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WCO news



Going Digital



World Customs Organization

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Content

- 04 **Flash info**
- 08 **Dossier**
- 30 **Focus**
- 42 **Panorama**
- 54 **Point of view**
- 62 **Book review**
- 66 **Events**



DOSSIER: DIGITAL CUSTOMS

- 09 **The Secretary General** shares his thoughts on the importance of Digital Customs, the WCO's theme for 2016
- 12 **Korea, Malaysia, South Africa and the UK** talk about their experience
- 21 **eTIR**, the new digital TIR carnet
- 24 **AEO** and paperless procedures: a great opportunity for companies
- 27 **Securing** the digital supply chain

FOCUS: DATA

- 30 Start small, think big: **big data!**
- 34 Using open data to **combat transnational criminal networks**
- 38 Customs, **cultural goods and data**

POINT OF VIEW

- 54 Implementing the **WTO Trade Facilitation Agreement** will deliver huge dividends to the global economy
- 58 Addressing the **misuse of Customs valuation databases**
- 59 **Valuation database as a risk assessment tool**: Ecuador, India and Kenya Customs share their experience

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New book examines existing collaborative mechanisms aimed at protecting the environment in a more efficient way

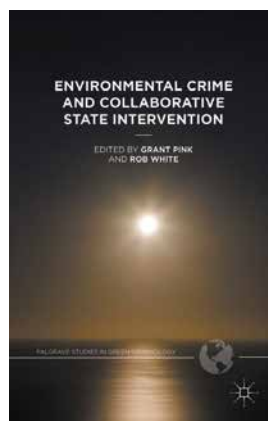
By Mariya Polner,
POLICY ADVISOR, WCO ENFORCEMENT
SUB-DIRECTORATE

The WCO is among the impressive range of contributors from policy, enforcement and academic circles who contributed to the 2015 volume of the Palgrave Studies in Green Criminology, titled 'Environmental Crime and Collaborative State Intervention.' The book sheds light on how collaborative networks form in the context of the fight against environmental crime, and what opportunities they offer for all stakeholders.

THROUGHOUT THE LAST decade, transnational environmental crimes, that comprise activities such as the illegal transportation and dumping of toxic waste, the illegal trade in endangered species of wild flora and fauna, illegal logging, and the illegal trade in ozone-depleting substances, to name a few, have attracted the attention of policy makers at the highest levels. These crimes have also resulted in the formation of different models of collaboration within and across governments with law enforcement agencies, non-governmental organizations (NGOs), academia, the private sector, consulting agencies, prosecutors and courts, and civil society.

The 2015 volume of the Palgrave Studies in Green Criminology, titled 'Environmental Crime and Collaborative State Intervention' and edited by Grant Pink from the University of New England (Australia) and Rob White from the University of Tasmania (Australia), offers a unique account of the different governance models adopted by these collaborative networks from the inception to the maturity stage. The book sheds light on the latest developments in the field of environmental collaboration, and presents the perspectives and experiences of major stakeholders, as well as lessons learnt.

From the very first pages, the role of collaboration in combating environmental crime is discussed, with an emphasis on both the theoretical underpinnings of collaboration through networks, and the definitions of transnational environmental crime. Stemming from the definition of environmental crime as a crossover



crime, given its transnational and multifaceted nature, the authors underline that the response of all stakeholders as a whole is critical in tackling it. The distinguishing among three major types of collaboration – horizontal, vertical and diagonal – provides a useful analytical framework when examining the different types of existing collaboration which are discussed in the book's different chapters.

Several chapters provide an up-to-day account of the networks built by national governments and international organizations, as well as their contribution to fighting environmental crime. Among them is the International Network for Environmental Compliance and Enforcement (INECE), one of the most prominent trans-governmental networks, considered a catalyst for practitioner and academic writing in this area. In its more than 25 years of existence, the INECE has grown from an informal bilateral mechanism to a global network that has influenced the establishment of more than 20 networks focused on building the capacity of civil servants in the area of environmental compliance and enforcement.

The strength of this volume lies in the variety of stakeholders that have contributed to it. The WCO, the Secretariat for the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) and INTERPOL provided detailed analyses of the way they addressed environmental crime, as well as on the networks they have built, such as the International Consortium on Combating Wildlife Crime (ICWC) – established by the WCO, the CITES Secretariat, INTERPOL, the United Nations Office on Drugs and Crime

(UNODC) and the World Bank, or the National Environmental Security Taskforce – established by INTERPOL to enhance collaboration among relevant stakeholders at the national level.

A special chapter is dedicated to the role of Customs authorities in combatting illegal wildlife crime. It provides an analysis of the limitations of Customs functions and of the different initiatives taken in order to tackle identified weaknesses, implying a high degree of collaboration, including the implementation of capacity building programmes, organizing regional and global operations, forming new alliances with NGOs and other institutional partners, and developing secure electronic systems for information exchange, such as the WCO's ENVIRONET.

One interesting finding which was mentioned in several chapters is the increasing role of NGOs in the sphere of environmental protection, since they have proven to be catalysts for change due to their flexible structure, strong voice and 'feet on the ground'. In many instances, NGOs played the role of incubators and stimulators of wider governmental action on environmental crime.

The prosecutor's perspective on the collaborative relationship with the courts, based on the United Kingdom Environment Agency's (EA) experience, is also interesting not only because it provides the latest casework in this area, but also because it contains lessons learnt on the role of the EA in the regulatory sphere.

A chapter on port-to-port collaboration would be of particular interest to enforcement professionals. Established in 2008 as an offspring of the INECE to tackle hazardous and electronic waste in the seaport environment, the Seaport Environmental Security Network (SESN) has proven

successful in promoting cooperation to prevent, detect and disrupt the movement of illegal hazardous and electronic waste through ports. Customs authorities in particular have been actively engaged in the Network because of their central role at seaports. The unique characteristic of the Network is its flexibility in terms of approaches to collaboration that vary from very informal to formally established mechanisms, and include national, regional and international dimensions.

In the Netherlands, the partnerships between the Human Environment and Transport Inspectorate (ILENT) – responsible for inspecting waste transport – and enforcement agencies – such as the Customs and Police services – have been formalized in order to enable the latter to exercise their power on behalf of the ILENT. While in Germany, another model prevails, based on the principle of semi-structural interagency collaboration along the infrastructure (rail, road, and inland waterways), both at the local and national level.

The last three chapters of this volume are dedicated to the role of research from a collaboration angle. Difficulties related to the quantification and understanding of the phenomenon of transnational environmental crimes and their impact, may lead to ineffective policies and a waste of resources to fight against this scourge. The complex nature of environmental crimes created a need to collaborate in order to produce a more holistic picture and contribute to research.

The book also addresses collaboration between researchers and practitioners. While this type of collaboration is emerging in a number of countries and is supported by different actors, the gap between academics and professionals is wide and collaboration between the two is not self-evident. Overall, coordinating research efforts is not an easy task. Therefore, case studies on the successful coordination of research projects that involve different partners contribute substantially to this volume.

The novelty of this book is in its unique format, discussing the strengths and weaknesses of different collaborative efforts to fight against environmental crimes from a governance perspective. The volume itself is a product of collaborative efforts as it required experts from different institutions – at least two – to work together on each chapter. While the constraints and challenges in building and maintaining networks to fight against environmental crime differ, one of the major lessons learnt is that collaboration and mutual trust are the key prerequisites for success.

Overall, this book can serve as a good reference, not only for environmental professionals wishing to learn more about the latest achievements in this field, but also for enforcement officers, development experts, and researchers working on governance issues in the environmental domain.

More information
www.palgrave.com



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The WCO launches I2C, a single contact centre for all enforcement-related matters



TO FACILITATE COMMUNICATION and coordination on Customs compliance and law enforcement-related matters between the WCO Secretariat, WCO Members, WCO Regional Intelligence Liaison Offices (RILOs) and WCO partner organizations, in December

2015 the WCO opened an 'Information and Intelligence Centre (I2C)' at its Headquarters in Brussels.

The Centre will act as an operational contact point for matters related to the Organization's different enforcement programmes: drugs; environment; intellectual property rights (IPR); health and safety; revenue; security; intelligence; and risk management.

The I2C will serve its different audiences as follows:

- Customs enforcement officers, by providing contacts within another administration or within another enforcement organization, intelligence, advice on specific issues, and help with the use of WCO enforcement tools and applications;
- RILO Network officers, by providing contacts in countries not affiliated to a RILO, as well as information and intelligence bulletins to disseminate to the National Contact Points of the respective administrations within their region;
- International organizations, by providing them with a single contact point at the WCO for all law enforcement matters, to facilitate the flow of information if they are seeking information from the WCO or wish to communicate information to its Members;
- WCO experts going on mission, by providing them with information on the countries they will be visiting.

It will also manage the Iris application, the WCO information tool that collects Customs-related news drawn from open source information, as well as from information received from Customs administrations and major Customs seizures reported to the WCO Customs Enforcement Network (CEN) database.

From the information collected through the Iris application, the Centre will publish regular intelligence bulletins which will be distributed to WCO Members via the RILO Network. It will also produce the WCO's annual Illicit Trade Report.

Last but not least, the Centre will facilitate and support all enforcement operations led by the WCO, as well as those organized by a partner organization in cooperation with the WCO.

More information

www.wcoomd.org

<https://iris.wcoomd.org>

I2C@wcoomd.org

New WCO guide

GOODS CLASSIFICATION AND origin determination of goods are closely interlinked. Typically, the requirements for determining origin are specified for individual products or product categories identified according to their respective Harmonized System (HS) code. Classification of goods is, therefore, of the utmost importance in establishing which Rules of Origin (RoO) apply to a good.

Moreover, in many cases, the RoO to be applied will refer to a change in tariff classification (CTC) at chapter, heading or subheading level, a criterion which requires correct classification of the final manufactured product and the input materials used in its production.

It is, therefore, logical that any update of a goods nomenclature should be accompanied by an update of the RoO. Ensuring consistency in the structure of the HS and RoO would prevent misapplication of RoO, facilitate origin determination, and allow Customs to enhance their risk assessment and management of origin, thereby helping to ensure accurate revenue collection.

Still, in some countries, as a consequence of HS amendments, different editions of the HS are used for the purposes of HS classification and origin determination respectively, making the determination of origin complicated and time-consuming. If the latest edition of the HS is applied for HS classification while an older edition is used for origin determination, goods would then have to be classified twice – using the latest edition of the HS for classification purposes, and the older edition for origin determination.

The issue is particularly relevant and critical for free trade agreements (FTAs). Following an HS amendment, a product may not fall within the range of subheadings indicated in an FTA text as being eligible for preferential tariff treatment,

for updating preferential rules of origin

or might fall under a new updated origin criterion. The process can also impact on existing CTC rules which means that HS-based CTC rules must also be updated.

According to a study conducted by the WCO Secretariat, on average, 73% of the RoO contained in the 20 largest FTAs are CTC-based rules. Moreover, in more than half of the FTAs, the proportion exceeds 95% (see "Study on the Use of CTC-based Rules in Preferential Rules of Origin", February 2015).

