trend. Before the coronavirus pandemic, methamphetamine was the predominant drug smuggled into the port. But in March 2020, when non-essential travel was restricted on the U.S.-Mexico border to prevent the spread of COVID-19, scientists at the port saw a shift take place. “At the end of March 2020, we didn’t see any narcotics. It was almost like the cartel took a week off to regroup. But then we started to see more and more fentanyl coming across the border,” said scientist Terra Cahill, a special advisor to CBP’s Laboratories and Scientific Services who was working at the lab in Nogales. “In January 2020, 46% of the samples we tested were meth and 18% were fentanyl. But by March 2021, the number of fentanyl samples had more than doubled, representing 52% of all the samples we tested.”

Cahill said the shift was attributed to the border restrictions. “Meth seizures were generally taken from vehicles driven by Mexicans, but the cartel lost that opportunity,” said Cahill. “U.S. citizens became the drug mules because they had access to come across the border. They were mostly body carriers, so they were carrying the drugs somewhere on or inside their bodies.”

Seeing the big picture

According to Coleman, information flowing from the labs allows CBP to see the big picture. “We can identify what’s coming at us faster and better than we have historically been able to do,” she said. “Before it could be weeks to several months before we uncovered exactly what was interdicted by the CBP officers. So it delayed information gathering, intelligence reporting, and whether or not we’re going to prosecute someone. The faster our scientists can provide lab results, the better we are going to be at addressing the threat coming at us—whether it’s drug smuggling, terrorist activity, or any other threat to the homeland.”

Furthermore, nothing is static, said Coleman. “Drug smuggling is a constantly changing environment and through the real-time information gathered from the forward operating labs, we’re able to figure out things that would have taken us years or we might not ever have figured out because we wouldn’t be looking at this issue from the lens that we’re looking at it today,” said Coleman.

With scientists on-site, officers can focus more fully on their law enforcement duties and legitimate shipments can move faster too. “The forensic scientist we have here is very good and very fast. I can give her a substance and most of the time she can test it and know what it is within 20 seconds, and that’s no exaggeration. She’s that quick,” said Hughes, the CBP officer at the Memphis FedEx Express hub. “If it’s a legitimate shipment that we’re looking at, it’s on its way that night.”

The scientists are also an integral part of outmaneuvering drug traffickers. “Smugglers are innovative. They use creative methods to hide drugs,” said Stotelmyer. “The other night the officers brought honey to the lab for me to test because they don’t have the equipment to distinguish the difference between the drug and the substance it was hidden in.” Stotelmyer extracted the drug, sildenafil citrate, using different solvents to dissolve the honey. “It’s the erectile dysfunction drug used in Viagra,” said Stotelmyer. “The same way smugglers are coming up with creative ways to conceal these illicit drugs, we have to be creative as scientists to forensically unmask them.”

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More info

www.cbp.gov



KCS takes its first steps into R&D

By Heon Park, Director General of the ICT and Data Policy Bureau, Korea Customs Service

Having digitized the entire Customs clearance process by 1998, the Korea Customs Service (KCS) has been a pioneer in the adoption of emerging technologies. Moving forward with these efforts, it now aspires to develop innovative technological equipment. This article explains how it became a government agency active in the field of research and development (R&D) and takes a look at the projects it is currently working on.

Paving the way

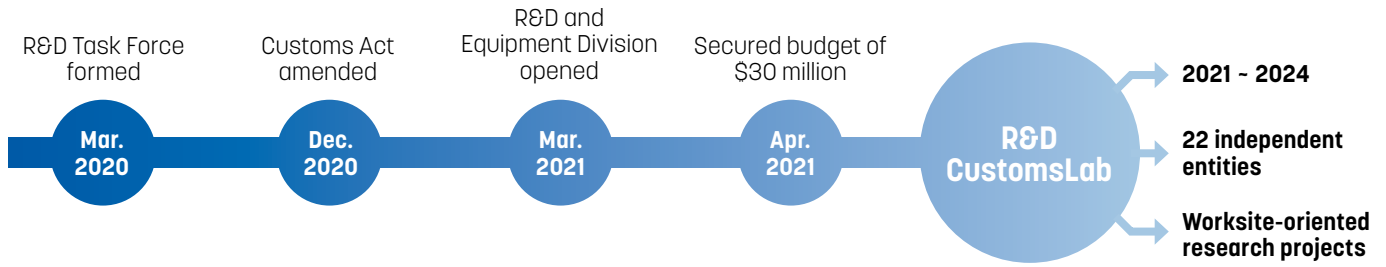
In 2020, the combined value of Korean exports and imports reached USD 980 billion. This is a 350-fold increase on the USD 2.82 billion reported for 1970, the year in which the Korea Customs Service (KCS) first set out as an independent agency. The total revenue collected following investigation by Customs in Korea over the same time period saw an 874-fold increase of USD 2,700 billion from a mere USD 3 billion. Moreover, as the number of cross-border movements grew, there was an even greater increase in threats to border security, a trend that is expected to continue.

KCS staffing levels did not keep pace with this rapid growth. The Service has seen only a modest – barely a threefold – increase in staff numbers from 1,800 to 5,300 personnel, such that, in 2021, the total value of imports divided by the total number of Customs officers, which

may provide a rough indicator of the Customs workload, amounted to 110 million US dollar. In a bid to ease chronic staff shortages, KCS began deploying information and communication technologies, introducing various types of innovative equipment into the workplace at an early stage.

The downside of this approach was that, in many cases, the equipment used was originally developed for aviation security, limiting its use for Customs purposes. Over time, KCS officers, struggling with inadequate tools, came to recognize the need for technologies and equipment designed specifically to meet their needs: KCS needed to launch R&D projects of its own. There was a long, hard road ahead.

Government budget planning in Korea is essentially undertaken on an annual basis. However, R&D projects take several years, at the



very least, to complete. The standard procedure would require KCS to re-submit budget requests every year without any guarantee of approval, critically compromising the continuity of R&D projects. Fortunately, the Government allows for the creation of a multi-annual R&D account, but a government body must meet strict eligibility criteria to be able to apply for such an account, including having the legal bases for R&D, a dedicated R&D unit and a research plan.

KCS immediately set out to meet these demands. In 2020, it formed an R&D matrix task force, consisting of a cross-functional group of members from the planning and ICT divisions. The work of this task force involved the planning of the budget, amendment of the Customs Act, establishment of an R&D and Equipment Team and, most importantly, by thoroughly analysing KCS missions, tasks and work processes, development of a long-term R&D roadmap for KCS. Preparing KCS to conduct its own R&D was a long and arduous journey.

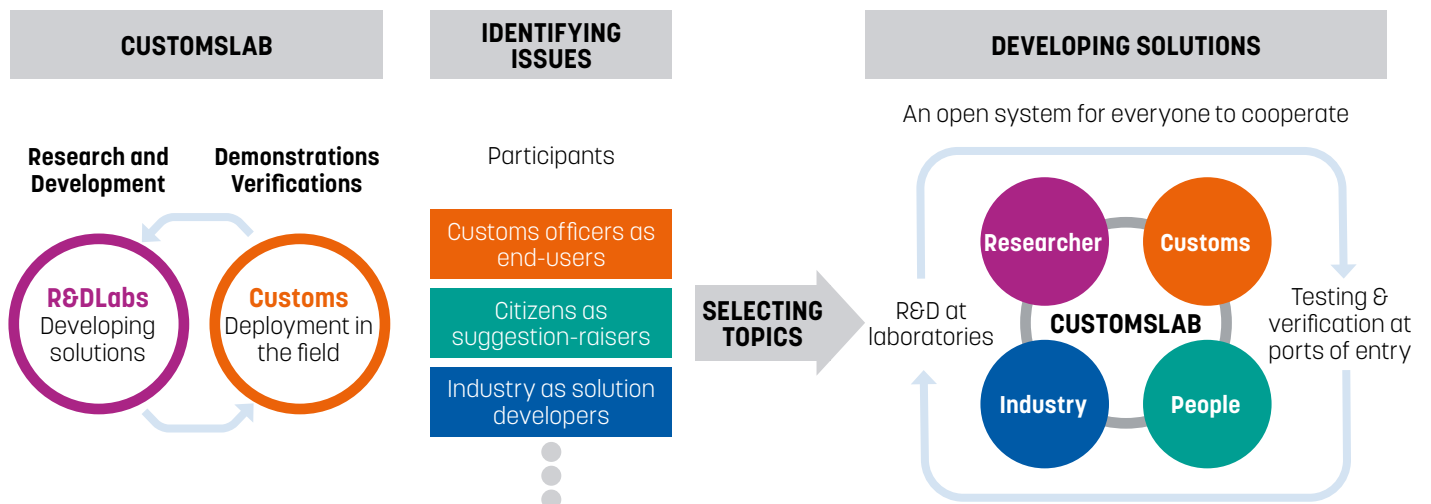
All these efforts gradually came to fruition. The amendment of the Customs Act was passed by the National Assembly in December 2020, adding to the Act a clause naming KCS as an authorized R&D agency. KCS held lengthy talks with the Ministry of the Economy and Finance, responsible for regulating the organizational structure of KCS,

concerning the establishment of the KCS R&D and Equipment Division in March 2021. Now that everything was in place, KCS was able to submit a request for the R&D budget, successfully securing USD 30 million for R&D over the next four years.

KCS was fortunate in having a precedent to follow: the Korean National Police Agency has previously undertaken similar efforts with a view to conducting its own R&D. Always eager to gain expertise and experience, KCS has consistently sought advice from the Ministry of Science and ICT. This is how KCS came to embark on its very first R&D programme, which it named CustomsLab.

CustomsLab explained

The first R&D programme conducted by KCS in its 50-year history, CustomsLab is a four-year programme scheduled to run from 2021 to 2024. It comprises a total of seven research projects, five of which were launched in June 2021, with two more set to begin by June 2022. A group of senior scientists was established for the overall management of CustomsLab projects. Individual projects are to be carried out by representatives of academia, industry and research bodies. At the moment, there are 22 such bodies taking part in CustomsLab, a number expected to increase with the launch of the final two projects.



CustomsLab is a strictly workplace-oriented programme, focusing precisely on the needs of Customs officers. Each project is designed to address the difficulties faced by KCS officers who ensure a permanent presence at the ports of entry 24 hours a day, 365 days a year, no matter the weather or the season. A specific Customs site was assigned to each project for the researchers to refer to and communicate with. As part of the final stage of all projects, an in-field demonstration is scheduled for 2024, further ensuring that the resulting technologies and equipment will meet Customs' needs precisely.

CustomsLab projects in focus

Each CustomsLab project paid special attention to end users' needs during the planning process and the work involved in deciding on a research topic. To that end, KCS held an R&D idea contest open to participation by its staff and the general public. Each proposal was thoroughly scrutinized by a team of scientists, engineers and Customs officers who honed in on its technological feasibility and usefulness. The five ideas ultimately selected to be the focus of the R&D projects are described below.

1. Improving X-ray scanners used for small-sized cargo

Both passenger baggage and small cargo such as parcels and other mail go through the same type of X-ray scanners built for small-sized cargo, despite both having their own very distinctive features. The project on "X-ray scanners for small-sized cargo" aims at identifying ways to improve non-intrusive inspection for these types of small cargo. For baggage scanners, the objective is to improve the image quality, since baggage tends to contain a wide variety of tightly packed items. For parcel and mail scanners, the objective is to speed up the scanning process given the volume of items received on a daily basis that all have to be X-ray inspected.

As part of this project, KCS is also developing an adjustable X-ray beam intensity. Most X-ray scanners currently use a fixed energy beam that does not produce high-quality images of low-density objects because the X-rays pass straight through them. This project aims to develop an X-ray scanner whose X-ray beam intensity could be adjusted according to the size and weight of the cargo so that it can produce interpretable

images of items for which the use of standard X-ray intensity does not work.

Finally, the new scanner is to be equipped with an automatic threat recognition tool. Many countries have started developing and using algorithms to detect specific patterns in different types of X-ray scans. Such tools can be constantly improved by feeding the algorithm with new data.

2. A computer-based training (CBT) programme for X-ray image interpreters

Interpreting X-ray images is an extremely challenging task that must be left to the professionals.¹ It is essential to ensure that all human operators are highly skilled. To train their staff, many organizations use computer-based training (CBT), a method in which the computer presents a problem, records the answers and provides feedback. However, many training programmes offered by private firms are not the best solution, as the learning materials and difficulty levels are predetermined. Such programmes often cannot be updated with new images based on real-life cases, which may render them less useful over time.

As part of the project on "computer-based training programme for X-ray image interpreters", KCS is developing a CBT programme that will provide personalized training courses for X-ray screeners. The objective is to create a pool of X-ray images of various illegal goods found in cargo to be used as training material. This pool of images would be regularly updated with new cases, so that screeners can benefit from continuous training.

3. A radiation detector for cargo under the Customs clearance process

In Korea, container imports selected for radiation inspection initially pass through a large-scale, fixed-position radiation detector. If the alarm sounds, a Customs officer inspects the container with a radiometer or, where possible, samples a small portion of the item to be sent to the lab. This process involves the officer being in close proximity to radioactive contaminants. It not only causes delays in the clearance process but, most importantly, puts the health of the Customs officers at risk.

The project on "a radiation detector for cargo" aims at developing a piece of equipment that

There is no shortage of room for improvement in the various processes and tasks involved, from cargo inspection to surveillance, investigation and auditing. Each area of work calls for different types of technologies, providing the Customs authority with opportunities for R&D on a wide variety of topics.

1 See <https://mag.wcoomd.org/magazine/wco-news-96/the-challenges-of-x-ray-image-analysis-and-the-value-of-training>.

would do more than simply detect the existence of radioactive contaminants in a container, but would also identify the nuclide, locate the radiation source three-dimensionally and measure the radiation dose to which an inspector would be exposed so that appropriate measures can be taken for his or her protection.

4. A system to identify and track high-risk passengers using multi-CCTV analysis

It is easy to lose track of a passenger in the crowded arrival hall of an airport. In order to assist officers in monitoring and tracking high-risk passengers, KCS is developing a system that automatically tracks high-risk passengers using CCTV. Multiple cameras are to be integrated into a single system whereby any passenger who is lost on one camera is subsequently picked up by another, enabling the system to keep tracking the person.

As part of this project, KCS is also researching ways of tracking baggage. Indeed, smugglers sometimes exploit security camera blind spots to hand over baggage to accomplices or do so in places where there are no cameras, for example the toilets.

5. A THz body scanner for detecting hidden objects

A full-body scanner is a device that detects objects on or inside a person's body. KCS is working on the design of a high-speed imaging system using terahertz waves. These waves make it possible to see through objects that light cannot pass through, such as clothes, while avoiding potentially harmful ionizing radiation such as X-rays. As their frequency and, therefore, their energy are much lower than those of X-ray beams that penetrate the human body, THz waves can also be used to create an image of an item, making it an ideal choice for detecting goods concealed under clothing. Once a library of images has been compiled, KCS plans to carry out further research to equip the THz body scanner with an automatic threat recognition tool.

Future projects

The creation of an R&D and Equipment Team, along with the launch of its first R&D projects,

marks a new beginning for the KCS. The term R&D covers three types of activities: basic research, applied research and experimental development.² To date, KCS has focused on the latter two activities, but it plans to widen its scope into the area of basic research by engaging in the development of fundamental technologies. To ensure the stability of R&D projects over the coming years, KCS plans to establish a Korea Customs Research Centre. The CustomsLab projects have all been conducted by KCS in collaboration with a number of external research institutes. The establishment of such a centre will enable KCS to carry out its own R&D in-house.

A Customs authority enjoys many advantages when it comes to research and development. It has access to vast amounts of data and information on logistics, trade, Customs clearance, international e-commerce transactions, cross-border movements and so on. It controls Customs facilities across the whole country, ranging from airport and seaport arrival halls to warehouses and Customs clearance sites, providing researchers with suitable locations for in-field demonstrations. There is no shortage of room for improvement in the various processes and tasks involved, from cargo inspection to surveillance, investigation and auditing. Each area of work calls for different types of technologies, providing the Customs authority with opportunities for R&D on a wide variety of topics.

The annual R&D idea contest enabled KCS to gather a number of interesting ideas, some quite feasible, others rather ambitious. The R&D and Equipment Division plans to continue analysing the proposals made, as well as to cooperate with agencies at the country ports of entry, thereby developing a seamless technical solution that reduces inconvenience and promotes efficiency and safety for all. In particular, KCS plans to engage actively with other Customs administrations and build partnerships to develop technologies that will satisfy the needs of Customs officers, clients and partners in Korea and beyond.

More information

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² Basic research aims primarily to acquire new knowledge of the underlying foundations of phenomena and observable facts, without any particular application or use in view. Applied research aims at acquiring new knowledge directed primarily towards a specific, practical objective. Experimental development draws on knowledge gained from research and practical experience to produce new products or processes or to improve existing products or processes.



Managing border flows during COVID-19: Vanuatu Customs' experience

By Vanuatu Customs

Vanuatu is one of the few countries in the world to have almost evaded the COVID-19 pandemic. This is mainly due to the implementation of stringent border control measures in the archipelago. This article examines how the Vanuatu Department of Customs and Inland Revenue (DCIR) adapted its procedures to enable the flow of cargo and travellers, while avoiding the spread of the virus.

On 26 March 2020, the President of Vanuatu declared a State of Emergency in an effort to contain the spread of COVID-19. All ports of entry were closed to international incoming passengers. Only import and export of cargo was permitted under controlled procedures. All activities in the island of Efate, where the capital Port Vila is located, were shut down for 14 days as part of the containment measures. Even inter-island travel was prohibited to contain the virus within Efate.

The National Disaster Management Office (NDMO) immediately established a COVID-19 Advisory Taskforce (C19AT) comprising border agencies. The Department of Customs and Inland Revenue contributed to C19AT by developing procedures for both cargo and passenger processing of inbound and outbound flights which were shortly to restart.

Cargo

It was essential to ensure minimum physical interaction during cargo offloading and processing. At the airport, terminal workers were provided with full personal protective equipment (PPE)

and were asked to have no physical interaction with the aircraft crew. The goods after unloading were left overnight in the terminal warehouse before being processed the next day. A similar modus operandi was adopted at sea ports, with the vessel crew not allowed to leave the ship, but assisted with offloading from the vessel. Stevedores had no physical interaction with the vessel crew, although stevedore crane operators were allowed to board the ship to assist with operating the ship's crane if required, with strict physical distancing. The goods were processed from the ship to storage immediately. All frontline workers involved in offloading operations were regularly tested for COVID-19.

When Cyclone Harold hit Vanuatu in early April 2020, a quick response had to be deployed under strict COVID-19 restrictions. The category five cyclone devastated the northern part of Vanuatu, along with the second largest town and major export port of Luganville. The cyclone was the largest to hit the country since Cyclone Pam in 2015, and left 18,000 people without water and electricity.



Flights carrying relief supplies had to land at Port Vila while Pekoa Airport in the northern town of Luganville was being cleared. Cargo was then transported by ship. Flights and ships were later allowed into Luganville with relief supplies but the cargo was cleared in Port Vila before arriving in Luganville. All relief shipments were required to obtain NDMO approval prior to arrival.

Moving the clearance process from one Customs office to the other was easily done given that, in 2017, DCIR had upgraded its automated clearance system to ASYCUDA World, which allows goods entering one port to be cleared at any office or location.

Passenger

Compared to cargo clearance, passenger processing of inbound flights posed a challenge due to the health risks involved. Together with other border agencies and the Department of Health, from March to May 2020, C19AT developed Standard Operating Procedures (SOPs) to prepare for repatriation flights which were to commence in June 2020.

Customs airport officers, as well as 20 individuals hired on a contract basis, were trained to implement the new procedures. The number of Customs frontline staff at the airport increased from around 30 to 50 individuals.

Changes were made to the interior of the terminal to cater for the new health requirements. This included installing glass walls to separate passengers from the officers. Cameras were also set up inside the terminal to enable Customs supervisors and health inspectors to monitor activities from a safe location.

Passengers were advised before departure to have a carry-on bag with enough clothes for up to three days as their check-in luggage was to follow a new process upon arrival: instead of being moved to conveyor belts, it was to be stored until passengers were released from

quarantine after 14 days. The luggage was to be checked once collected by the passengers but the latter were given the option of providing consent on their arrival cards for officers to check their luggage during the time it was stored, without them being present. If this option was selected, the luggage was to be checked the day following their arrival. If any issue was detected, a report was to be produced so that any border officer in charge of handing over the luggage would know that its owner had to visit the Customs office before collecting it.

In Vanuatu, Customs officers are responsible for processing passengers at the primary and secondary (baggage haul) lines. Passports were collected and placed in a secure location for 24 hours before being checked. They were returned to their owners the next day at their quarantine location.

The officers in charge of passenger processing operated in three teams (A, B, C) of eight. The teams worked in a weekly rotation: when team A was processing passengers, Team B would check the passports and check-in luggage, and Team C would be in quarantine. At the end of their quarantine (in other words, before starting to process passengers again), all officers of a team would be tested for COVID-19. All were vaccinated and wore PPE.

The other border agencies adopted a similar arrangement. If an outbreak occurred in one of the teams, the whole team was to go into isolation for 14 days and be replaced by another team.

The cost related to the quarantine was a major concern as officers were to stay in hotels. In 2021, DCIR acquired a government-owned property near the airport in Port Vila and converted it to a quarantine isolation centre for frontline officers.

Way forward

For two years while the pandemic spread across the globe, Vanuatu had very few positive cases involving passengers and officers, and all were successfully contained and did not lead to community outbreak. This proved the system worked and allowed for safe travelling into and out of the country.

In March 2022, a breach of quarantine by a passenger at a quarantine facility led to a community outbreak. However, protocols for

DCIR is adding a module to ASYCUDA: the Automated System for Relief Emergency Consignments (ASYREC). As its name suggests, it will automate the prioritization and rapid processing of relief consignments in humanitarian emergencies.

managing cargo and passengers remained the same, with one change: the payment process became electronic. Cash payments were still accepted at two Customs offices located at Port Vila as an alternative option under strict health protocols.

As in many administrations, the COVID-19 crisis has pushed DCIR towards more digitalization. The Administration is now working on enhancing its risk analysis by reassessing its selectivity criteria. This will enable it to reduce the number of physical controls, as well as bottlenecks at ports of entry. This will in turn lower transport costs, which is needed even more given the price of fuel.

DCIR is also adding a module to ASYCUDA: the [Automated System for Relief Emergency Consignments \(ASYREC\)](#)¹. As its name suggests, it will automate the prioritization and rapid processing of relief consignments in humanitarian emergencies. The module is actively used in four countries worldwide and Vanuatu will be the first Pacific Island country to implement it. Funded by the Australian Government, the project is scheduled to be completed by April 2023.

More information

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¹ See <https://mag.wcoomd.org/magazine/wco-news-82/a-new-module-in-asycuda-speeds-up-the-processing-of-relief-consignments/>



Knowledge Beyond Borders

“Studying with the **Centre for Customs and Excise Studies** was a turning point in my life. My Masters degree gave me the **essential knowledge** and skills to progress my career, ultimately being appointed **Director General** of the Revenue and Customs Department.”

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Control measures, paperless procedures, openness and transparency: Overview of the Customs AntiCorruption Strategy in Morocco

By Moroccan Customs

In 2015, the Kingdom of Morocco adopted a National AntiCorruption Strategy, the implementation of which is overseen by a steering committee chaired by the Prime Minister. This article sets out the approach adopted by Moroccan Customs in this area, an approach fully in line with this Strategy and consistent with the guidelines and practices recommended by the WCO, and in particular the Revised Arusha Declaration.

Central and regional audit and inspection units

Since 2012, Moroccan Customs has had its own Code of Conduct, to which all Customs staff members are required to adhere. It has set up central and regional audit and inspection units which perform prevention and control functions comprising audit, inspection and investigation tasks.

The work undertaken by those units has led to the mapping of corruption risks. This has involved analysing all key stages underpinning the Customs processes, irrespective of the Customs office concerned (whether maritime or airport, land border or inland):

- Customs clearance at import;
- Customs clearance at export and management of suspensive regimes;
- tallying and monitoring;
- deferred inspection, investigations and post-clearance audit;
- litigation;
- Customs control of passengers and users of border services;
- sales by public auction;
- guarantee for precious metals.