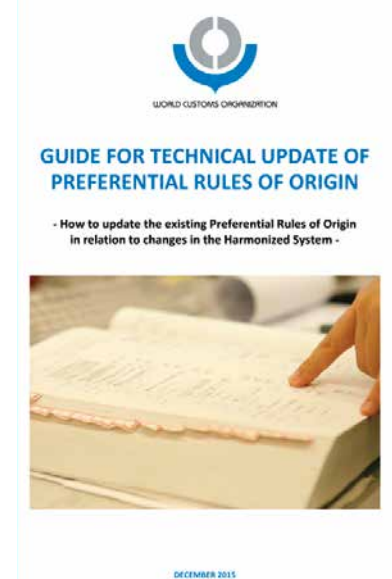
To assist WCO Members with the updating of their existing RoO in relation to changes in the HS, the WCO recently issued a 'Guide for the Technical Update of Preferential Rules of Origin.' In the framework of the revision of RoO laid out in an FTA, the Guide will enable time to

be saved, and avoid problems that usually arise when amending such rules.

Given that the technical update of RoO requires detailed information on the related HS amendment as well as knowledge of the HS, it is highly recommended that this exercise be carried out in administrations at the same time as their preparations for implementing the new edition of the HS, preferably with the assistance of officials responsible for the HS.

As Customs administrations around the world are preparing themselves for the implementation of the new edition of the HS in January 2017, the Guide could not have come at a better time.

More information
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Going Digital



Digital Customs, the opportunities of the Information Age

By Kunio Mikuriya,

SECRETARY GENERAL, WORLD CUSTOMS ORGANIZATION

THE WORLD IS turning digital, faster than we could have imagined, and public administrations are also moving online just as fast. Information and Communications Technology (ICT) is everywhere in today's Customs workplace. From the use of ICT in office automation, to the use of the Internet to publish and disseminate information, to the use of automated clearance systems to make declarations, perform risk management, undertake validation and processing, and eventually to issue approvals, ICT has transformed the way that Customs and governments operate.

During the last Sessions of the WCO Council, the Chairperson, Zouhair Chorfi, noted the rapid pace of change brought about through ICT, and highlighted the need to give WCO Members a global picture of all the possibilities offered by information technology (IT), notably by engaging in constant monitoring, and incorporating best practices and international developments in the area of IT. These are sentiments which I wholly support given that the 'information age' is now firmly part and parcel of our daily lives.

To reaffirm the importance of ICT for Customs administrations and in the work programme of the WCO, I chose the concept of 'Digital Customs' as the theme for the year ahead. Digital Customs means using digital systems to collect and safeguard Customs duties, to control the flow of goods, people, conveyances and money, and to secure cross-border trade from crime, including international terrorism which continues to rear its head across the globe.

The Digital Customs initiative aims to replace paper-based Customs procedures with electronic operations, thus creating

a more efficient and modern Customs environment in tune with global developments. By focusing on Digital Customs we, as a Customs community, are signalling our aspiration to further develop digital solutions and services, making life easier for the trading community, other border agencies and Customs officers, and to further adopt enabling technologies, such as the use of big data, telematics and the Cloud, to help increase operational performance, and to facilitate the reinvention of the way we do business.

WCO instruments, tools, and applications

The WCO undertook a mapping exercise to gain an appreciation of existing ICT-related tools, instruments and applications currently available in the WCO and their intended purpose, and grouped them into several broad themes, namely:

- Leadership – IT Guide for Executives; Single Window Compendium Volume 1;
- Legal basis – Revised Kyoto Convention; Model Bilateral Agreement on Mutual Administrative Assistance in Customs Matters; Guidelines for Developing a Mutual Recognition Arrangement/Agreement;
- Modernization and reform – Revised Kyoto Convention Guidelines on Application of Information and Communication Technology; Single Window Compendium, Volume 2; Recommendation on the Dematerialization of Supporting Documents; Recommendation on Electronic Transmission and Authentication of Customs and other Relevant Regulatory Information; etc.;
- Protection of society – Risk Management Compendium; WCO Cargo Targeting System; Customs Enforcement Network (CEN) suite; IRIS; IPM;



The current mapping of ICT-related tools and instruments goes hand-in-hand with ongoing work being undertaken by the WCO on the IT Guide for Executives. This has been developed as a short handbook which succinctly addresses key aspects of ICT development for senior-level Customs administration officials, as well as officials with direct responsibility for managing ICT projects.

- Communication – Recommendation on Use of WWW Sites by Customs Administrations; Use of Social Networking Sites by Customs;
- Interoperability and exchange/regional integration – Recommendation on the Use of Unique Consignment Reference; WCO Data Model, and the Recommendation related to its use; API PNR Guidelines, and the Recommendation on their use; Integrated Supply Chain Management Guidelines, etc.

These broad categories enable us to appreciate the diverse collection of instruments and tools, as well as the specific aspects that each tool supports. All of these themes are mutually supportive, and provide WCO Members with a snapshot of the types of resources currently available to support their ICT modernization and reform objectives.

IT Guide for Executives

The current mapping of ICT-related tools and instruments goes hand-in-hand with ongoing work being undertaken by the WCO on the IT Guide for Executives. This has been developed as a short handbook which succinctly addresses key aspects of ICT development for senior-level Customs administration officials, as well as officials with direct responsibility for managing ICT projects.

Digitalization offers many opportunities, but some countries may struggle to figure out how to prioritize IT projects based on their strategic goals and resource constraints, and how to adopt new ways of working. The IT Guide deals with strategic planning methodology and tools, highlights the need for IT projects to be based on business processes which take into account international standards and are optimized for effectiveness, efficiency and the level of risk, recalls the importance of change management and of detailed investigation and analysis of existing systems, and reviews ICT project development and implementation phases, and its challenges in terms of follow-up and supervision.

Last but not least, the IT Guide for Executives deals with ICT governance. Responsibilities and accountabilities need to be well established and formalized, and senior managers need to be able to establish an environment that is conducive to collaboration between internal staff and external stakeholders, and to ensure the successful implementation of ICT projects through informed decision-making.

Monitoring trends and practices

As I mentioned earlier, the technology landscape is changing rapidly, with a number of key trends emerging, such as cloud computing, mobile technologies, advanced analytics, and information management. Each of these technologies affects the role of Customs in different ways, and provide

numerous opportunities to drive connectivity among Customs administrations and with trade operators and other border agencies, thereby increasing productivity, which leads to greater economic growth.

Part of our work in the months to come will be to monitor and communicate best practices in topics as diverse as change management, human resource policies, and information management. I therefore invite all WCO Members to promote and share information on how they are adapting to the digital environment, how they are leveraging the potential of IT, and how they are implementing and using digital technologies to advance and achieve their objectives and respond to the expectations of traders, transport and logistic operators, and governments.

Conclusion

This edition of the magazine provides an overview of how some Customs administrations are embracing new digital technologies. It also gives a voice to some experts on specific issues, such as data management, private sector initiatives to promote dematerialization, and the integration of platforms across the supply chain. In fact, I am quite confident that our selection of articles on this vital but interesting subject will help to accelerate digitalization across the Customs community while further promoting connectivity, interoperability and collaboration among all trade stakeholders.



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Malaysia launches new information system

By the Royal Malaysian Customs Department

The Royal Malaysian Customs Department is working on a new information system, known as *uCustoms*, which will enable effective information-sharing, streamlined procedures, and genuine collaboration among all agencies involved in the clearance process.

CUSTOMS ADMINISTRATIONS ARE under increasing pressure to keep up with the dual challenge of generating revenue and facilitating trade, while protecting society and securing public safety. To do so, many Customs administrations have embarked on implementing complex, high-speed and networked computing systems in response to this dual challenge.

Each of these systems and procedures now need to be integrated into the global logistics network used by commercial operators. They also need to allow traders to submit, using a single electronic gateway, all import, export, and transit information required by regulatory agencies.

In many countries, it is not uncommon for more than 30 different government agencies to play a role in the processing and clearance of goods. It matters little if Customs declarations can be processed electronically while numerous paper-based documents are still required to be submitted.

With this in mind, the Royal Malaysian Customs Department (RMCD) is paving the way for more efficient services by introducing *uCustoms*, an upgraded version of its national Single Window (SW) based on effective information-sharing, streamlining of procedures, and genuine collaboration among all agencies.

The system is to be deployed in phases at all Customs offices nationwide. A simulation to test operations in a technical environment which resembles the production environment is scheduled to take place throughout 2016, and the full-fledged operating system is expected to be launched in 2017.

Anywhere, anytime

The *uCustoms* is in essence a set of sub-systems that facilitate trade by allowing traders to submit declarations for import, export and transit transactions, as well as manifests, and to process duty payments online via a secured and customer-friendly portal. The 'u' in *uCustoms* stands for 'ubiquitous,' which conveys the idea that the new system is accessible through all sorts of connected devices at all times.

The system will also be used by cross-border regulatory agencies, other government agencies, permit issuance agencies, and private sector entities involved in supply chain activities, to issue licences electronically.

uCustoms covers the eight main clusters of operations managed by Customs, namely registration and licensing, clearance, audit and enforcement, control and prevention, revenue and accounting, knowledge management, system management, and technology.

In addition to the system itself, the following four entities have also been established:

1. The National Targeting Centre, which will collect and share information, analyse data received from scanning machines and CCTVs, undertake risk assessment, and determine the National

Clearance Centre's immediate actions, among other things;

2. The National Clearance Centre, a 24/7 service which will handle self-declaration assessment and clearance for low-risk consignments, and process medium and high-risk declarations;
3. The Customs Examination Area, a complex for cargo clearance inspections at all entrances and exits managed by the Special Inter Agency Taskforce (SIAT);
4. The Customs Consultation Centre, which will serve as the helpdesk for *uCustoms*, and provide further support to the business community.

Impact of uCustoms

The development of *uCustoms* started with the implementation of a business process re-engineering, or BPR, which involved a fundamental change of thinking, and a radical re-design of processes and procedures to improve the efficiency and effectiveness of service delivery. The development is in line with international standards set by the WCO, thus necessitating input from many parties, such as industry and trade associations, as well as agents and other government agencies, in the creation of a centralized system for processing Customs declarations. The cooperation of financial institutions was also required to facilitate electronic payment of Customs duties, and other future trading solutions.