For each operational process, risk indicators and sensitive stages have been identified. Risks associated with the import process include:

- tardiness in the processing of a Customs declaration;
- the physical inspection of the goods;
- the re-selection of declarations for a full physical inspection;
- the waiver or reduction of duties and taxes;
- the closing times of Customs offices during which the risk of goods being removed without a declaration or compliance certificate is greater.

To improve management of the risks identified, an internal control system has been established; it defines the minimum periodical checks to be carried out by the regional or local officers responsible. A cascade control system relies on basic resources available to the officers responsible: use of data taken from the Moroccan Customs information system, actual presence on the ground, spot checks, verification of records and registers held by the Customs service and use of video surveillance which provides data on the conduct of operations in real time.

To harmonize the control methods and their frequency, a matrix setting out the different control measures to be conducted was made available to the various hierarchical levels depending on the activity and operations within their remit.

The control mechanism established is based on a reporting system which entails registering, in a dedicated computer application, the results of measures conducted in the course of each check, as well as other information such as the type of check carried out, the date of the intervention and the measures taken. The objective is to monitor and assess, adopting the cascade approach, the quality of the checks so that any shortcomings can be detected and rectified in real time.

Simplifying procedures and going paperless

A further safeguard for improving management of the risks identified is to simplify and harmonize procedures as well as to reduce contact with Customs service users by making procedures paperless and automating the core operational processes.

For several years now, Moroccan Customs has been committed to an ongoing process of streamlining its procedures with a view to making

them more transparent and less cumbersome. The aim is for them to evolve in line with international standards and for administrative formalities that are burdensome, or indeed pointless or capable of fostering corruption, to be eliminated.

In parallel, Moroccan Customs has turned paperless Customs procedures into a way of promoting trade facilitation as well as an effective means of limiting opportunities for contact with customers/users and the resulting risks of abuses. This process, undertaken as part of a step-by-step approach, reached its culmination on 1 January 2019 with the entire Customs clearance circuit going paperless. (see article¹ featured in the 94th edition of *WCO News* in February 2021).

In specific terms, these days economic operators can access a whole range of digitized services in relation to:

- the filing of the Customs declaration;
- the option to establish an estimate of duties and taxes;
- consultation of the integrated tariff;
- the issuing of the Customs duty assessment document (invoice);
- the electronic payment of duties and taxes;
- the issuing of the payment receipt;
- the issuing of the certificate of discharge, thereby enabling the bank to release the operator from its liabilities up to the value discharged;
- the real-time tracking of progress in the declaration circuit.

Access to information and documentation

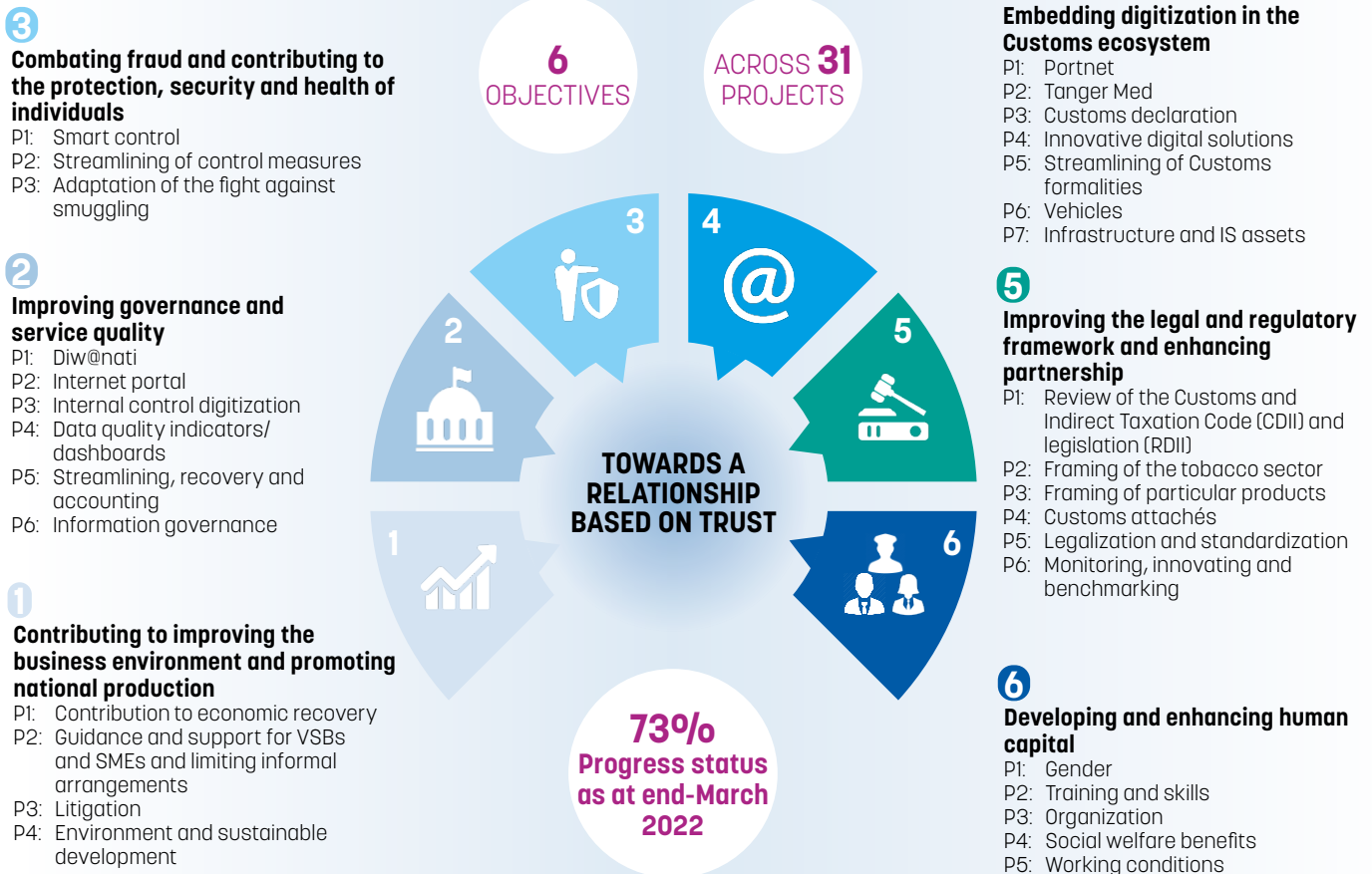
Another way to curtail the discretionary powers of Customs officers is to guarantee the transparency and predictability of procedures by facilitating easy access to information for users. The policy of openness and transparency favoured by Moroccan Customs is evident from the fact that it posts all Customs information online on its web portal. Fully aware that acquiring an understanding of the rules and regulations is no easy task generally, Moroccan Customs is seeking to remove most of the ambiguities that can give rise to problems in Customs operations and thereby promote compliance.

The web portal covers the following topics:

Another way to curtail the discretionary powers of Customs officers is to guarantee the transparency and predictability of procedures by facilitating easy access to information for users.

1 <https://mag.wcoomd.org/magazine/wco-news-94/dematerialization-of-customs-procedures-morocco>

2020-2023 Strategic Plan



- an outline of current Customs laws and regulations;
- information on the authorizations granted by the Customs Administration, the conditions governing their issue and the officers empowered to grant them; and
- making the contact details of the Administration available to customers/users.

It also offers online and application services:

- assisting business managers, without an intermediary, to monitor their Customs operations closely through each stage of the process (via the “Diw@nati” web and mobile platform);
- providing the ADIL (*Assistance au Dédouanement des Marchandises à l'Importation en Ligne*) Customs tariff determination system, giving full details of the duties and taxes payable, both based on preferential regimes and under

ordinary law, and furnishing information about particular regulations applying to imports and exports;

- explaining, by means of diagrams, the process relating to each operation and Customs regime, and describing clearly and succinctly the administrative procedures to be undertaken by the Customs services;

- allowing individuals to estimate the duties and charges to be paid for the Customs clearance of a vehicle.

Lastly, the portal streamlines communication between Customs and the users by allowing the latter to:

- submit their requests for information, applications, grievances or correspondence and track their progress/status instantly;

- access written and official responses on the information forwarded by Customs as well as any decisions that may have been debated.

A responsive telephone helpline

A telephone helpline has also been available to the public since 1999. Telephone operators field all requests for information or assistance with completing formalities; they also process and follow up on any complaints or grievances lodged.

Trust

Many other measures are envisaged in the 2022-2023 Strategic Plan, which bears the slogan “Towards a relationship based on trust” (see chart page 59). The plan provides for six strategic objectives across 31 projects dedicated mainly to consolidating transparency and bolstering the climate of trust between economic operators and Customs. One final aspect that we would like particularly to highlight is the enhancement of human capital: a priority area in this new strategy involving five projects which focus on gender equality, training opportunities, the organization of work, social welfare benefits and working conditions.

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Strengthening Public-Private Partnership: looking at the experience of Guatemala

By Mr. Werner Ovalle, Director General, and Mrs. Lissette Balcárcel, Trade Facilitation and Authorized Economic Operator Unit, Customs Administration of Guatemala

In 2017, we described in the pages of this magazine¹ how the new management team of the Superintendence of Tax Administration (SAT) undertook major reforms following the “*La Línea*” case. *La Línea* was a fraud scheme in which importers paid bribes to avoid Customs duty or to receive greatly reduced tariffs in exchange for kickbacks that were shared among dozens of government officials and the country’s top authorities.

We explained that the revamped Customs service had decided to strengthen its relationship with private entities to fight corruption, and had established a “Committee for Dialogue and Cooperation between Public and Private Entities in Customs Affairs” (the Committee) so that all stakeholders could present their problems, visions and ideas without creating a burdensome consultation process. The Committee has been in operation for five years now, and has become a strategic forum for policy guidance and concerted actions. Below is an overview of how the Committee operates and what it has achieved.

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1 <https://mag.wcoomd.org/magazine/wco-news-83/renewing-guatemalas-customs-service>

Simplification, AEO and TRS

The Committee brings together 29 public and private entities, all involved in the cross-border movement of goods. Among them are the main business chambers, transporters, shipping companies, cargo agents, airlines, port authorities, warehousing firms, Customs agents, public institutions and, of course, Customs.

It is composed of three groups:

- a High-Level Group, comprised of the most senior representatives of the participating entities, who meet twice a year to review the progress made;
- a Technical Working Group, which meets at least four times a year to discuss the work plan and how it has been implemented;
- a Coordinating Group managed by the Customs service with three private sector entities. This Group discusses issues reported to it and actions to be taken; it meets as often as is necessary.

Since its formation in September 2016, the Committee has proved to be an efficient cooperation mechanism providing suggestions for procedures and processes to be developed or enhanced to make legitimate transactions faster and more transparent, efficient and secure. It monitors, for example, the implementation of the National Action Plan to Reduce the Time in Importation of Goods which resulted from the first Time Release Study conducted in 2019.

The Committee is now an integral element of SAT's Institutional Strategic Plan, and of the work plans of the Integral Customs Modernization Programme.

In order to consult a wider base of stakeholders, users' committees have been established in all the country's Customs offices. Moreover, as part of the National Action Plan to Reduce the Time in Importation of Goods, specific communication activities have been organized with supply chain actors in the air, sea and land sectors in order to discuss how to enable cargo traceability and identify opportunities for reducing costs.

The work with business chambers has focused on promoting the Authorized Economic Operator

programme. To date, four AEO Congresses have been held with their support, the primary objective being to explain the certification process as well as the benefits of participating in the programme. The benefits include the opportunity to be recognized as an AEO in countries that have signed a mutual recognition agreement with Guatemala, receiving attention when raising queries, and simplified procedures for certain operations.

Time Release Study

In order to measure the effectiveness and efficiency of border procedures, and to be able to assess the impact of these efforts in the future, SAT conducted its first Time Release Study simultaneously at the four Customs offices which collect the most revenue and manage the largest volume of transactions. The WCO strongly recommends that Customs administrations conduct a TRS in close collaboration with other relevant government agencies and private sector stakeholders. The TRS was therefore organized within the framework of the Committee. Guatemala is the first country in Central America, and the second in Latin America, to adopt such an inclusive approach when implementing the TRS.