One of the critical success factors of the project implementation stage was to ensure that a proper and structural communication channel was established to keep stakeholders well informed about the development and implementation of the system. To create awareness about *uCustoms* and to enhance cooperation among all stakeholders, a national awareness campaign was deployed throughout the nation. The campaign was officially launched by the Director General of the RMCD, Dato' Sri Khazali bin Haji Ahmad, on 28 May 2014 in Kuala Lumpur. It was subsequently rolled

7 Elements of Change Management

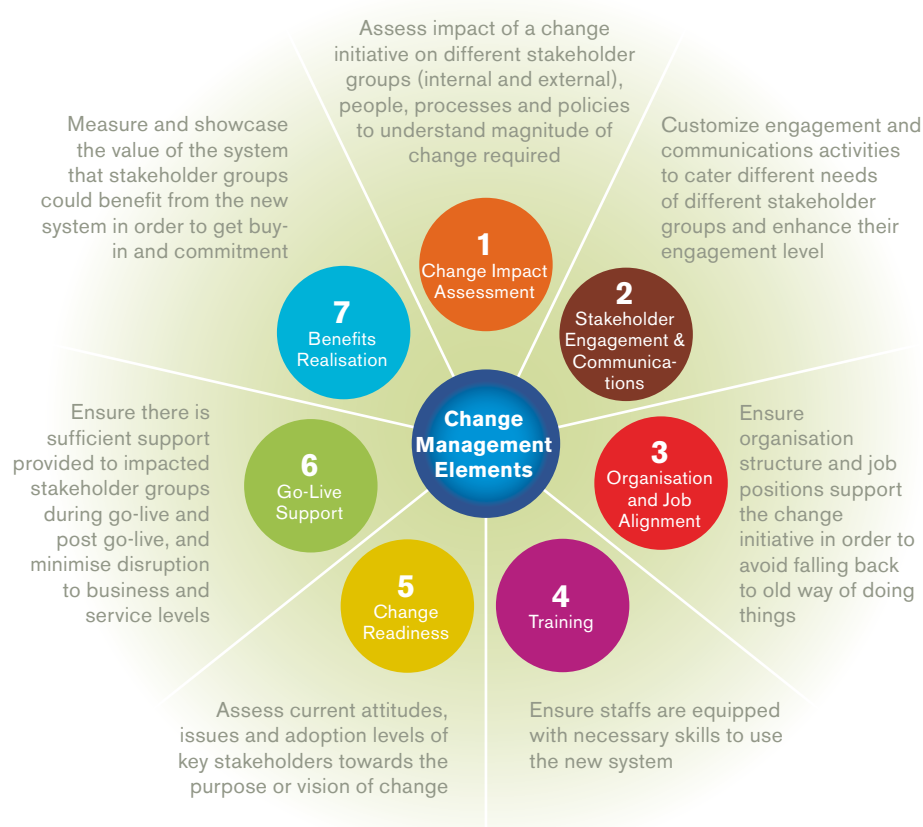


Fig. 1: Our love of technology is perhaps rivalled only by our fear of change. Without a clear change management plan, implementing such a project can be a chaotic and challenging journey.

out to all states across Malaysia before ending on 20 August 2014 at the Royal Malaysian Customs Academy (AKMAL) located in Melaka. In total, 2,066 participants attended the closing event.

Many parties had expressed concerns about the impact *uCustoms* might have on their activities and whether or not the new system would be of benefit to them, including its potential to address other challenges facing the RMCD. Such concerns were consistently raised by participants during the campaign, which prompted the *uCustoms* team to conduct a post-campaign survey to see whether the concerns had abated.

1,352 stakeholders from different departments and governmental entities, as well as private sector representatives, including the Airfreight Forwarders Association of Malaysia (AFAM), were consulted after attending presentations on the system's functionalities, the national SW concept, change management, and training initiatives. The results of the questionnaire showed that 77% of respondents found

uCustoms to be extremely useful, 82% were of the opinion that it would be very important to them, and 79% were likely to use the system!

WCO Data Model

The WCO Data Model is a collection of international standards on data and information required by government agencies in relation to the regulation of cross-border trade. This collection was developed by the WCO after careful examination of all relevant international instruments and guidelines, along with national and private sector practices, with the objective of achieving consensus on the manner in which data will be used in applying regulatory controls to global trade.

Changes to the Data Model can be proposed through the submission of a Data Maintenance Request (DMR) to the WCO's Data Model Project Team (DMPT). The DMRs are presented and discussed at plenary sessions of the DMPT, and are incorporated into the next release of the Data Model if supported by at least two WCO Members.

During the DMPT meeting held at the WCO from 9 to 13 March 2015, the RMCD delegation presented its new electronic system data requirements to the Team. 106 DMRs were identified by the *uCustoms* team. During the meeting, Malaysia presented eight DMRs, five of which were accepted, and will consequently be included in the WCO Data Model Package – in the form of Information Packages – to be used by all countries that have adopted the Data Model.

Way forward

uCustoms is expected to improve the Customs clearance process further by reducing clearance times, allowing ample room for pre-arrival risk management processes: Customs declarations will be 80% released based on the cargo risk rating carried out by the National Targeting Centre's Risk Management System. Moreover, emphasis will be given to post-clearance processes, such as post-clearance audits. Human resources need to be recalibrated as processes are reviewed, resulting in their diversion to the pre-arrival and post-arrival stages, as necessary.

The system will also provide a 100% online payment facility to speed up the goods release process. This facility is made possible via JOMPAY, Malaysia's national bill payment scheme established and operated under the auspices of Bank Negara Malaysia (the Central Bank of Malaysia), with the participation of major international and local banks operating in the country.

Tremendous efforts have been made to ensure the implementation of *uCustoms*, especially through the collaboration of more than 65 agencies in Malaysia, which will either be integrated into or be a direct user of *uCustoms* for the issuing of licences, permits and exemptions electronically.

With the new online system in place, traders may expect a significant reduction in their costs of doing business. The RMCD also hopes that *uCustoms* will enable the Department to support the economic development of Malaysia, and translate into a better trading environment.

More information

www.customs.gov.my

The United Kingdom's journey towards a modern declaration management service

By Ian Wilkins,

HEAD OF BUSINESS TRANSFORMATION AND CUSTOMS SERVICES, HER MAJESTY'S REVENUE AND CUSTOMS (HMRC)

AS FAR BACK as 1971, Her Majesty's Customs and Excise (HMC&E) – as it was then – was looking at how computers could be beneficial to the Customs process. The growth in air traffic and the need to clear goods quickly in the United Kingdom (UK) prompted the development of the London Airport Cargo Electronic Data Processing Scheme (LACES). It was originally an automated system for processing import consignment data, and was the world's first Customs computer service.

An in-house information technology (IT) development initiative along similar lines, but for the maritime environment, followed in the mid-1970s, and in the 1980s the Departmental Entry Processing system (DEPs) was delivered in partnership with the National Data Processing Service (NDPS). The latter introduced direct trader input, and a new kind of customer service.

Customs experts could help customers by logging on to their terminals and helping them to overcome validation failures by watching their data inputs in real time, and providing advice. In-house technical staff developed and managed the Customs processing programs while NDPS staff handled the airport and commercial services, as well as having responsibility for operating and managing the infrastructure and network. Both teams were housed together in a location near Heathrow Airport.

The maritime port community followed suit, building and developing port systems to interface with DEPs, which also influenced the development of Customs systems across the world. During its lifetime, many Customs authorities from across the globe visited the UK, wanting to see demonstrations of the system to inform their own digital developments.

The Customs Handling of Import and Export Freight (CHIEF) system was developed in the 1990s to replace DEPs, and to accommodate a European Union (EU) directive. It changed the way that UK Customs captured and processed Customs declarations.

CHIEF represented a complete transformation of the way HMC&E interacted with customers, and is still in use today. International trade is dependent on the fast flow of goods, and CHIEF was designed to process a declaration and then provide a response back to the customer within five seconds. The process involves:

- validating more than 50 data items;
- determining the liability of goods to Customs and excise duties and value-added tax (VAT), as well as prohibitions and restrictions;
- calculating the value of goods, and the revenue to be charged;
- risk-assessing the declarations made in respect of goods;
- automating the payment and collection of duty;
- notifying the customer that their goods have been released from Customs control.

As part of the development of CHIEF, a Management Support System (MSS) was created. It was the first departmental data store that enabled business users within the Department, rather than technicians, to undertake their own real-time data enquiries via a user-friendly reporting tool. For the first time, there was access to four years of Customs declaration data to help:

- inform the picture of risk;
- improve operational performance;
- improve the deployment of resources;
- aid policy development.

CHIEF is certainly a complex IT tool. It has many links to the systems of other government departments (OGDs), and

also to a range of Community System Providers (CSPs) – trade systems at ports and airports. In fact, CHIEF currently:

- accepts 99.8% of import and export entries electronically;
- processes more than 67 million import and export declarations a year;
- calculates – and reports to accounting systems – revenues totalling 34 billion British pounds a year;
- risk-assesses Customs declarations against other available information, selecting around 400 for physical examination and 15,000 for documentary examination a month;
- processes more than 350,000 OGD import and export licences a year;
- provides import and export data for the UK's Office for National Statistics.

However, the current CHIEF system has now been in operation for 23 years, so it is based on ageing technology. As such, it is becoming more complex and costly to maintain, and as EU legislative changes are on the horizon in 2016, there is a need for an update. Her Majesty's Revenue and Customs (HMRC), one of the successors to HMC&E, is implementing that change by bringing in the Customs Declaration Service (CDS), which will provide UK and international businesses with a more modern, effective and efficient digital service for managing Customs.

CHIEF enables international businesses to trade with the UK, contributing to the government's growth agenda for the economy. The CDS will deliver the same service, but will also offer additional capacity for the declaration system to grow, in line with the government's plans to increase the value and volume of international trade.

The CDS will also provide a platform through which the EU's Multi-Annual Strategic Plan (MASP) can be delivered; at present this includes 28 specific projects, at least 15 of which will have an impact upon



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HMRC's declaration processing capability. To amend the existing CHIEF system to accommodate the MASP changes would incur significant costs, so there is a sound financial case for the CDS.

Bringing the accounting for the 34 billion pounds of Customs duty, excise duty and import VAT onto the Enterprise Tax Management Platform is in line with HMRC's IT and financial system strategies. Moreover, the CDS will fit in with HMRC's compliance strategy and the UK Border Force's operational strategy by building an integrated risk engine for international trade and taxation. This should enable better targeting of interventions as goods cross the UK border, and improve the strike rate.

HMRC and the CDS are in a primary position at the border to support a collaborative approach with other departments and customers. Digital technology can help to build connectivity between departments, agencies and industry, thereby improving interaction with OGDs, and facilitating the planned delivery of the UK's 'One Government at the Border' vision.

The ultimate goal is to update CHIEF to a modern declaration management

service that fits with the international trade environment of the 21st century. The government's ambition is to grow the UK economy by attracting more inward investment, entrepreneurs and innovators, and to increase UK exports significantly. The CDS will help to achieve the government's ambition by reducing the cost and administrative burden of doing business in the UK, delivering an efficient, digital solution for declaration management.

To get there, HMRC is setting up 'discovery teams,' made up of representatives from the Department's Chief Digital and Information Officer's team, as well as testers, businesses, and suppliers. The discovery teams will work in two-week blocks, delivering a section of the project each time. User stories, collaboratively developed with a wide number of Customs' trade partners, will also form the basis of the development.

The delivery plan for the CDS though is an ambitious one. HMRC aims to have a live service available to test in 2017.