The TRS enabled the Committee to identify areas of improvement as well as intersectoral, public and private strategies for addressing them. The list of actions and activities to be deployed was consolidated into a National Action Plan covering the years 2020-2023. All the members of the Committee signed a declaration in which they committed to the implementation of the Plan, with follow-up being monitored by the Modernization Department of the Customs Administration of Guatemala.

Promotion of ethics

Combating corruption, cementing the institution's transparency policies and ensuring that staff comply with the Code of Ethics are some of the objectives set out in SAT's Institutional Strategic Plan. In November 2018, the Customs Administration asked all Committee participants to develop their own codes of ethics to demonstrate their commitment on this issue. All of them declared their intention to review or create their own codes, and as of June 2022 sixteen of them have officially presented their codes, and three more have reported that they are working on this task.



Members of the Committee, representing 29 public and private entities involved in the cross-border movement of goods.

Some of the private entities participating in the Committee also belong to the Regional Private Sector Consultative Group for the Americas and the Caribbean, whose purpose is to inform and advise the Secretary General of the WCO and WCO Member administrations on international trade matters.

Guatemala Customs assumed the role of WCO Vice-Chair for the Americas and Caribbean Region from July 2020 to June 2022, and decided – together with the Regional Private Sector Consultative Group – to organize an event at the regional level under the slogan "Ethics and Transparency - A Commitment for All". This event brought together more than 200 representatives from 23 countries, with speakers from the Customs Administrations of Jamaica, Guatemala, Mexico and Uruguay. Following the event, the signing by members of the Regional Private Consultative Group of a Letter of Intent to support the Customs administrations of the Americas and Caribbean Region in the promotion of ethics, integrity and transparency is under consideration. The initiative was agreed by all Directors General of the region during their annual meeting.

WCO Secretariat assistance

During the event, some administrations highlighted the work they had undertaken with the assistance

of the WCO Secretariat in the framework of the Anti-Corruption and Integrity Promotion (A-CIP) Programme. Eight administrations in the Americas and Caribbean Region are benefiting from the A-CIP Programme, including Guatemala Customs which has developed a work plan for 2022-2023 with contributions from the Committee for Dialogue and Cooperation between Public and Private Entities in Customs Affairs.

Final thoughts

The Committee was born out of a desire to generate commitment among the various institutions in support of effective control and facilitation procedures, transparency, ethics and the eradication of corruption and all practices that facilitate corrupt transactions.

This public-private partnership has allowed us to recover from a political and social crisis and regain credibility. The working methodology and structures we have developed have served as a model for the establishment of a Public-Private Dialogue Table on Tax Issues, which is testimony to the relevance and value of the Committee.

More information

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FOCUS: Gender equality and diversity

Latest developments at the WCO

By Johanna Tornstrom, WCO Secretariat

Gender equality and diversity (GED) has been part of the WCO's capacity building agenda since 2013. In 2020, the WCO adopted the Declaration on Gender Equality and Diversity in Customs, an illustration of Customs administrations' interest in moving this agenda forward. Among other recommendations, the Declaration encourages them to share experiences on the promotion of GED as well as on the use of monitoring and evaluating mechanisms. In this article, the WCO Secretariat would like to share some lessons learned and report on the latest initiatives in these areas.

Gender equality and inclusion must be implemented using a transversal approach

Launched in 2013, the Gender Equality Organizational Assessment Tool (GEOAT) enables Customs administrations to self-assess their existing policies and procedures on gender equality, in order to identify areas where improvement may be needed. In 2020 and 2021, the Secretariat conducted assessments based on the GEOAT with the Customs Administrations of Brazil, India, Liberia, the Philippines, South Africa and Zambia.¹ The assessments resulted in comprehensive reports identifying strengths and gaps, as well as putting forward recommendations.

As a general observation based on these and similar assessments performed with other administrations, the Secretariat has noted that, while there is an awareness of gender equality and diversity issues, and some ad hoc initiatives have been launched in many administrations, there is a need to develop a greater understanding of how gender

¹ These assessments were completed as part of the Trade Facilitation in Middle Income Countries (TFMICs) Programme, funded by the United Kingdom's Foreign, Commonwealth and Development Office (FCDO), and the HMRC-WCO-UNCTAD Trade Facilitation Capacity Building Programme; the assessment conducted with Zambia was also completed in collaboration the Sida-WCO Trade Facilitation and Customs Modernization Programme.



equality and inclusion can be implemented using a transversal approach.

Gender equality and inclusion, as cross-cutting issues, are based on recognition that people from different backgrounds and of different genders often have different needs, constraints and preferences, and therefore can be affected differently by policies, regulations and working arrangements, for example.

The GEOAT includes a chapter on how to implement “gender mainstreaming” through project management – in other words, how to integrate the concerns and experiences of women as well as men in the planning, implementation, monitoring and evaluation of policies and activities. It also includes a list of cross-cutting indicators aimed at supporting the transversal implementation of gender equality and inclusion in Customs.

Use of the GEOAT remains low

Through its contacts with Customs administrations, the WCO Secretariat has also noticed that, while many administrations are implementing GED policies in line with their national policy frameworks, the use of the GEOAT to evaluate and enhance these policies remains

limited. To help administrations to become better acquainted with this tool, the Secretariat has developed a new e-learning module entitled “Implementing Gender Equality and Inclusion in Customs”, which complements the module on “Advancing Gender Equality in Customs”. While the latter aims to raise general awareness about gender equality and its links to Customs reform and modernization, this new module explains how to use the GEOAT as a diagnostic tool, as part of a broader process of implementing gender mainstreaming.

The new e-learning module is part of the Blended Training Package on Advancing Gender Equality and Diversity in Customs, which has been adapted to be delivered virtually.² The remote training was subsequently piloted with the Revenue Authorities of Liberia, Zambia, Zimbabwe and Uganda in December 2021.³

Countries in the Caribbean, and in Central and Latin America, are mobilizing

In September 2021, following the translation of the GEOAT into Spanish, the WCO Secretariat organized a Regional Forum on Gender Equality and Diversity, which brought together over 80 participants from 24 Latin American and

The Secretariat has noted that, while there is an awareness of gender equality and diversity issues, and some ad hoc initiatives have been launched in many administrations, there is a need to develop a greater understanding of how gender equality and inclusion can be implemented using a transversal approach.

² This work was undertaken through the Trade Facilitation Programme in Middle Income Countries (TFMIC) supported by the United Kingdom.

³ This work was supported by the HMRC-WCO-UNCTAD Trade Facilitation Capacity Building Programme in collaboration with the Sida-WCO Trade Facilitation and Customs Modernization Programme.

Caribbean Customs administrations and provided an opportunity to exchange experiences on the implementation of gender equality and diversity measures within Customs in the region.

The WCO has also initiated a collaboration with the Centre for Regional Technical Assistance for Central America, Panama and the Dominican Republic (CAPTAC-DR) which is conducting a regional study on GED based on the GEOAT.

A Network to stimulate discussions

In October 2021, the WCO Secretariat invited its Members and the Private Sector Consultative Group to nominate representatives to join a Network for Gender Equality and Diversity in Customs. The Network was launched on 8 March 2022, to coincide with the “International Women’s Day”, through a virtual conference which saw contributions from Customs representatives from Zambia, Ireland, Philippines, Indonesia and Rwanda.

In line with the Declaration on Gender Equality and Diversity in Customs, the aim of the Network is to enable Customs officers and leaders to share their experiences and to exchange ideas among themselves and with other participants. Other key objectives include identifying the benefits of implementing gender-responsive and inclusive policies in Customs, as well as ways to ensure sustainable support from senior management and to strengthen collaboration with private-sector stakeholders on these issues.

The Network also has a more strategic role in following up, at a higher level, the implementation of the Declaration, thus complementing the practical work already done by the Virtual Working Group on Gender Equality and Diversity, which was launched in 2017 with the aim to promote the use of the GEOAT and provide a platform to exchange practical ideas.

Get involved!

The Network has generated a lot of interest and currently has more than 232 registered members. Although this number of participants is encouraging, the level of active involvement through the sharing of good practices is still limited. The Secretariat therefore calls on all WCO Customs administrations to participate actively in the work of the Virtual Working Group and in the newly-created Network, as well as to submit contributions for the next edition of the Compendium on Gender Equality and Diversity. The first edition, launched in March 2021, showcased practical examples from 17 Customs administrations which can be used as inspirational examples of how to promote GED and ultimately increase business efficiency, productivity and sustainability. The second edition is currently in preparation and should be released in early 2023.

More information

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Gender equality and diversity at the WCO

Working bodies

- Virtual Working Group (VWG) on Gender Equality and Diversity
- Network for Gender Equality and Diversity in Customs

Training

The Blended Training Package can be delivered in a virtual format, and includes two e-learning modules entitled “Advancing Gender Equality in Customs” and “Implementing Gender Equality and Inclusion in Customs”.

High-level policy

Declaration of the Customs Co-operation Council on Gender Equality and Diversity in Customs (December 2020)

Tools

- Gender Equality Organizational Assessment Tool (GEOAT)
- Compendium on Gender Equality and Diversity in Customs

Ensuring equality, diversity and inclusion: Ireland's experience

By the Office of the Revenue Commissioners in Ireland

At Revenue – the name of the Irish Tax and Customs Administration – we are committed to being an inclusive organisation that reflects the diversity of the community that we serve, acknowledges and values diversity, and places equality at the centre of everything we do. This policy supports Revenue in its objective of being a leading tax and Customs administration, trusted by the community and seen as an employer of choice in a competitive employment market.

This commitment is embedded within a wider programme of civil and public sector reform in Ireland. Since the adoption of Section 42 of the [Irish Human Rights and Equality Commission Act, 2014](#), all public bodies are required to promote equality, prevent discrimination and protect the human rights of their employees, customers, service users and everyone affected by their policies and plans. This legal requirement, known as the [Public Sector Equality and Human Rights Duty](#), also requires public bodies to assess, address and report on progress in relation to equality and human rights, in a manner accessible to the public.

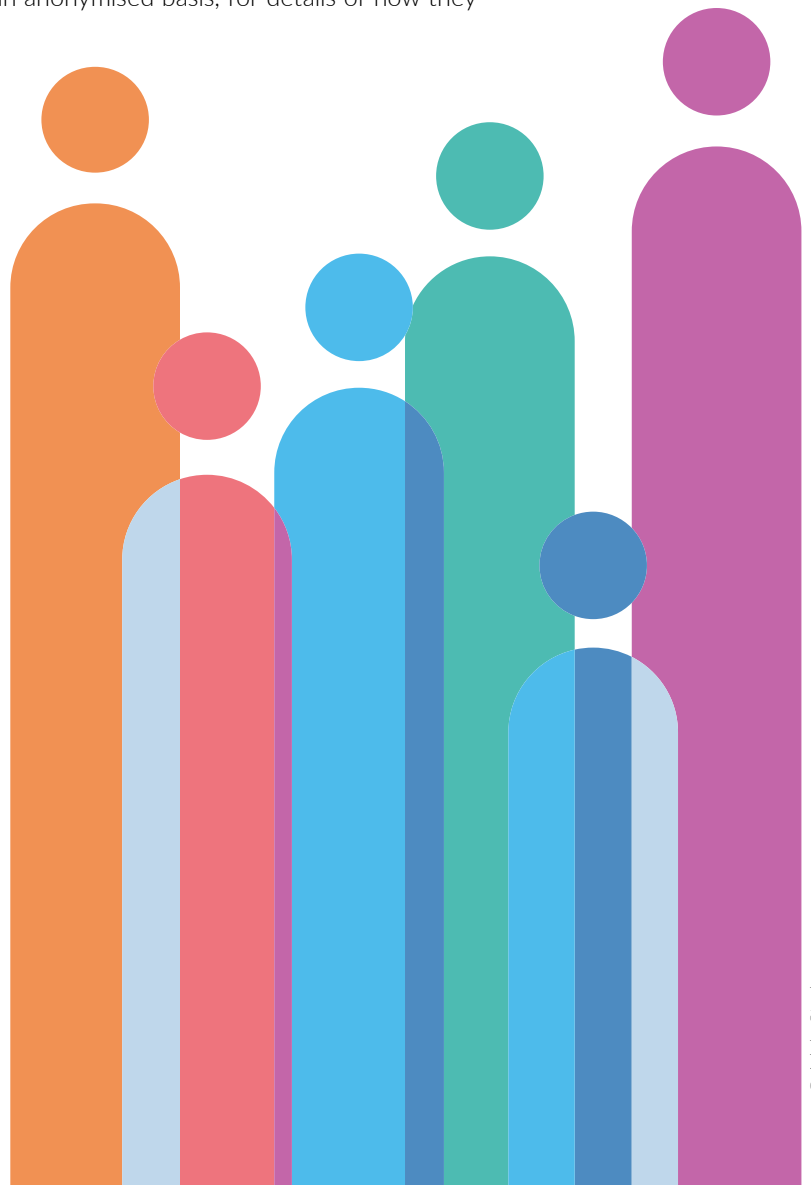
This has taken place against a backdrop of significant change to the country's demographic profile over the past 20 years. Allied to this new policy has been a modernisation of societal attitudes that is exemplified by the fact that Ireland was the first country to legalise same-sex marriage by way of a popular vote, in a referendum to amend its Constitution which was held in 2015.