More information
www.hmrc.gov.uk

To develop its new Customs Declaration Service, HMRC is setting up 'discovery teams,' made up of representatives from the Department's Chief Digital and Information Officer's team, as well as testers, businesses, and suppliers.

UNI-PASS: Korea's Customs modernization tool

By Hoon-Goo Cho,

DIRECTOR GENERAL OF THE INFORMATION AND
INTERNATIONAL AFFAIRS BUREAU,

and Sung-Hoon Nam,

DEPUTY DIRECTOR OF THE INFORMATION PLANNING
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THE ENVIRONMENT SURROUNDING Customs administrations is changing rapidly. The conclusion by the World Trade Organization (WTO) of its Trade Facilitation Agreement in December 2013 demands that governments make further efforts to simplify trade procedures and ensure more transparency in trade regulations. This is further strengthened by the WCO's decision to dedicate 2016 to the promotion of 'Digital Customs' which encourages Customs to go down the road of modernization.

The Korean economy has developed at a rapid pace since the 1970s. For instance, its trade volume, which stood at a meager 2.8 billion US dollars (USD) at the time, has increased 316 times to reach 885.8 billion USD in 2015, and the number of Koreans travelling abroad has risen 117 times from 460 thousand to 53.97 million. Confronted with this reality, the Korea Customs Service (KCS) decided to develop an electronic Customs clearance system called UNI-PASS, which computerizes Customs procedures and provides for the automation of the clearance process, as a solution to overcome the increase in trade volume and travellers, given the limited resources available.

This was not done overnight, but gradually, through numerous trials and errors. Today's system is, therefore, the result of years of experience, and of the high level know-how that the Customs administration has accumulated over the

years. It enables the KCS to electronically process 430 million declarations and 50 million travellers per year. UNI-PASS is composed of 77 modules and has five subordinate systems: a Single Window (SW) system; a clearance management system; a cargo management system; an information management system; and an administration system.

Main features of UNI-PASS

One-stop service through the Single Window

The system provides a one-stop service for all Customs clearance procedures.

It integrates 39 government agencies, enabling the sharing of information between regulatory agencies, Customs and other stakeholders (such as private organization mandated by the government to handle requirement verification tasks); not just for regulatory permits, but also for statistics and information used for data analysis

and decision-making purposes. In addition, it connects 430 thousand entities, such as trading companies, Customs brokers, shipping companies, airlines, delivery companies, and warehouses.

Reduction of the clearance time through the Clearance Management System

The system provides a paperless working environment for all Customs clearance procedures. Export clearances that used to take more than one day now take 1.5 minutes, and the time taken to process import clearances has been reduced from more than two days to 1.5 hours. It may be mentioned that the system collects one third of Korea's national tax revenue.

Real-time cargo tracking management through the Cargo Management System

The system collects Bills of Lading from shipping companies, airlines and forwarders, and assigns a cargo tracking number to each consignment. The Cargo Management System is connected to delivery companies, warehouses and other private entities moving goods. It allows Customs officers and traders to access information on the process, as well as the status of the cargo at each stage, stating the time, the Customs officer in charge and the location of the cargo, including access to the manifest, the Customs declaration, and other documents required during the clearance procedure. Moreover, the time it takes to deliver or clear goods is also measured in order to avoid logistics issues, such as bottlenecks.

Effective Customs clearance of travellers' items through APIS

The Advance Passenger Information System (APIS) uses various data, such as passenger lists, reservation data and the entry/exit history, to analyse risks prior to the arrival of travellers so that high-risk travellers may be selected and controlled, while ordinary travellers can swiftly clear their goods or personal items. Fifty million travellers are screened every year through APIS in order to prevent any harmful goods, such as narcotics, guns and explosives, from entering or exiting the country.

Risk management through the IRM-PASS

The Integrated Risk Management system (IRM-PASS) analyses not only Customs data, but also data provided by other entities for analytical/statistical purposes or to create risk profiles and targeting criteria not only for goods, but on companies and travellers. The system creates company profiles and travellers' profiles in order to control their behaviour and analyse their risk patterns. This information is made available to Customs officers during various stages of the audit and inspection procedures to aid them in their decision-making.

International cooperation to promote 'Digital Customs'

The KCS has made great strides to share its experience and know-how on electronic clearance systems globally. So far, it has been involved in the establishment of electronic Customs systems in 10 countries, including Ecuador, Tanzania and Uzbekistan. The KCS also assists foreign administrations in their modernization projects. So far, it has delivered assistance to 14 nations, including Cameroon, Tanzania and Uzbekistan.

To assist in the establishment of an electronic Customs system, a clear understanding of the procedures, systems and practices in place in the recipient country is key. Administrations requesting assistance must provide a specific and detailed description of their environment, and of the project they want to develop. They must also demonstrate a strong will, and high management capacities.

Experts from both countries must, of course, find common ground. Contacts will, at first, be made through

conversations over the telephone, or through the exchange (sending) of letters and documentation. A delegation will later be dispatched.

The UNI-PASS system cannot be duplicated without the authorization of the office of the KCS Commissioner which holds the patent and trade mark rights of the system. It can be deployed partially, that is by implementing only selected modules and connecting them with the existing legacy systems of the Customs authority, or totally, by replacing the existing legacy system entirely.

When you purchase or receive operating system or application software, it is usually in the form of a compiled object code, without the inclusion of the source code. UNI-PASS is, in contrast, provided together with the source codes, for a bundled fee, to countries which have the capacity required to use the source codes to customize or upgrade the system when needed.

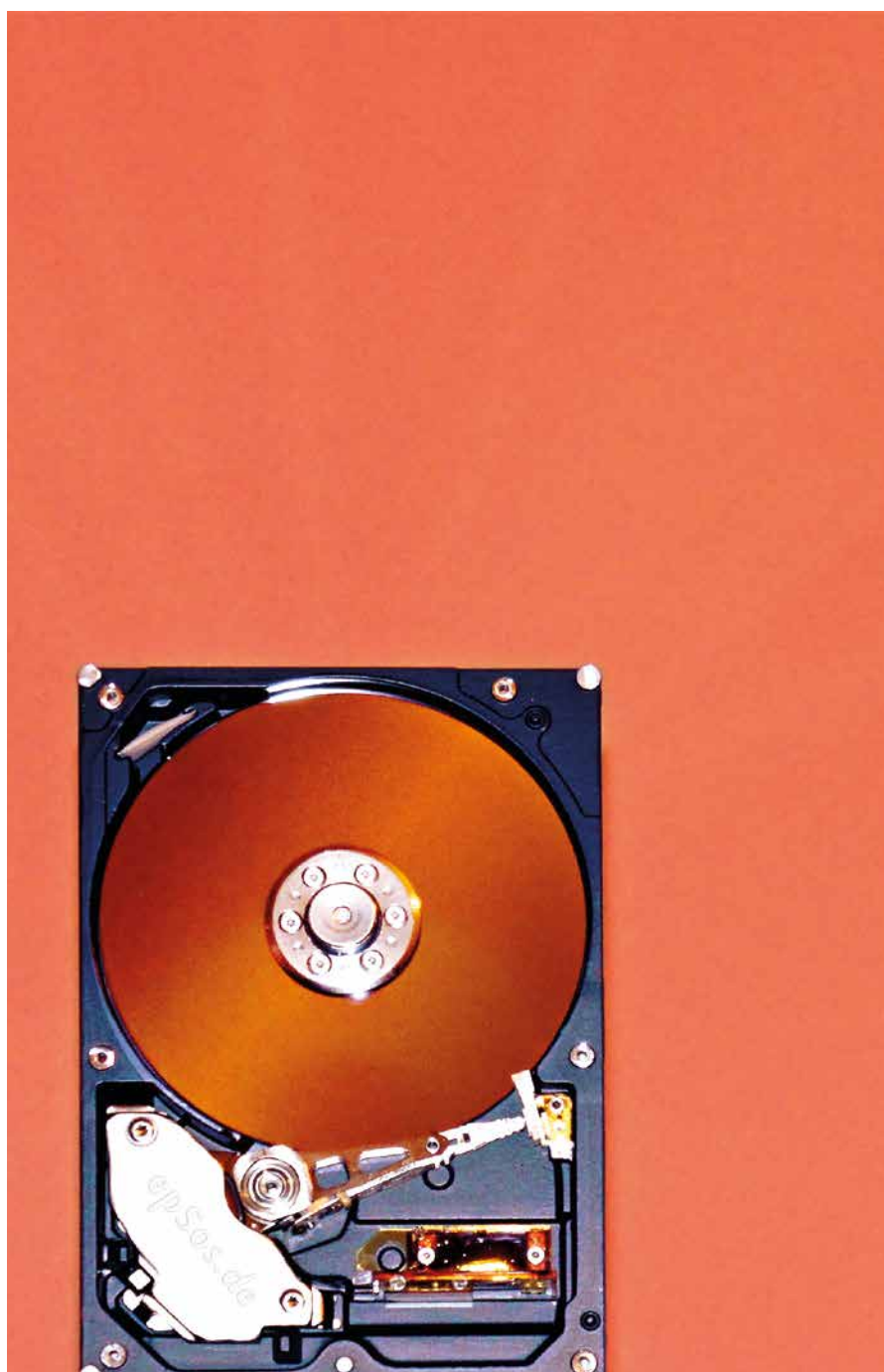
When it comes to connecting the electronic system to other agencies' systems, it all depends on whether those agencies have implemented a paperless working environment or not. As for a government agency with an existing operations system, it will have to be connected through the UNI-PASS SW module. When a user lodges an application for 'requirement verification' to the SW, it will be automatically sent to the agency for trade-related processing. The result will be returned to the applicant and the UNI-PASS system through the SW facility respectively.

The SW is also equipped with an Authorized Service Program functionality, a platform enabling government authorities without their own system to logon to the SW, and electronically process applications, i.e. receive, review and approve requests, and issue and send documents.

Keen to continue sharing the know-how and experience it has accumulated over the years, the KCS invites all Customs administrations wishing to forge cooperation with them to get in contact with the UNI-PASS team.

More Information

unipass@customs.go.kr



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SARS' experience regarding the impact of digitalization on human resources

By the Business Systems Division, South African Revenue Service

Context for change

DRIVEN BY THE need to ensure it would be able to address the increased demands of the global trading landscape, with regard to both financial and social security, accession to international instruments – specifically those developed by the WCO, pressures from the trade to improve service levels, and the burgeoning demand to engage cross-border regional integration and international exchange of data, the South African Revenue Service (SARS) realized the need to revitalize its Customs functions.

SARS' inward aspirations required it to evolve from being a 'gate keeper' to becoming a fully-fledged, automated risk management organization. However, several considerations needed to be addressed. These included:

- addressing immediate burning issues such as the reliance on 'paper' in the

processes, manual release and non-value-adding Customs activities, as well as the general inability to view a transaction end-to-end;

- identifying areas of policy that could be simplified to eliminate complexity and optimize supporting processes;
- improving service and quality;
- converting manual processes into digital ones;
- developing a culture within the organization that can innovate, learn, continuously improve, and act with integrity and professionalism.

Preparation

An ongoing review of its current 50 year-old legislative framework and the aforementioned context for change, created the platform for SARS' Customs division to review its operations and engagement with stakeholders. As a result of the review, a radical overhaul of legacy systems towards a streamlined single integrated Customs information technology (IT) platform was considered.

The acquisition of a new Customs solution in 2009 enabled SARS to explore, design and build a modern Customs automated solution based on the latest technology. At the same time, SARS had already attained much success with its suite of new technology services available to income taxpayers. It would, therefore, make fundamental investment sense to consider the possibility of how some of these services could augment future Customs capabilities and service offerings to the industry.

Design principles

The philosophy going forward would be to provide Customs' users with a 'step change' in operational experience and performance. The emphasis, for the Customs officer, would mean a functional shift from non-value adding mundane activities to 'risk-driven' value-added processing and related services within a two-step capture, and authorize digitized quality processes.

For this to occur, it would require an innovative approach by SARS to increase external trader participation and compliance in

the submission of electronic transaction data. SARS was able to leverage off a well-established and committed trade community together with its equally adept plethora of information and communications technology (ICT) service providers. SARS' engagement with its stakeholders adopted the slogan 'Co-Creation' – which simply implied that both parties engaged on solution designs, development time-frames, operational impact, and implementation readiness.

From an internal SARS perspective, there lay enormous opportunity to re-design processes based on modern technology that would allow future scalability, agility and flexibility to meet the future demands of South Africa in international trade. The final outcome sought to place internal staff, as well as external trade, in a position of increased control over their respective activities, and offer greater predictability as to the outcome of a Customs transaction. Moreover, SARS' stakeholder

engagement encapsulated cross-border processing which required the organization to approach and engage its counterparts within the region.

It was also obvious that the scale of change envisaged required an appropriate communication strategy, change integration plan, and post implementation support structure. In short, it implied changes to standard operating procedures (SOPs) and legislative changes, but most important of all, a completely new operating environment that would allow Customs officers to execute their tasks within a familiar user interface.

Digitalization on a large scale

Between late 2009 and mid-2013, SARS introduced a vast amount of digital innovation through solutions that would change forever the Customs and trade process. The benefits and improvements were in most instances immediate, as they were tangible.

From an internal SARS perspective, there lay enormous opportunity to re-design processes based on modern technology that would allow future scalability, agility and flexibility to meet the future demands of South Africa in international trade. The final outcome sought to place internal staff, as well as external trade, in a position of increased control over their respective activities, and offer greater predictability as to the outcome of a Customs transaction.

The following describes some of the key deliverables:

Integrated clearance declaration electronic message, and Customs procedure codes	SARS rationalized and normalized the data of three disparate declaration systems. All data was mapped to version 3.2 of the WCO Data Model, allowing for improved database management as well as trade and economic reporting.
Automated Cargo Management (ACM)	<ul style="list-style-type: none"> SARS re-designed and further developed its older Cargo Reporting requirements (MAS) on a new technology platform, known as Automated Cargo Management (ACM). Emphasis on reporting of road manifests was of particular importance due to the envisaged 'expedited' benefits of road hauled cargo at land borders.
Automated Customs workflow	<ul style="list-style-type: none"> A dynamic secure workflow system – known as Service Manager – which manages not only operational connectivity between the Customs hub and the port of entry, but more importantly administers job profiles for each and every Customs officer. The principle of segregation of roles and duties is rigorously maintained throughout the workflow to mitigate against possible collusion between an officer and an external party. Some of the key benefits attained through the implementation of the automated Customs workflow include: <ul style="list-style-type: none"> the ability to monitor staff performance and activities; the ability to monitor workloads and re-distribute work if required. Distribution of work is risk-based, so staff cannot choose which transaction or case they wish to work on.
Electronic supporting documents capability	<ul style="list-style-type: none"> Enormous cost-savings in both time and material were derived from trade. It also drastically reduced the Customs clearance processing turnaround time from days to hours.
Introduction of a two-step cross-border declaration and cargo reporting process	<ul style="list-style-type: none"> A brand new innovation to ensure that cargo declared for import, transit or export – at a land border – actually arrived and was processed through that border. This proved to be a significant benefit for SARS in ensuring that cargo declared actually arrived or departed from South Africa. It is an innovation which will be augmented for sea, air and rail borne traffic under the new Customs Control Act. External stakeholders also lauded this solution, as it provides increased visibility and assurance for them with regards to cargo.
Mobile application tool to support Customs inspections at ports of entry	<ul style="list-style-type: none"> An in-house SARS-developed application was produced for use on tablet devices. The application links to the core Customs system via Wi-Fi to allow the Customs inspector access to the Customs declaration and supporting documents. The application provides for the capture of inspection results, as well as photographs of the cargo. Due to its integration with the Customs core system, the application further enables expedited case finalization of 'stopped' cargo once the inspection report is filed. It drastically reduced Customs clearance processing turnaround time from days to hours.
New Customs management solution and e-payment, and Customs account management system	<ul style="list-style-type: none"> A new web-based platform for the end-to-end processing of Customs clearances. A fully automated accounting facility, which allows stakeholders to manage their own account with SARS.

Overall, the digitalization of SARS' Customs environment can be summarized as follows:

Paper usage	40 million pieces of paper to process 5.5 million declarations, reduced to 800 thousand.
Physical inspection	8 hours to process a physical inspection, reduced to two hours (on average).
Simplification	Real-time processing of Customs declarations – 7 seconds to respond to a trader.
Risk control	Advanced detection and mitigation of threats.
Trade facilitation	Number of days to import goods has been halved.

Latent impact on human resources

Externally

The resultant cost-savings to the South African supply chain logistics community was significant. Through the elimination of paper for Customs clearances, and the new messaging and Customs status workflow, traders communicate electronically with Customs without having to present themselves physically to a Customs officer.

Standardized clearance processing for imports, exports and cross-border countries are administered against a single data model, resulting in increased trade participation in electronic data interchange (EDI), and improved data integrity.

Internally

Digitalization allowed SARS to streamline its ability to capacitate staff and monitor workloads more effectively. It has also greatly assisted in the mitigation of possible collusion between staff and external third parties. The reduction in processing times, thanks to the new dynamic workflow and messaging environment, allow staff more time to apply their respective skill sets according to the role and function they perform.

SARS acknowledges that, notwithstanding built-in electronic safeguards to mitigate elements of underhandedness, there are those who wish to manipulate the parameters of the system for self-serving ends. To this end, ongoing evaluation and review is maintained to improve security, and enhance training and integrity levels where necessary.

Key future strategies

In the modern world, digitalization and IT have become a necessity in order to maintain sustainability, and keep abreast of contra-legal trends. SARS recognizes this reality, and key future strategies include:

- the use of biometric technology for system access, processing, tighter security, and entity identity management;
- increased assimilation, analysis and application of supply chain data to enhance risk management, and improve risk-based detection capabilities;
- proliferation of non-intrusive inspection technologies (NIIS) and Track and Trace tools to enhance control while providing efficient service.

More information

www.sars.gov.za



the new digital TIR carnet



By Daniel Kern,

INTERNATIONAL ROAD TRANSPORT UNION (IRU)

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UNITED NATIONS ECONOMIC COMMISSION FOR EUROPE (UNECE)

The TIR system is going paperless. The new eTIR system is based on real-time digital data exchange between transport operators, Customs authorities, TIR system guaranteeing organizations, and the United Nations. A pilot project is currently being implemented between Iran and Turkey, with the eTIR system expected to expand geographically from there over the coming years, reducing international transit costs and increasing security.

THE TIR SYSTEM – an acronym for Transports Internationaux Routiers (International Road Transport) – is the only global transit system that allows goods to move from a Customs office of departure to a Customs office of destination in sealed load compartments, with harmonized and mutually recognized Customs controls and procedures, as well as an internationally valid guarantee. It facilitates trade and transport whilst preventing losses in the collection of Customs duties and taxes.

The system is based on the United Nations (UN) TIR Convention, which, since it was first developed in the 1950s, is maintained by its Contracting Parties under the auspices of the UNECE. Since then, under the UN's mandate, the IRU has managed the international guarantee chain, produced and distributed the iconic TIR carnets, and steadily developed information technology (IT) and administrative processes, thus ensuring the smooth functioning of this longstanding and successful public-private-partnership.

Today, there are 69 Contracting Parties to the TIR Convention on four continents, and more countries in areas as diverse as Africa, Asia, the Middle East and South

All stakeholders in the eTIR pilot have used dedicated, secure web-based applications and web services for the exchange of information. National associations use the 'TIR Association Portal' to issue electronic guarantees to transport operators, while transport operators use the 'TIR Holder Portal' to order e-guarantees and submit pre-declarations to Customs authorities.

America are showing great interest in acceding to the Convention in the near future.

For many years the multi-coloured paper carnets were the visual symbol of the TIR system. The TIR carnet is not only a standard Customs transit document, but also tangible proof of the international guarantee for duties and taxes for goods that are being transported under the TIR system.

However, times and technology are changing. In order to provide transporters and Customs authorities with a better service, the TIR system had to become more competitive and efficient. The IRU and UNECE, therefore, joined forces to completely computerize TIR procedures, with the signing of an agreement in March 2015 that also paved the way for the current eTIR pilot project between Iran and Turkey.

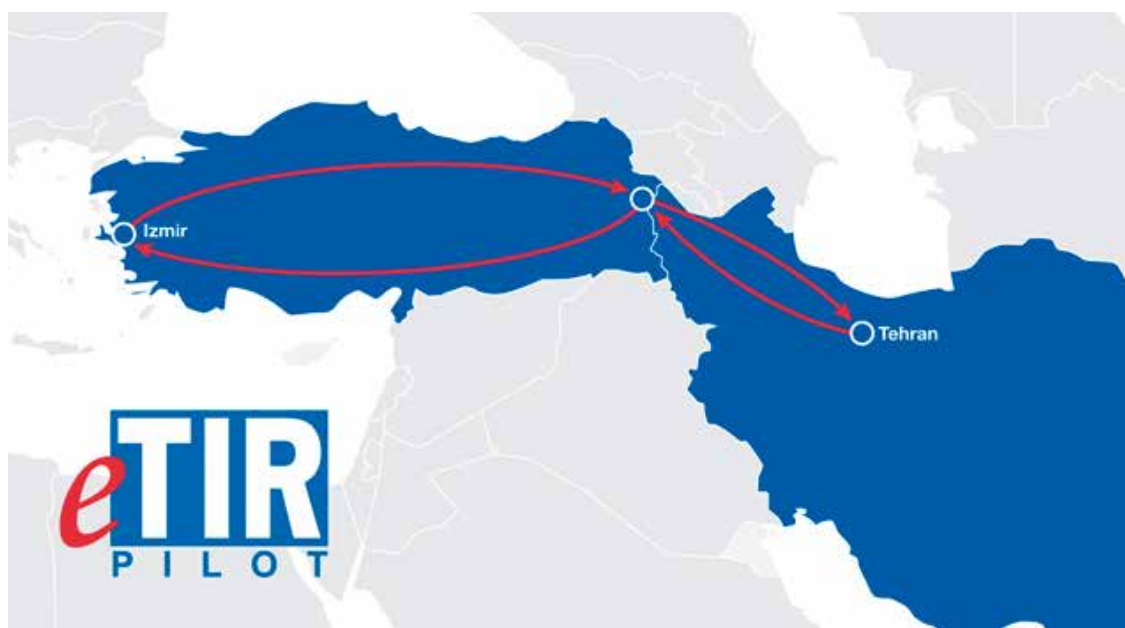
Officially launched in October 2015, the pilot project has been led by the Iranian and Turkish Customs authorities, two pioneer volunteer transport operators, and the two countries' respective TIR Guaranteeing Associations, namely the Iran Chamber of Commerce, Industries, Mines and Agriculture (ICCIMA) and the Union of Chambers and Commodity

Exchanges of Turkey (TOBB), working together with the IRU and UNECE.