We are currently updating our Equality, Diversity and Inclusion Policy to build upon our inclusive workplace culture where diversity is celebrated, and everyone is treated fairly. Our process has been informed by the WCO *Gender Equality Organizational Assessment Tool* (GEOAT). We are also updating our three-year Action Plan for the period 2022-2025 based on guidance provided by the Irish Human Rights and Equality Commission, which assists public bodies in developing policies

and good practice in relation to human rights and equality. The Draft Action Plan addresses a series of recommendations related to data gathering and publication, training, customer and staff engagement, the creation of networks and the review of policies and procedures to identify and address equality issues. Some of these points are developed below.

Data gathering

One area where we focused some attention in 2021 was in relation to the diversity of our staff. As part of our staff engagement survey programme, for the first time we asked our staff, on an anonymised basis, for details of how they



identify themselves under a number of headings, including:

- Gender, including gender identity
- Disability
- Sexual orientation
- Ethnicity
- Citizenship

This was the first time that such insights had been obtained from our staff, and this has allowed us to compare our staff demographics to those of the community that we serve using national census data. One of the findings was that there was a gap in terms of the representation of minority groups, albeit not as significant as may have been imagined.

In 2019, we conducted and published an [analysis of gender and pay in Revenue](#). The analysis identified a gender pay gap of 16%. Gender imbalance in staff grades was identified as the leading cause of the gap, accounting for approximately three-quarters of it, while one quarter was due to different working patterns for men and women. It is expected that an update of our pay gap analysis, to be published shortly, will show further positive progress on this issue.

Dialogue and communication

Another initiative in terms of framing our policy has been the establishment of a management/union partnership group where staff can share their views regardless of their positions and hierarchical levels. We have also increased communication activities, with webinars and celebrations around the concepts of equality, diversity and inclusion. Other initiatives include an annual Diversity and Inclusion Week, “inclusive internships” tailored to people with specific requirements, accommodation for people with special needs, the establishment of the Revenue’s National Wellbeing Network, and Revenue’s LGBT+ Staff Network.

The inaugural Annual Diversity and Inclusion Week was launched in November 2021 by Revenue’s Chairman, Mr. Niall Cody. An internal newsletter was produced which featured details of support available to staff, information on our LGBT+ Network, Access Officers and Disability Liaison Officers, and role profiles from colleagues from various diverse backgrounds. It also provided customer service tips for dealing with Revenue’s diverse customer base. Several

events were organised to celebrate the week, including an introduction to Irish Sign Language, a fireside discussion on diversity in the workplace, a presentation on Human Rights and Equality in the Public Sector, a quiz on unconscious bias, and wellbeing activities including desk pilates and a demonstration on healthy nutrition.

The Revenue’s National Wellbeing Network was established in July 2019 to support positive workplace wellbeing. The Network is made up of representatives at all levels across the organisation, with central support being provided by our Corporate Services Division. Workplace wellbeing can impact an individual’s feeling of inclusiveness. The role of the Network is to build a workplace environment that is supportive of living a healthy lifestyle. The Network formally launched “RevWell”, Revenue’s wellbeing programme, in 2020. RevWell has adopted the “5 Ways to Wellbeing”, an internationally-accepted, evidence-based model that is used around the world to support people in improving their wellbeing. RevWell has hosted a range of live webinars on wellbeing matters and important life milestones, with a particular focus, during 2021, on Covid-19 related wellbeing issues. In addition, we publish the RevWell newsletter on a quarterly basis, with tips on how to stay well in the mind and body with a focus on workplace wellbeing.

The Revenue’s LGBT+ Staff Network was set up in 2020 to help create a networking space for staff with minority sexual orientations and/or gender identities, and their allies. The Network works with other Civil Service Departments through the Civil and Public Service wide LGBT+ Employee and Ally Network, a key component of the National LGBTI+ Inclusion Strategy. In 2020, Revenue took part in the Digital Dublin Pride Festival’s virtual parade alongside other civil and public service LGBT+ Staff Networks, under the banner ‘Proud to work for Ireland’. The Revenue offices in O’Connell Street, Dublin, flew the Pride flag for the event and the Revenue Twitter account tweeted support for Pride 2020 alongside our LGBT+ Staff Network logo. We have established a dedicated intranet page and contact hub that enables our LGBT+ Staff Network to provide information and resources.

In 2021, the Network held an ‘Out at Work’ webinar with an LGBTQ+ activist and fellow civil servant who spoke about their experience as a transgender woman and the support received at

Gender issues in society are in part visible and in part tacit. The training allows staff to develop an appreciation and understanding of the ways in which inequality can arise, the risks of prejudice, assumptions and stereotypes, and the potential for discrimination. It explores the potential for positive change and focusses on the roles of both the organisation and the individual in achieving this.

work from the Property Registration Authority. The Pride Festival was celebrated again, by proudly flying the flag from a number of our offices, including our headquarters at Dublin Castle. The festival was celebrated virtually by hosting a number of webinar events, including a “lunch & learn” style ‘History of Pride’ talk.

Human Rights and Equality Training

To ensure that staff are trained and knowledgeable in respect of human rights and equality, in 2017 we developed specialised training in consultation with the Irish Human Rights and Equality Commission. We concentrated on building the knowledge, skills and attitudes needed to eliminate discrimination, promote equality and protect human rights.

Gender issues in society are in part visible and in part tacit. The training allows staff to develop an appreciation and understanding of the ways in which inequality can arise, the risks of prejudice, assumptions and stereotypes, and the potential for discrimination. It explores the potential for positive change and focusses on the roles of both the organisation and the individual in achieving this.

Revenue holds strong core values, including those of respect and integrity, which are key to challenging assumptions and to acquiring an equality and human rights perspective. The training is rooted in these values and in the strength of their meaning and inspiration in

everyday public service. It does not stand alone, but sits alongside our cultural values (set out in Graphic 1 below), our Customer and Employee Engagement Charters, and our equality, diversity and inclusion policy. Graphic 2 illustrates the key aspects of our training, focussing on the knowledge, skills and attitudes that are necessary to achieve competence, supported by Revenue’s values.

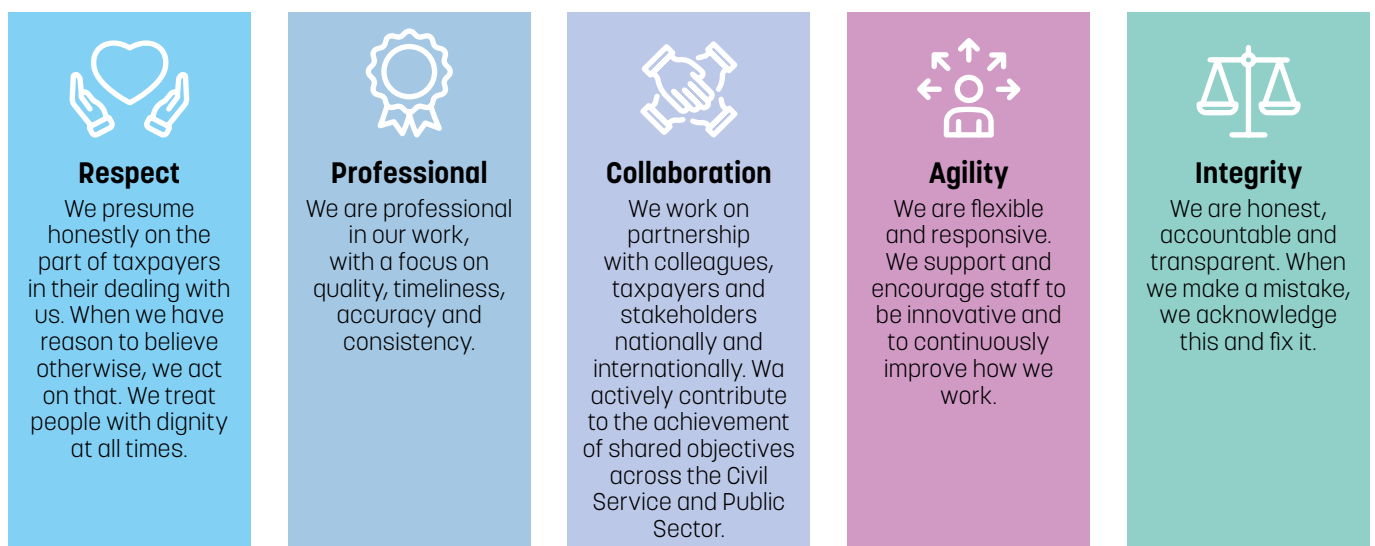
Staff initially participate in a brief human rights and equality module which forms part of the induction training for all new Revenue staff members. Specialised human rights and equality training is then provided to individual cohorts of staff, depending on the nature of their assignment within the organisation.

This training is managed by a qualified in-house trainer who has a background of working with groups that have experienced exclusion. It covers:

- equality and human rights principles,
- the domestic and international legal framework,
- discrimination,
- harassment,
- sexual harassment,
- victimisation.

A blended learning model is used to deliver training. Trainees engage and learn using a range of activities including theory, discussion, scenarios, case-studies and reflection.

Graphic 1 - Revenue Core Cultural Values

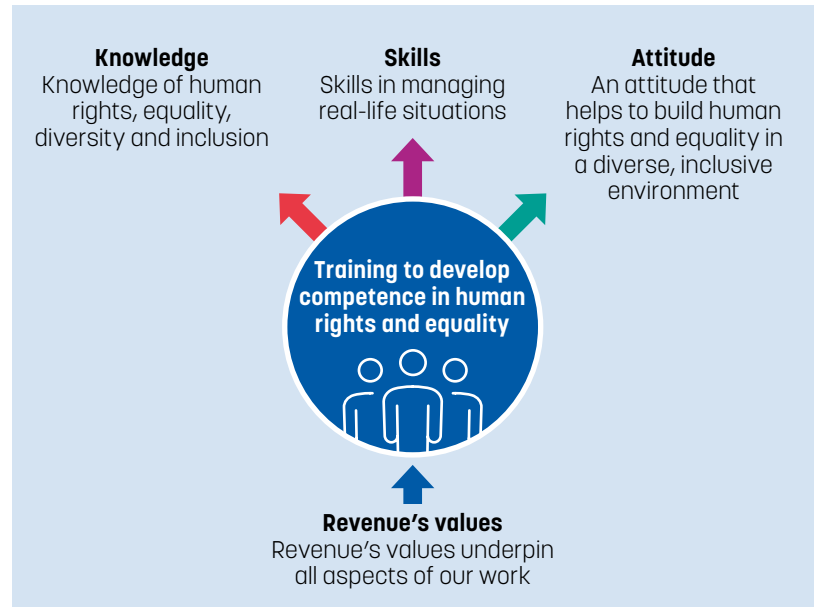


Trainees complete content-based material and knowledge checks online, and then attend a tutor-led, virtual-classroom session. The virtual session is discussion-based and interactive in nature, focussing on real-life experiences and scenarios. Participants contribute perspectives from their own experience and learning. They learn through dialogue and self-reflection, covering issues that affect both staff and external customers; they consider their own identity and explore the rich complexity of diversity. A key part of training involves challenging assumptions and stereotypes and exploring the benefits derived from diversity and inclusion.

Trained staff can

- recognise human rights and equality issues and address these in their everyday work.
- recognise situations in which inequalities or discrimination could arise and identify ways to mitigate these issues.
- identify the potential role of stereotyping and assumptions in decision-making and ensure that decision-making is neutral and impartial in accordance with the ethical requirements of civil servants.
- recognise how discrimination arises and what tools can be used to address potential discrimination.
- communicate on the benefits of working in a diverse, inclusive organisation.
- understand the benefits of mainstreaming and the requirements of the Irish Public Sector Equality and Human Rights Duty.
- deliver excellent customer service.

Graphic 2 - Key aspects of the training



Towards the future

Almost 3,000 (44%) of our serving staff have received this training. Human rights and equality training are now firmly embedded in Revenue. Revenue is committed to contributing to the work done in the WCO in this area, and will continue sharing its experience. Customs administrations interested in knowing more about our training are warmly invited to contact us.

More information

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ZRA steps up efforts to promote gender equality

By the Zambia Revenue Authority

Even when they are genuinely interested in empowering women to develop their careers, the organizations and individuals who celebrate International Women's Day on 8 March usually forget all about it as soon as the commemoration is over. The subsequent 12 months see very few – or no – conversations and actions on gender equality. The story is different, however, at the Zambia Revenue Authority (ZRA), which has been taking a pragmatic approach to gender equality, inclusion and diversity for a couple of years.

In 2019, out of the 24 individuals holding top and middle management positions, only two were female (about 8%). Members of the ZRA Board and management decided to change the narrative by actively looking for women capable of holding leadership and decision-making positions within the organization and by promoting them. Soon

there were three more women holding top management positions.

This was obviously not enough to eradicate the gender gaps, but only a start. In March 2020, they appointed 11 officers to form a Women Leadership and Development Forum (WLDF). Chaired by the ZRA Commissioner of Finance, the Forum works like a steering committee. The overall goal of the WLDF is “to ensure that 50% of leadership positions at Director level and beyond are held by women by the year 2025”.

Forum members meet on a monthly basis to decide on ways to develop the leadership capability of female staff and to raise awareness among all employees on the crucial role gender diversity plays in an organization. One of its first tasks was to develop a questionnaire to understand how

female officers perceive the workplace and the challenges they face, as well as which measures are needed to support the development of their careers.

Among the measures taken are a mentoring and education programme, and communication-related activities, such as the celebration of International Women's Day. The WLDF has also been working with internal and external stakeholders to ensure ZRA policies and procedures facilitate the career progression of women towards leadership roles.

WLDF members realized that the ZRA can only achieve the envisaged levels of female diversity and inclusion through deliberate measures that address the low numbers of female employees at all levels. Another issue is the lack of interest among female staff in being part of the programmes aimed at benefiting them. Doubtless, one of the challenges here is to make women realize their value and the career opportunities offered to them. Finding ways to change this situation is critical. Women represent a dynamic and capable pool of talent which remains under-utilized, thereby depriving the ZRA and the country of a very much needed resource.

In July 2021, the ZRA worked with the WCO Secretariat to identify how the Administration could further leverage the work already started using the *WCO Gender Equality Organizational Assessment Tool*. One of the strengths identified during the assessment is that the ZRA has collected comprehensive sex-disaggregated data, including data on employees' grades, enrolment in career development opportunities and training.

The Administration is therefore able to identify potential gaps in terms of gender balance in several areas, as well as to monitor progress over time.

The ZRA also worked with the Secretariat to upskill its staff through training on implementing gender equality and inclusion in December 2021. It is now drafting a Gender Equality and Diversity (GED) Policy and a GED action plan to outline its commitments for the coming years.

The ZRA has some written policies and guidelines which relate to the prevention of harassment and to anti-discrimination. In addition, the WLDF has started working with Internal and External Audit divisions to follow up and monitor potential cases of harassment, gender-based violence and/or discrimination.

It has also reached out to women taxpayers and women traders through workshops aimed at better understanding their specific needs and making sure that the ZRA addresses these in a comprehensive way. The first meeting was held in Lusaka and, given its success, more are to follow in other regions of the country. The Administration has noted from its engagement with traders (especially small and medium businesses, many of which are owned by women) that they still find it hard to find information on Customs policies and procedures, and that there is a fear of Customs. Hopefully, the dialogue initiated will lead not only to more facilitation for women, but also to better compliance and, maybe, trust.

More information

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Automatic detection tools help with identifying the illicit trade in ivory

By Professor Zhiqiang Chen

Back in June 2016, we wrote in the pages of this very magazine that “automatic detection tools, commonly known by the acronym ATR, which means automatic threat recognition, or assisted target recognition” had transformed from concept to reality.¹ Today, we would like to highlight the results achieved in terms of developing ATR specifically to identify the illicit trade in ivory.

When it comes to tracking illegal trade in wildlife, and especially elephant ivory and rhino horn, one must be able to identify in all sorts of shipments not only the animals and their parts, but also a wide range of by-products. Take rhino horns, for example: they can be broken down into cross-sections, smaller pieces, shavings, worked products such as bracelets, handicrafts such as

carvings, and, trickiest of all to identify, powders. Many goods are sent in parcels or via express mail across borders, and, as you may already know, controlling this particular flow of goods is somewhat challenging.

Non-intrusive inspection (NII) systems are helpful; however, any system is only as effective as the human who operates it. Operators must be well-trained, sufficient in number and accustomed to the many different shapes and forms of wildlife items. The good news for Customs authorities is that automatic detection tools leveraging artificial intelligence (also known as AI, the broad category of science that entails simulating human thinking capability and behaviour), and the branch thereof known as machine learning (an application of AI

1 <https://mag.wcoomd.org/magazine/wco-news-80/automatic-detection-tools-from-concept-to-reality/>

that allows machines to learn from data without being specifically programmed to do so), have made great strides forward with more and more algorithms being developed, tested and deployed.

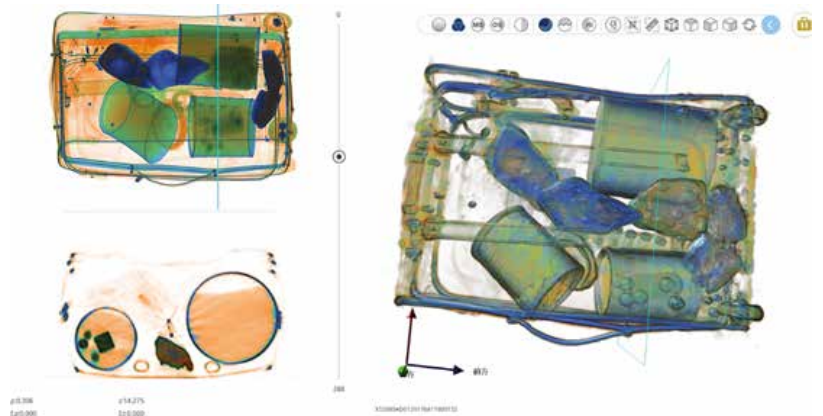
To develop such algorithms, data related to the shape, density and atomic number of items must be compiled, together with their three-dimensional volumetric information in the case of computed tomography (CT) technology. AI solution providers must therefore work in close partnership with Customs authorities to obtain images of scanned items. They usually also create synthetic images to complement their image dataset. Armed with such “rich data”, the algorithms developed rapidly climb the steep learning curve. The algorithms’ detection capability is not set in stone as long as the dataset is updated regularly. When integrated into an IT network, such tools can absorb information from different sources, piece it together, learn patterns and identify targets in an efficient manner.

Algorithms know no fatigue and are a “stable” resource. For years now, their application for the automatic detection of ivory and its ever-changing worked products has proven highly successful in China. Thanks to extensive image training, the technology built in to CT scanners can now easily pinpoint tiny beads of ivory from among a jumble of objects in baggage. At Chengdu Shuangliu Airport, where all inbound baggage goes through a scanner with automatic detection capabilities, it was reported that Customs thwarted 86 attempts at smuggling and seized over 500 pieces of ivory products in 2018 alone.

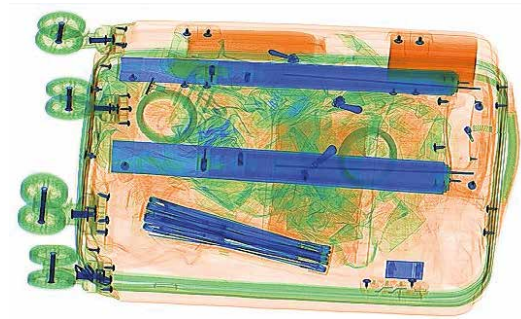
Besides wildlife items, machine learning using X-ray systems has already proven efficient for detecting weapons, bottled liquids and cigarettes within seconds. New algorithms can be developed to address specific enforcement concerns and be added to the NII system software at any time. Automatic detection is no longer a distant dream, but rather a current reality. There is a need to promote coordinated efforts by the public and private sectors to devise such tools. Through the incorporation of AI into NII systems, Customs holds the key to combating illicit trade, with ensuing benefits for the planet and all its inhabitants.

More information

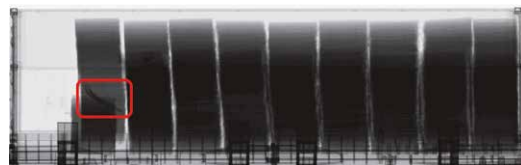
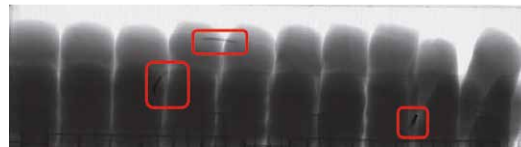
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Beads of elephant and walrus ivory concealed inside a milk powder jar



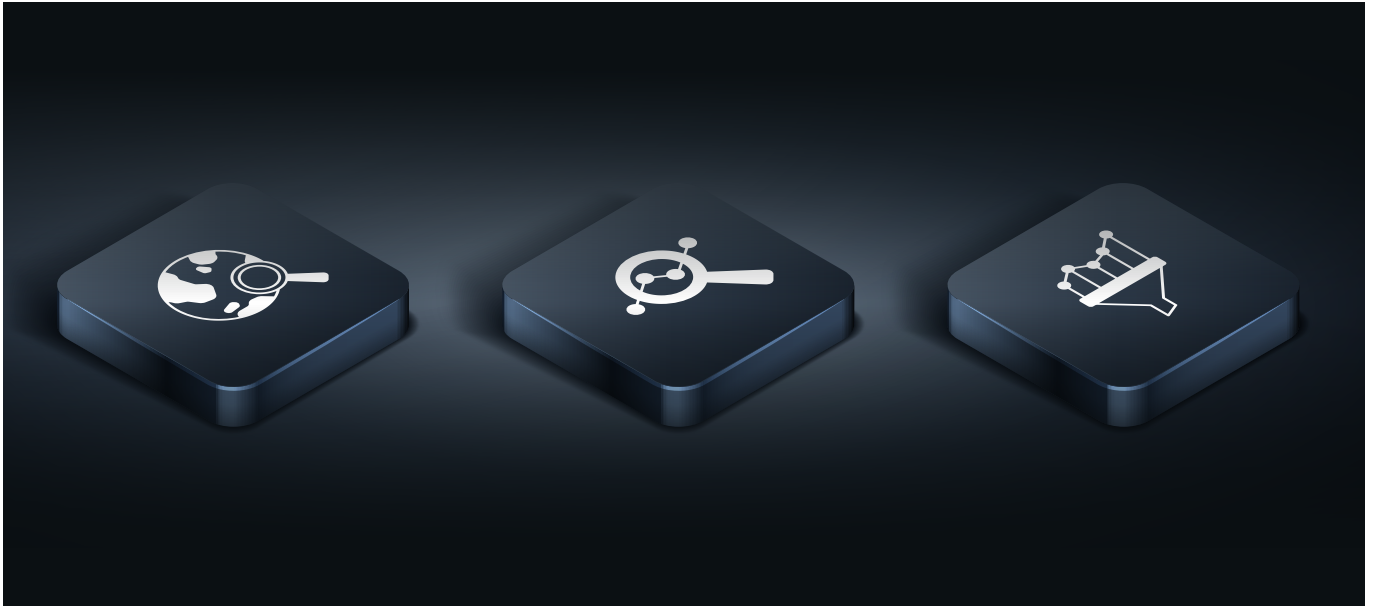
Ivory bracelets inside an item of luggage



Elephant tusks concealed inside a container

About the author

Professor Zhiqiang Chen is a researcher working on radiation imaging at Tsinghua University (Beijing), while also serving as the Chairman and President of NUCTECH. With the aim of bringing technology to life, he has steered the NUCTECH team towards rolling out cutting-edge inspection technology in various fields, including Customs controls and airport security. Under his leadership, NUCTECH has evolved from a small company into a global business with over 50,000 scanners and solutions deployed in more than 170 countries.