In November and December 2015, after the IT systems of all stakeholders were properly tested, eTIR pilot transports were successfully conducted between Teheran in Iran and Izmir in Turkey. The pilot transports crossed the Iranian-Turkish border post of Bazargan-Gurbulak in both directions, with digital information exchange fully replacing the usual paper-based procedures.

The second phase of the pilot, which will involve additional Customs offices and transport companies, will commence in February 2016. During this phase, parties will test additional functionalities including an electronic payment facility to purchase electronic guarantees, as well as the use of electronic signatures.

All stakeholders in the eTIR pilot have used dedicated, secure web-based applications and web services for the exchange of information. National associations use the 'TIR Association Portal' to issue electronic guarantees to transport operators, while transport operators use the 'TIR Holder Portal' to order e-guarantees and submit pre-declarations to Customs authorities. TIR data is sent from Customs



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administration IT systems to the IRU, and immediately replicated to the eTIR international system hosted by UNECE. Both the IRU and UNECE systems offer secure web services to Customs administrations to verify the validity of a given e-guarantee, as well as to obtain all data related to a transport covered by an e-guarantee.

Most importantly, the eTIR was built in accordance with the provisions of the WCO SAFE Framework of Standards to Secure and Facilitate Global Trade, and is based on the WCO Data Model, more specifically on the TIR data set contained in the Data Model as a 'Derived Information Package.' The eTIR system gives all stakeholders real-time access to

all relevant information, and allows the provision of advance cargo information (ACI), thus providing additional security and risk management benefits to all, while at the same time effectively decreasing the risk of fraud, accelerating Customs procedures, and significantly reducing costs.

All parties involved have shown a high level of commitment and enthusiasm for the pilot project, and are looking forward to presenting their results to the TIR Administrative Committee, composed of all TIR Contracting Parties, to move the eTIR agenda forward.

In parallel to ongoing efforts to develop the legal provisions for eTIR, which will

either be included in the existing TIR Convention or form a separate protocol to the Convention, the pilot project between Iran and Turkey is a crucial stepping stone towards the development of a fully computerized global eTIR system.

More information

www.youtube.com/watch?v=hi1j0korsZ4

The content of this article does not necessarily reflect the official opinion of UNECE. Responsibility for the information and views expressed therein lies entirely with the authors.



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The course is part-time and lasts 18 months. The monthly lectures can also be attended online. The MCA is ECTS-accredited and recognised by the WCO. Graduates are awarded the degree "Master of Customs Administration" (MCA) by the University of Münster.

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AEO and paperless procedures: a great opportunity for companies

By Olivier Layec,

ALIS INTERNATIONAL

With the entry into force of the ‘Union Customs Code’ in the European Union, and the still all too real terrorist threat, obtaining the status of an Authorized Economic Operator is even more vital than ever for companies in the world of logistics. However, guaranteeing and optimizing the process of obtaining this status calls for the use of tools essential to paperless procedures, also known as dematerialization, which in turn have been rendered vital by the need to control costs and the stiff competition in the field of international transport. Never before has a convergence of interests led to such a happy marriage.

BORN IN 2005 out of the terrorist attacks in New York (2001) and Madrid (2004), it was under the shadow of the 13 November 2015 terror attacks in Paris that the European Union (EU) status of Authorized Economic Operator (AEO) celebrated its 10th anniversary. In fact, the term AEO first made its appearance on 13 April 2005, at the heart of European Regulation (EC) No 648/2005.

Specifically, this European text, then those which would follow, lays down that economic actors holding AEO status may benefit from facilitations and simplifications in Customs matters, while being categorized as trustworthy companies, guaranteeing a certain level of safety. Three types of AEO status were initially instituted: security/safety; Customs facilitations; and ‘full’. The Union Customs Code (UCC), which

applies from spring 2016, will allow a slight reform of the provision.

This new Code, whose watchwords are risk management and a paperless environment, will be a genuine source of opportunities for companies with AEO status. The UCC reserves exclusive access to new Customs authorizations for AEOs: centralized clearance; entry in the declarant’s records waiving the obligation for goods to be presented; self-assessment; and a reduction of the comprehensive guarantee on debts incurred.

It will also allow new facilitations, in regards to Customs controls for instance. Conversely, the criteria for awarding AEO status will be tightened up; a ‘levelling up,’ or raising of standards, will therefore be seen in the world of Customs clearance.

Ten years after its birth, with over a thousand AEO statuses issued by French Customs, and around 15,000 in the EU as a whole, this article examines what lessons can be learned by companies, how paperless procedures represent an opportunity for AEOs, and what opportunities still remain.

A responsible stakeholder in Customs clearance

With the UCC and the planned phasing out of Customs brokers, what was announced in 2005 will in future become a reality: AEO status will become the main instrument of clearance. The AEO status requirement will fully justify the trustworthiness of the operator, and a Customs representative approved as an AEO could, by right, provide services in an EU Member State other than that in which it is established.

It is worth pointing out what is at stake for companies: those which do not have AEO status will have to justify their competence and their relationship of trust with the Customs administration by other means, which are inevitably less reliable and less relevant. Conversely, AEO operators will benefit *de facto* from such trust, and will be able to clear goods through Customs on behalf of others without any additional constraints. Inevitably, all this will lead to a ‘levelling up’ of the profession, and those who cannot adapt will be subject to natural selection – and will disappear.

For companies involved in logistics, there will be no fall-back option: it is the case of ‘to be or not to be.’ Obviously, as they have been doing for several years, authorized companies will use their AEO status in marketing to promote the quality of their service. The approach is commendable, and undoubtedly consistent. It should not, however, mask the reality of what is at stake: to be put to good use, AEO status

Why is the AEO indispensable to paperless procedures? Without descending into caricature, you can also mount a Ferrari engine into a Citroën 2CV! It is clear that an AEO certificate, with the already mentioned operational constraints, including the control and audit obligations, is the perfect canvas for successful paperless procedures. A process of dematerialization for which it will act as a catalyst and which will, naturally, find its own way and ideally use European Community tools.

cannot be a passive logo on an Internet site – it must be a component of the actual product.

Very few companies awarded AEO status seem to have understood this: to be an AEO means to claim a privileged partnership with Customs. However, above all it means the assertion, *urbi et orbi*, of the most demanding compliance rules in matters of clearance and of security/safety. This conformity, certified by Customs itself, is a very strong requirement of international calls for tender for logistics services, and constitutes a key element of the logistics product. To optimize it, it must be structured.

Constraints and advantages of AEO status

Obtaining ‘full’ AEO status, i.e. Customs facilitations and security/safety, requires a company to deploy, and above all control, four series of processes: pure Customs processes; security/safety processes; internal operational processes (not including Customs); and outsourced processes. Not forgetting the responsibility, management and accountability of collaborators, as well as their necessary flexibility. Together, this deployment and regular control represent, it cannot be denied, a workload which may turn out to be extremely burdensome. It is difficult to build up an AEO status, and above all maintain it, without dedicating

one or more personnel members to the task.

Controlling subcontractors, for whom the AEO is constantly responsible, is without a shadow of a doubt the most binding task. Because the security chain is only as strong as its weakest link, any break in the chain makes the whole process invalid. Clearly, being an AEO and subcontracting some of the logistics work to a company which is not an AEO, and not under control, boils down to negating the very principle of AEO status and of safety.

Again, marketing cannot be simple packaging. And so subcontractors need not only to be approved, but also audited and controlled regularly, to ensure that their claims are, and remain, valid. All this under the shadow of a ‘sword of Damocles’ that few stakeholders have acknowledged: potentially extremely heavy civil liability in the event of a breach of the legal obligations. Extremely heavy, and extremely difficult to insure.

Paperless procedures: better risk control

Yet this is the path of history. Those who fail to follow it will fall by the wayside. If the risk cannot be insured – for example, what insurance company would insure the civil consequences of an attack resulting from radioactive or chemical materials imported with impunity into EU territory

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by an AEO – we need to channel it, limit it and structure it. Even though prudence is called for, an AEO whose processes were structured and controlled in accordance with European laws could hardly be found liable, as it would be necessary to prove its gross negligence.

This is where paperless procedures come in: a fully automated operational chain, that is dematerialized and controlled by managers, would, for instance, help to ensure that subcontractor X, approved two years ago, has actually been audited since his integration, that he has actually sent in his up-to-date AEO certificate or a copy of his safety declaration, that his premises are still secured, and that his staff are being monitored, etc. Human intervention is certainly not eliminated, but is limited to steering and monitoring.

Paperless procedures: optimizing the advantages of AEO status

Paperless procedures first and foremost reduce the risk of errors, be it incorrect data entry or 'routing' errors, or errors in transferring documents or parcels. Letting companies calculate, each year, what operational errors cost them, will lead to a better understanding that an investment in paperless procedures and automation is cost-effective!

The audits carried out by ALIS International on a number of freight forwarders are clear: on average, out of 20 disputes or litigation files, representing a total of close to two million euros, 90% of the risk could have been averted by dematerializing documents and procedures. Failure to request certificates of insurance, inversion of the content of trailers, loading instructions not transmitted to the subcontractor, poor 'routing' of a parcel with compensation for damages, clients not guaranteed financially, loss of a document resulting in incorrect payment of duties and taxes, failure to take account of Customs quotas, etc. – the list is long, but the evil is not without remedy.

Certainly, dematerializing documents without automating processes only solves part of the problem. Although it is impossible to achieve 'zero errors,' the

expected benefits are manifold: significantly reduce the number of disputes and litigation; guarantee and update client and supplier contracts; meet compliance requirements; reduce arrears; reduce the risks of theft, loss and delay; eliminate all or some Customs fines and recoveries of duties and taxes; and reduce the amount of insurance premiums, because you can only negotiate with an insurance company if you have limited and perfectly managed operational and financial risks.

But what about the AEO in this process? Why is the AEO indispensable to paperless procedures? Is it not possible to launch a process of dematerialization of the supply chain without being an AEO? Without descending into caricature, you can also mount a Ferrari engine into a Citroën 2CV! It is clear that an AEO certificate, with the already mentioned operational constraints, including the control and audit obligations, is the perfect canvas for successful paperless procedures. A process of dematerialization for which it will act as a catalyst and which will, naturally, find its own way and ideally use European Community (EC) tools.

In particular, such EC tools include the systems known as 'Cargo Community Systems' (CCS), which allow the perfect handling of Customs acceptance (tracking of goods), the automation of Import Control System (ICS) and Export Control System (ECS) procedures, and, last but not least, the granting of new Customs facilitations, most often local, due to the complete transparency of the information held by operators. Moreover, this dematerialization, and the deployment of CCS, should go hand-in-hand with the deployment of new information systems by national Customs administrations. Thus, in France, a number of electronic procedures, such as DELTA C and DELTA D, need to migrate, to give birth to DELTA G.

With the UCC and the continuing terrorist threat, having AEO status is now more than ever indispensable. Not to be an AEO means to disappear. However, guaranteeing and optimizing the process of obtaining AEO status calls for the use of tools essential to paperless procedures,

which in turn have been rendered indispensable by the need to control costs and the stiff competition in the field of international transport. Never before has a convergence of interests led to such a happy marriage!

At the end of the day, paperless procedures optimize all the benefits of AEO status:

- Better process management (up-to-date procedures and management of malfunctions while targeting the causes, updating of contracts, commitment and information on the risk of fraud vis-à-vis staff, etc.);
- Better knowledge of the constraints and requirements specific to the company (security plan, information panel, key performance indicators, human resource (HR) polyvalence tables, wearing of personal protective equipment, etc.);
- Reduction in the number of work accidents, and of social risks for the company;
- Lower insurance costs due to better internal management;
- Heightened awareness of the company as a whole and its associates as regards safety/security.

There still remain a number of questions, without which the world of logistics would be too simple: how to analyse the processes which ought to be rendered paperless; how to properly secure this dematerialization and prevent external attacks; how to encourage small and medium-sized enterprises (SMEs) and micro-enterprises to enter into a measure which, on the face of it, does not seem adapted to them; and, last but not least, how to accelerate international harmonization and mutual recognition of AEO statuses.

There is, therefore, much which remains to be done, and it must be tackled without delay. Above all, however, this should not be used as a poor excuse for not investing in the very interconnected fields of paperless procedures and AEO status.

More information

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Securing the digital supply chain

**By James Canham
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ACCENTURE GLOBAL CUSTOMS PRACTICE

THE DIGITAL SUPPLY chain is where the world of trade is being transformed, as consumers and businesses switch to digital media, digital goods and e-commerce in place of physical goods traded at bricks-and-mortar stores. New platforms for trading goods online as well as on the 'dark net,' new driverless modes of transport (such as drones), and new digital design and manufacturing techniques (such as 3D printing) are disrupting international trade supply chains that are based on the movement of physical goods.

This evolution poses significant challenges for Customs agencies and border protection. To stay relevant and effective, Customs agencies must adapt to this new reality. They must plan, scope and build networks with an entirely new set of stakeholders and partners to successfully continue protecting their nations and citizens from the harmful effects of illicit goods.

This is the new supply chain reality:

- the combination of new manufacturing techniques based on digital designs and the exponential growth of

e-commerce are forcing a shift towards small distributed, or even personalized, manufacturing;

- servers, digital warehouses and Internet service providers (ISPs) are taking the place of ports, warehouses and carriers as digitization of goods and driverless modes of transport become increasingly mainstream;
- payment service providers and online marketplaces are taking over from trade finance specialists and banks.

This reality will require Customs agencies to adapt, in order to fulfil their mission to protect the border, or risk being left behind with the exponential growth of the digital supply chain.

Disrupting the traditional supply chain

In a traditional supply chain, agencies follow a 'paper trail' and assess risk as goods pass from manufacturer to warehouse to store. In digital supply chains, fewer links exist. To protect borders and secure revenue, modern Customs agencies must establish new 'anchor points.' Digital goods require the identification of the person uploading a file or the digital marketplace involved, as well as the buyer

downloading the file. In the case of digital transport, agencies must identify the person operating, or responsible for, the unmanned mode(s) of transport.

Failure risks substantial losses. It is estimated that 3D printing alone could lead to a 100 billion US dollars (USD) intellectual property loss annually.* It stands to reason then that the loss of revenue to Customs and revenue agencies is also likely to be substantial, reflecting the proportion of trade that will bypass traditional borders as buyers trade and print digital designs locally.

Established manufacturers, such as Ford Motor Company, are turning to 3D printing technologies to cut development time, reduce costs and improve quality. The use of such technologies will only grow, according to Ford: "One day, millions of car parts could be printed as quickly as newspapers and as easily as pushing a button on the office copy machine, saving months of development time and millions of dollars."*

The use of unmanned and so far barely regulated modes of transport, such as drones, brings another unique set of challenges in the battle to secure border

By anticipating supply chain shifts, monitoring Internet activity – for example, by analysing social media to identify illicit trade risks, using cellular networks to monitor the whereabouts of unmanned vehicles, and cooperating with ISPs and security agencies within data privacy limits, agencies can plan for digital supply chains with confidence.

crossings, as they are operated wirelessly and any information relating to departure, destination, and who owns and operates the mode of transport is not necessarily or readily available.

While unmanned trucks are already in use at off-road locations, such as mines, military locations and container terminals, manufacturers such as Mercedes-Benz, Volvo and Peterbilt are developing road-worthy versions that are already being tested in both the United States (US) and Europe.* In addition, companies in the packets and parcels industry, such as Amazon* and Deutsche Post-DHL*, are working on delivery programmes that will allow online purchases to be delivered by drones.

Agencies must act now and develop strategies to limit illicit trade, guard against revenue loss, maintain quality standards, prevent the manufacture of illegal weapons, and protect intellectual property. By anticipating supply chain shifts, monitoring Internet activity – for example, by analysing social media to identify illicit trade risks, using cellular networks to monitor the whereabouts of unmanned vehicles, and cooperating with ISPs and security agencies within data privacy limits, agencies can plan for digital supply chains with confidence.

From DHL to AT&T

As digital files replace physical freight, and drones replace planes, the transport of goods is evolving into the transmission of data, removing the role of shippers and the logistical aspects of trade. Instead, ISPs can be considered as the operators of these new digital trade lanes.

3D printers are now delivering more complex parts and products, advancing beyond basic prototypes. For example, a medical device company has filed a patent infringement complaint to the United States International Trade Commission (US ITC) over a competitor's importation and sale of

digital models, data, and treatment plans.* The complainant alleges that its competitor created a 3D data file in Pakistan and uploaded it to a server in Texas, from where it created dental appliances using the file.

In addition, a thriving 'dark net' is allowing physical goods, often dangerous and illicit, to be traded outside of any public supervision. The 'dark net' is a marketplace on the 'dark web': thousands of websites and communities which utilize the public Internet, but are not accessible without specific configurations. Most 'dark net' marketplaces exist because the types of goods that are trafficked are often illegal or stolen. According to a study by researchers at Carnegie Mellon University (US), criminals earn an estimated 100 million USD a year by selling drugs and other contraband via these hidden websites.

Where such goods are transported using drones or other unmanned modes of transport, this only increases the anonymity of such trading transactions. Criminal organizations are increasingly making use of this technology to transport shipments of contraband more quickly, and with less risk of being caught. Last year, the US Drug Enforcement Agency (DEA) reported that "drug-carrying drones made an average of 150 trips between Mexico and the US."* Similarly, Russian news agency TASS reported that "A Lithuanian self-made drone detained in Russia...was used for smuggling cigarettes into Russia".*

These new digital threats burden ISPs with unexpected demands and responsibilities. The Institute for Homeland Security Solutions in the US has noted that they "may be in a good position to cost-effectively prevent certain types of malicious cyber behavior".* More recently, the Court of Justice of the European Union (EU) ruled that ISPs might be ordered to block access to websites containing material that infringes intellectual property.

In their quest to identify and intercept illicit digital goods or digitally traded physical goods, Customs agencies must build partnerships with these new infrastructure stakeholders. Agencies should seek to gain digital intelligence by working with ISPs, the ITC and intellectual property authorities, to develop a regulatory framework around these issues.

Practically, agencies should seek details of the origin, destination IP addresses, and size and type of data transferred – within data privacy limits. They should also build connections to the data centres that harbour this information, and employ 'big data' analytics to assist in identifying and capturing illicit trade. In addition, agencies must undertake an overview of trade, assessing online trade activity as well as individual transactions, in order to identify risks.

From banks to PayPal

Short-term trade finance, such as letters of credit facilitated by banks, enable and support traditional supply chains. The World Trade Organization (WTO) estimates that 80 to 90% of world trade relies on such tools, including trade credit and insurance/guarantees.* However, as supply chains evolve new forms of finance are taking their place. Customs agencies seeking to monitor illicit trade must work with payment networks, such as PayPal and digital marketplaces, as these networks start to replace traditional bank intermediaries.

In the trade in digital goods, traded files reach their destination in a matter of seconds. The processing of Customs duties can be formalized at the point and time of sale through a credit card company or online payment service, such as PayPal – making letters of credit and guarantees a thing of the past. Customs agencies must also reimagine the border. For example, agencies must decide whether the physical location where a designer uploads a digital

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file or where a drone picks up its load should count as its country of export.

Securing the digital future

Although some Customs agencies are exploring their role in the digital era, not all agencies have grasped the threat posed by the digital supply chain. The range and sophistication of goods created and shipped with digital technology will only grow. With the digital supply chain, one also sees a whole new cast of entities who will be involved in this evolution, such as ISPs, 3D printer and driverless technology manufacturers, digital file designers, trade finance facilitators, and virtual storefronts.

As the digital supply chain grows, traditional supply chains are being disrupted. Now, Customs agencies must build links with a new set of stakeholders if they are to secure trade successfully. They will need to work with national and international regulators in relation to trading and transportation policies, and intelligence-sharing and privacy issues, to put in place a comprehensive framework that regulates the digital supply chain. Then, Customs agencies can drive the development of collaborative processes and technology with their new digital stakeholders: ISPs; online marketplaces; and payment platforms.

By taking urgent action, Customs agencies can set the agenda, and take a leading role in how the new digital supply chain can be secured.

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Start small, think big: big data!

By Ziv Baida,

BUSINESS DEVELOPMENT DIRECTOR, EUROPEAN
GOVERNMENT SECTOR, DUN & BRADSTREET

NINETY-THREE PERCENT OF federal government respondents to a recent survey by Unisys Corp. said that the quality and speed of decision-making improved when applying data analytics; yet nearly 70% reported that they are concerned about their agency's ability to analyse key data rather than simply collect it. One of the reasons for such concern is the 'information explosion,' a term that describes the rapid increase in the amount of available information or data, introducing the challenge of managing the information and making sense out of it.