High-performance analytical tools to revolutionize Customs control

By M. Kuassivi, DG of JLS Africa

There are many suppliers of analytical tools that Customs can call on to enhance its risk assessment capabilities. Some propose to use selectivity models and specialized databases to analyse the transactions that Customs has to ensure are compliant.

It is advisable, however, to carry out a thorough evaluation of the tools on offer, in order to be sure that the technology performs well. Below, we will describe the model that we used to evaluate the services of a supplier, stressing how important data on companies is for the purpose of thorough profiling.

Data

JLS Africa SAS is a company incorporated under Togolese law that specializes in issuing and managing the Bordereau Electronique de Suivi de Cargaison (BESC) (Electronic Cargo Tracking Note – ECTN), required by some African countries in connection with imports or maritime transit, which accompanies the Customs declaration.

We provide very specific technological services to track cargoes from shipment through to the country of destination. Our system supplements the Customs targeting system, allows Customs

to carry out sophisticated risk management, guarantees the security of the international supply chain, gives information about consignors and illicit flows and provides reliable and secure statistics for international trade.

In 2020, we were approached by a company to develop a solution that could perform risk assessment by using digital shipment inspection technology before cargoes arrive, based on information provided in the BESC.

Although we had the infrastructure and technical expertise to provide this service, we still needed three key elements:

- access to comprehensive data in real time on companies, individual goods, routes and vessels;
- algorithms that could perform multidimensional modelling; and
- technology capable of using the existing data flows in analysis processes.

In order to evaluate a supplier's analytical tools, we provided 30,000 former transactions and

asked the supplier to send us results in real time, based on their algorithm.

The data provided on each transaction were:

- the bill of lading number
- the name and address of the consignor
- the name and address of the freight forwarder
- the name and address of the consignee
- the name and address of the notified party
- the name of the carrier
- the name of the vessel
- the date of departure
- the loading and unloading ports
- the final place of delivery
- the Incoterms
- the type of content
- a description of the goods, HS code, volume, weight, origin
- the FOB value
- production lines
- web presence
- contact details
- Customs fraud record
- bankruptcies
- civil litigation
- administrative penalties
- breaches of security
- criminal records
- criminal penalties
- links with criminal groups
- connections with terrorist organizations
- connections with entities involved in fraud

Results

The supplier verified each transaction. When a transaction was identified as high risk, detailed information supporting the analysis was sent. Below are two of the examples of fraud detected:

- in a cargo of agricultural equipment, a 2,886 kg discrepancy in weight was detected and verified;
- a suspect shipment of green tea from China was subjected to a laboratory test, which established a level of pesticides higher than the acceptable standards for the goods.

Profiling of companies

The ability to profile companies and all the parties involved in a shipment accurately and at all levels, without relying on Customs data histories, is highly impressive. The analytical tools tested allow millions of companies, their connections and their conduct to be verified with precision. The information generated includes:

- ownership structures
- staff and employees
- certifications
- world trade history
- regional trade history
- local trade history

Trade in high-risk goods

This is even more impressive in the light of the potential implications for strengthening, enhancing and expanding authorized economic operator (AEO) programmes. The system could provide the opportunity not only for detailed verification of companies at the time of certification, in order to identify the risks of non-compliance with the AEO standards, but also for regular monitoring of the company's compliance after certification has been obtained.

All the information, including the profiles and the results of verification in connection with the company's application, would be provided in a centralized manner to all the stakeholders concerned and approved as part of the decision-making and verification process. This kind of system could also operate at regional level. It has many advantages. It gives Customs administrations and accreditation bodies a comprehensive, precise picture of the company applying for AEO status (and not only what is stated on the application form). It also offers all companies, irrespective of their size or location, the possibility of being considered for AEO status (in particular small and medium-sized enterprises), while reducing the time and cost involved in approving applications. Lastly and most importantly, as the accreditation body is alerted to any change in the company's risk profile in real time, the credibility of the certification can be maintained over time.

More information

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A large white and blue robotic inspection unit, labeled "MR6000DE", is positioned inside a large industrial bay with its doors open. The unit has a yellow radiation warning symbol and a red "X" on its side. The background shows a clear sky and distant mountains.

MR6000DE

A smaller white and blue robotic inspection unit, labeled "MR6000SV", is shown in a similar industrial setting. It also features a yellow radiation warning symbol and a red "X".

MR6000SV

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Protecting importers' information while improving Customs controls

By Jeff Rittener, Chief Trade Officer, Intel Corporation

Customs administrations and trade operators both want to reduce the complexity of compiling and exchanging data. However, there can be tension between the Customs administration's need to access data and the company's need to protect confidential information. This article presents two solutions for analysing and reporting data which ensure strong data protection by allowing access to the data without the need to move them around.

In today's digital economy, success is measured by how well data-based insights are generated at the right time. Innovations such as optical character recognition (OCR)¹ to read container numbers, radio-frequency identification (RFID) and QR codes to identify and trace shipments, and the digitization of trade documents have improved the reliability and efficiency of international trade. At the same time, the global trade system – characterized by trade agreements written before the emergence of digital commerce, transactions accompanied by large amounts of paperwork and trade financing that still depends on traditional banking methods – continues to fall short of fully embracing cutting-edge technologies that could make trade more efficient, more inclusive and less costly.

The good news is that we are on the brink of change. Different technologies, when combined, could fundamentally improve the allocation of resources and the adoption, operation and execution of what we call "intelligent international trade". For us as manufacturers, intelligent means based on streamlined and secured processes and solutions for collecting and communicating information.

SFML: developing analytical algorithms without exchanging data

As an example, let us consider the case of secure federated machine learning (SFML),² a machine-learning technique that trains an algorithm across multiple decentralized servers holding local data samples, without exchanging them.

¹ Cogent Labs, <https://www.intel.com/content/www/us/en/internet-of-things/ai-in-production/partners/cogent-labs.html>

² Federated Learning through Revolutionary Technology, <https://www.intel.com/content/www/us/en/financial-services-it/federated-learning-solution.html>

The technology allows us to address a significant challenge: how to harvest data which are stored across numerous source systems, within various platforms and data repositories, and in many formats, resulting in data silos. While an optimal solution would be to consolidate and house these oceans of data within a single location, doing so would be impractical and demand the consumption of vast amounts of resources.

SFML brings processing mechanisms to the data source for training and inferencing as opposed to requiring that agencies migrate data to a single location. Such data federation ensures the privacy and security of both data and machine-learning models. SFML ensures that (i) the data remain in place and the processing mechanism moves to the data, and (ii) both the processing mechanism and the data are protected at the hardware level.

Such assurances are especially important when the required data relate to the most intimate information or the manufacturing bill of materials defining the components that are required in order to produce a product.

Numerous studies have illustrated the effectiveness of SFML, highlighting advantages such as fast deployment and testing of analytical models, low latency and low power consumption compared to other analytical tools. SFML employs a combination of privacy-by-design³ techniques to ensure data de-identification (the process used to prevent someone's personal identity from being revealed), data protection and insights security. It ensures that the business interest of those providing data for algorithmic expression(s) is protected through security techniques ingrained at the lowest level of hardware – silicon!⁴

³ The term "privacy by design" means data protection through technology design.

⁴ Silicon is the basis of all current computer processors.

Customs-hub

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Software Guard Extensions (SGX): exchanging Customs data with accuracy and privacy

The exchange of data between Customs and their trading partners can be a complex and cumbersome process for both parties. For example, some Customs administrations require that companies located in bonded zones provide access to detailed manufacturing data, including confidential bills of materials (BoMs), in order to perform tax calculations. This process is generally complex and can be error-prone, as it involves on-site visits and manual reviews of reports. As a result, Customs might more easily miss duty fees that they are entitled to collect.

Conversely, companies that interact with Customs administrations for the import/export of materials spend hours creating reports and preparing for manual audits, or ensuring that the components they import for assembly into finished goods receive all available duty exemptions.

Both parties want to reduce the complexity of compiling and exchanging data. However, tensions can exist over the Customs administration's requirement to provide fully transparent and auditable records and the company's obligation to protect confidential information.

Commonly available electronic reporting solutions typically fall short of meeting these challenges because they often fail to implement sufficient data security measures. Potential outcomes include possibly exposing companies to security threats and intellectual property right (IPR) violations. Additionally, many solutions leave gaps in required functionality that can add to manual effort and result in additional hours being spent on reporting.

To ensure the security of data reporting, Intel has developed a solution called Software Guard Extensions⁵ which are a set of instructions that create trusted zones in different data sources, increasing the security of application code and data, giving them more protection from disclosure or modification. When built in a blockchain-based environment and in federated learning solutions, they help improve data accuracy, transparency and security.

Kim Huat Ooi, Vice President of Manufacturing and Operations and General Manager of Intel Products Vietnam explained that, "such solutions have the potential to eliminate up to 5,000 person-hours previously spent by the operations team preparing manual reports and audits." They also assist private-sector actors in meeting compliance requirements, and avoiding costs and penalties incurred as a result of inadvertent errors. This is especially important for Authorized Economic Operators (AEOs) who risk losing their authorized status.

Vietnam Customs use case

In Vietnam, material used for export production can be imported duty-free. Material import and consumption are controlled by the General Department of Vietnam Customs (GDVC) to ensure that there is no duty-free material leakage. To validate duty-free material consumption, the GDVC requires all companies to submit manufacturing BoMs.

Recently, GDVC⁶ explored the feasibility of a data reporting solution, enabling its access to detailed manufacturing data from companies, including confidential manufacturing BoMs, while responding to their confidentiality concerns.

Intel was well-positioned to develop and help drive the discovery phase of GDVC's exploration because Intel ships components to Vietnam, where the components are assembled into goods that are later exported. As a result, the company is both a technology provider for the solution and a beneficiary of its adoption by the GDVC.

The objective of the solution to be developed was to help:

1. Automate processes to reduce errors and decrease lost revenue from data inaccuracies;
2. Use near-real-time reporting to prevent the misuse of tax breaks and leaking of raw materials into local markets; and
3. Protect confidential information for companies operating in Vietnam.

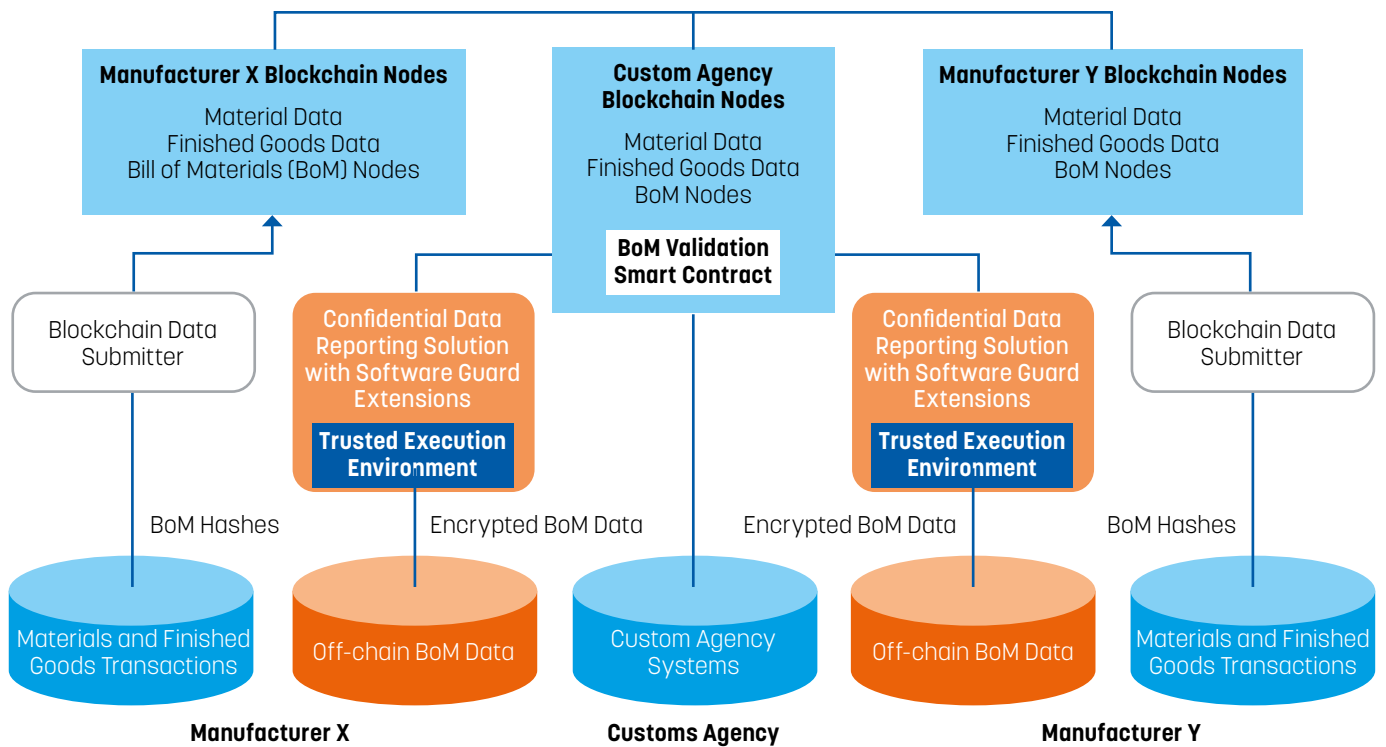
The following components were considered during the project:

Both parties want to reduce the complexity of compiling and exchanging data. However, tensions can exist over the Customs administration's requirement to provide fully transparent and auditable records and the company's obligation to protect confidential information.

⁵ Relentless Attention to Security Innovation, <https://www.intel.com/content/www/us/en/developer/tools/software-guard-extensions/overview.html>

⁶ General Department of Vietnam Customs - Intel - SAP cooperate to experiment on information exchange, <https://vietreader.com/business/finance/22410-general-department-of-vietnam-customs-intel-sap-cooperate-to-experiment-on-information-exchange.html>

Figure 1 - Blockchain Network with Confidential Data Reporting Solution



In this schematic, confidential data reporting solution validation requests performed off-chain on servers built with scalable processors and Software Guard Extensions. BoM data is decrypted in the enclave only.

- An integrated platform to develop applications and orchestrate cross-systems integrations to provide analytical capabilities;
- Open-source Hyperledger Fabric for the blockchain data path;
- A confidential data reporting solution that consists of:
 - Hyperledger Avalon to offload blockchain processing from the main blockchain to dedicated computing resources;
 - Software Guard Extensions to encrypt data in motion with a view to protecting the confidentiality and integrity of sensitive IPRs;
 - Scalable processors to help ensure high levels of performance and support for Software Guard Extensions in what is known as a "trusted execution environment" (TEE).

As Figure 1 illustrates, confidential BoM data, including material components and finished goods transactions, is encrypted and stored in an off-chain database, shown in red. Only hashes of the BoM data are processed on the Customs

administration's blockchain. When a transaction control request requires BoM data, the request is forwarded to the off-chain reporting solution running on servers built with scalable processors and Software Guard Extensions. The BoM data are then decrypted, and hashes of the BoM data are matched to the manufacturer blockchain data that include material data and finished goods data.

In this solution, Secure federated machine learning technology helps to ensure data security and privacy protection and Software Guard Extensions is used for building trustworthy hardware environments. For example, through compute processor instructions, Software Guard Extensions creates trusted zones in different data sources for data access (which is the goal of SFML). This helps us enhance the training effect of AI models with multiple sources of disparately locate data by further improving data security.

The solution demonstrated that Intel was able to maintain confidentiality for the list of components in its manufacturing BOMs. Meanwhile, the GDVC and Intel are currently partnering to review and propose new business processes to simplify and accelerate duty-free reporting.

Automating processes while protecting confidential information

The above-mentioned confidential data reporting solution helps resolve a number of challenges for both Customs agencies and the private businesses with which they interact.

For Customs agencies, this same type of solution can help streamline reporting through automation; increase the overall efficiency of processes; improve the transparency, auditability, security and accuracy of the data the agencies collect; enhance fraud-detection capabilities; and improve the ability of agencies to collect tariff revenues that often go unclaimed due to reporting errors.

For captains of industry, the solution simplifies the accurate sharing of required information while helping to protect sensitive data. These private-sector actors can also more easily assess compliance gaps with a view to remediating errors quickly. This is of particular importance to Authorized Economic Operators. In Vietnam, for example, the penalties for not meeting AEO status are high: non-compliance results in significant financial penalties and delays, increasing Customs clearance times from nearly instantaneous to as long as two days. In addition, businesses can eliminate thousands of costly person-hours spent preparing reports and avoiding costly penalties for inadvertent errors.

For both the agencies and trading partners, the solution speeds up the overall process by enabling instantaneous report filing. In addition, report data are reconciled automatically. The moment a report is submitted, any errors are detected and reported, which helps reduce discrepancies and the ensuing back-and-forth interaction.

Benefits of a confidential data reporting solution

Customs agency	Private business
Simplify processes	Reduce manual reporting hours
Enable instantaneous reporting	Enable instantaneous reporting
Increase accuracy/ reduce errors	Increase accuracy/ reduce errors
Improve transparency	Protect IPRs
Reduce lost tariff revenues	Reduce non-compliance fees

Building trusted technologies for all participants

Data related to import and export transactions can be securely reused by trade officials and relevant private sector actors to eliminate unnecessary duplication, delays and costs. Thus, ongoing collaboration between public-sector stakeholders and captains of industry in this area should go beyond the smart and secure trade lane (SSTL) pilot projects that have been launched.

In closing, technology described herein provides an enormous opportunity to address some of the world's biggest challenges and is an important catalyst for economic opportunity, especially as it relates to the facilitation of trade.

By empowering Customs to modernize their trade facilitation infrastructures with solutions and innovations previously thought beyond reach, we will continue to push the boundaries of possibility.

More information

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Free Trade Zone Management

Trusted Partner to Governments Globally

Facilitates electronic exchange of information between a Free Trade Zone operator and tenants, as well as with government authorities to streamline business processes and reduce costs

Key Highlights



One-stop service for registration and operations for FTZ tenants



Quick start-up with adaptable workflow and simplified configuration



Supports transformation and repackaging of goods to facilitate manufacturing activities and mixed-use free zones



One-stop portal for viewing and submission of Commercial Movement Declarations (CMD)



Allows fine-grained tracking of goods in inventory management

Key Benefits for Government



Improves FTZ competitiveness and attracts investments through improved security and efficiency



Integrates seamlessly with the Customs system for timely exchange of accurate information on bonded cargo



Streamlines FTZ business processes such as bonds registration and commercial movement declaration

Key Benefits for Trade Community



Easy to submit applications and fulfil FTZ requirements through a single portal



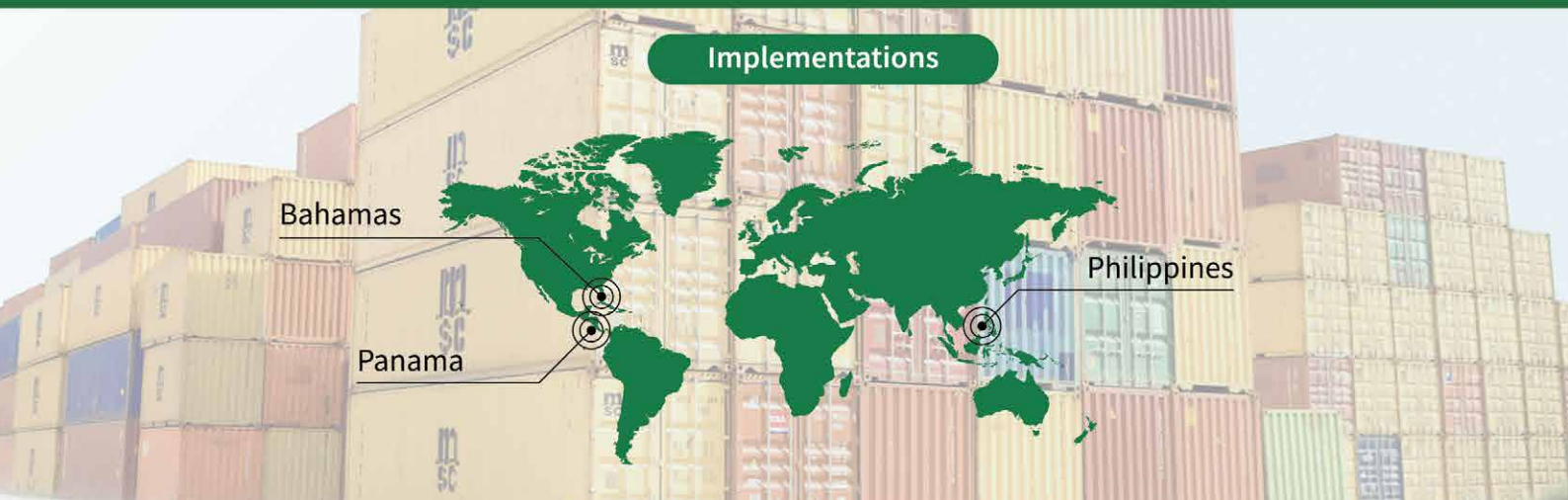
Efficient exchange of information with FTZ operator and various government entities

Implementations

Bahamas

Panama

Philippines



CONNECTING TECHNOLOGY *with* TRADE

Webb Fontaine's technology is now more important than ever.

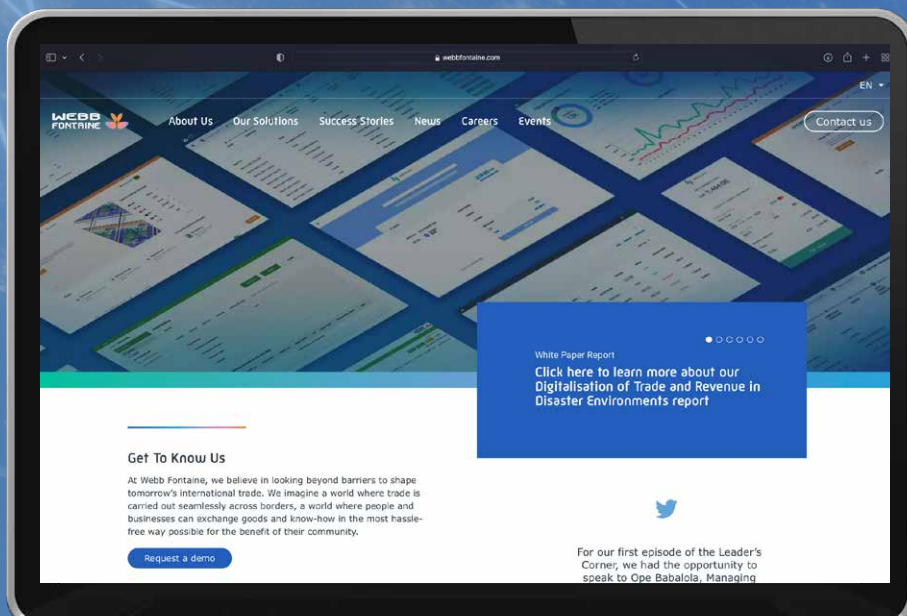
Powered by Artificial intelligence, our solutions optimise the entire spectrum of Trade.

We're building something big.

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