Giving up is not an option because data is a key asset, or should become a key asset, for every government agency. And while the complexity of managing huge amounts of data should not be underestimated, neither should it be overestimated, because many of the challenges that Customs and border management agencies face can be solved with data-solutions of very manageable complexity. Not every data project is necessarily a 'big' data project.

Key terms explained

Let us take a step back, and understand key terminology, starting with the distinction between data and information. Data is plain facts. Digitization and the abundance of sensors and 'smart' technologies resulted in an explosion of available data. Yet when people look for more data, in fact, data is a means, not an end.

People seek to make confident decisions based on insights gained from information, which is data that has been processed, organized, structured or presented in a meaningful context. Analytics is the creation of insights from data using systematic computational analysis. Big data refers to analytics undertakings that exhibit complexities along four dimensions that have

been coined by IBM as the 'Four V's of Big Data:'

1. Volume refers to the scale of data;
2. Velocity refers to the analysis of real-time streaming data, for example in a stock exchange, or in vehicles equipped with sensors;
3. Variety refers to the analysis of different forms of data – structured and unstructured data, text, audio, video, sensor measurements, social media, and more;
4. Veracity refers to the need to deal with the uncertainty of data – uncertain data quality, uncertain availability, and completeness and correctness.

(Big) data for Customs administrations
Imagine if you could...

- predict which companies will be non-compliant;
- detect fraud through automated verifications, rather than labour-intensive inspections and audits;
- pro-actively be informed when substantial events occur at traders with authorized economic operator (AEO) status;
- create a helicopter view of everything you know within your agency about a company;
- seamlessly exchange information about traders with other border agencies;
- detect international organized crime networks operating at ports.

Easier said than done? Tackling some of these problems may be less complex than you think.

What is (not) the challenge?

Pessimists will say that you first need a full-blown (3-year?) information management program before you can start implementing (big data) analytics, because analytics is only as good as the underlying data. While the latter is very true, the former is not the only possible conclusion. An

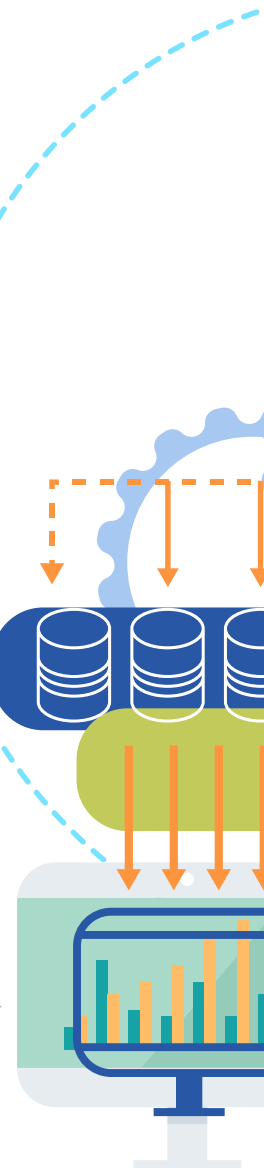
alternative conclusion is that your focus should be on acquiring and using high-quality data, rather than only the data that you have available (but which may not be accessible).

A comprehensive information management program is certainly needed as a long-term investment in the agility and effectiveness of your organization, yet waiting for its completion is no longer an option, given the current pace of change. Quite a few 'low hanging fruits' await your action.

The key to success is to:

- identify specific problems that you want to solve, for example non-compliance with safety regulations relating to fireworks imported before specific celebrations, or value-added tax (VAT) carousel fraud;
- identify the key data required to solve these problems;

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- acquire this data;
- embed it in decision points in your information technology (IT) systems.

One pitfall often encountered is that organizations only use data that is already available, either because they are not aware of external data, or because of a preference to keep things 'in-house.' However, availability and quality do not necessarily coincide. If you have not been able to solve the problems with the data that you have available inside your organization, acquire the data from external sources.

The role of business information

Customs administrations monitor the flow of goods through their borders to secure and facilitate legitimate trade, thereby stimulating national economies, collecting revenue, and protecting society.

While the role of Customs centres on the flow of goods, it is the companies behind the import/export transactions that are

key to fulfilling the role of Customs. Therefore, Customs requires the richest information possible on the relevant activities of companies involved in international supply chains.

There are large, commercially available databases of companies with worldwide coverage out there, performing millions of updates to their databases daily. Every single entity (company) within a database has its own worldwide unique identifier, allowing Customs to unambiguously identify companies involved in trade.

Once identified, this identifier is the key to unlocking rich value, including the most recent insights about the whereabouts of the company, firmographics (for example, sectors of activity, size, legal status, financials, etc.), corporate linkage, and various risk scores which analytics experts create by comparing the company to all its peers, using this rich historical data.

dun & bradstreet

Dun & Bradstreet (D&B) is the world's leader in business information (i.e. information about companies), holding the largest commercially available database of companies covering the world, with millions of updates daily. Every single entity (company) within the database has its own worldwide unique identifier, the DUNS® Number. Eighty-seven percent of Fortune 500 companies have been successfully using D&B data, integrating it into their core operations to provide critical data and insights, together with many government agencies.

The author is the Business Development Director for the European Government Sector at D&B. Over the past years, Dr Ziv Baida has actively participated in the development of Customs IT solutions in several countries and continents, at both national and international levels. He played a key role in piloting concepts such as Secure Trade Lanes, the Single Window, and AEOs, even before the AEO concept became operational in the European Union (EU). Dr Baida also played a key role in the design of Dutch Customs' import/export declaration management system. In recent years, he has focused on the potential of new technologies for Customs, including big data analytics for Customs risk management, mobile technologies for Customs inspections, and social business for internal and interagency collaboration.

Analytics and big data jobs are new to many government agencies, and like any other job, these jobs require specific skills that may not yet be available in an organization today.

How can business information services help Customs, revenue, border management, and law enforcement agencies?

Customs typically know some of their local traders very well, while they know most of them somewhat. However, they usually know very little about foreign traders. Large business information publishers fill this gap, because they know these companies, as they have been observing their operations for years, and are therefore able to make a statistically valid statement about their operations in relation to their peers' operations, even if they appear as an unknown first-time importer/exporter to an agency.

Sometimes a simple verification with the service provider can reveal cases of fraud or identity theft, for example when a company trades under the name of a company which a provider knows is out of business. When integrated into government IT systems that process permit applications, VAT refund requests and import/export declarations, such simple verifications will yield substantial benefits.

In all these cases, qualitative company data supports information-based enforcement by providing a means of establishing that an unknown company is likely to be compliant (i.e. reducing the haystack), and by providing freight-targeting officers with signals for potential high-risk cases that should be inspected (i.e. finding the needle).

Another important 'use case' is the Single Window (SW). The company unique identifier number is a means of uniquely identifying companies that form part of a SW environment where multiple government agencies each have their own identification number for a company. Thus, a single unique identifier enables coordinated border management (CBM).

Short- vs. long-term vision

External company data is available through Application Programming Interfaces (APIs), and can easily be integrated into automated IT systems without major prerequisites in terms of an IT environment. Experience has shown that very substantial benefits can be realized: a reduction in fraud; an increase in revenue collection; improved security; and greater efficiency in utilizing scarce skilled employees.

These solutions can be implemented quite rapidly, to reap short-term benefits, while allowing an organization time to develop data analysis skills, and to undertake a thorough review of its information management program across its various IT systems and databases. An investment in these long-term initiatives is paramount for long-term success in big data analytics.

An information management program will create an information infrastructure, whereby data collected anywhere in the organization – including external data – is available anywhere within the organization. The long-term vision thus explicitly foresees the combination of internal data with external data, because some insights can only be created when these two data sets are combined.

The use cases described above (first-time importer/exporter, identify theft, etc.) require external data. Is it big data? Sometimes it is, but not always. In some cases it suffices to obtain little, yet qualitative, data, and embed it in simple business rules and risk profiles connected to IT systems.

In other cases, a higher degree of analytics skills is required. If one does not yet have these skills, external data is also available on an 'Insights as a Service' basis, until one has developed sufficient skills internally.

Analytics and big data jobs are new to many government agencies, and like any other job, these jobs require specific skills that may not yet be available in an organization today.

Moreover, the use of analytics and big data techniques entails a change in how an organization works: a shift from 'gut feeling'-based inspections to risk-based inspections; and a shift from targeting officers reviewing most shipments to these officers reviewing fewer shipments. Skills development and a change management strategy go hand-in-hand, and their successful implementation will enable an agency to realize the long-term vision, where data has become a core asset in an agency performing information-driven enforcement.

Lessons learned: how to succeed, or how (not) to fail

1. Start with a clear goal, with a clear business problem. Understand the scope of your problem. Do not engage with big data because 'everybody has to.'
2. Understand the vast potential. Engaging data is a business strategy, not a tactical or operational matter. Executive sponsorship is therefore key.
3. Insist on data quality. Available data is not necessarily qualitative enough.
4. Seek data outside your own organization, guided by the previous bullet.
5. Do no reinvent the wheel. Others like us have implemented what you aim to do.
6. Big is relative. What is 'small' for another agency may be 'big' for yours. Thus it is big!

And finally: Don't boil the ocean. Start small, think big: big data!

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Using open data to combat transnational criminal networks

By Varun Vira and Jessica Hansen,

C4ADS

Over the past decade the global security environment has evolved, allowing rogue nation-states, sanctioned terrorist organizations, and violent criminal syndicates to operate on a transnational scale, converging in pursuit of common objectives. Today, these illicit actors are deeply embedded within international systems of finance, commerce and transportation, threatening to critically undermine the foundations of global peace and prosperity. This article highlights C4ADS' approach to analysing unclassified data in order to demonstrate how illicit networks operate, thereby empowering law enforcement authorities, logistics companies, and financial institutions to take action against transnational organized crime.

The new generation of illicit actors is interconnected, globalized, and technologically savvy. Nuclear proliferators maintain complex webs of proxies and shell companies to evade international sanctions, and pariah states use similar networks to arm and equip their surrogates around the world. Meanwhile, international terrorist organizations and other perpetrators of mass atrocities operate multi-billion dollar commercial empires with global reach, funneling proceeds through Western jurisdictions.

Globalization, and the unprecedented access to information and technology that followed, has sponsored the success of these illicit networks. However, policy-makers and law enforcement officials can harness the same proliferation of open data, which enables these criminal actors, to deny their rise and halt their operations.

Digitized global public records, multilingual news sources, and communications access to the most remote corners of the world, represent enormous sources of information that can be mined to expose and disrupt illicit networks.

This proliferation of data creates a new opportunity for open source investigations to provide real world results, proving that actionable intelligence is no longer strictly limited to governmental organizations. From this environment, a new generation of agile and technology-driven institutions, with the flexibility and capacity for innovation, are emerging to meet the demands of the evolving security climate.

C4ADS, a non-profit organization, specializes in open source analysis on the enablers and facilitators of illicit networks and conflict systems. By leveraging cutting

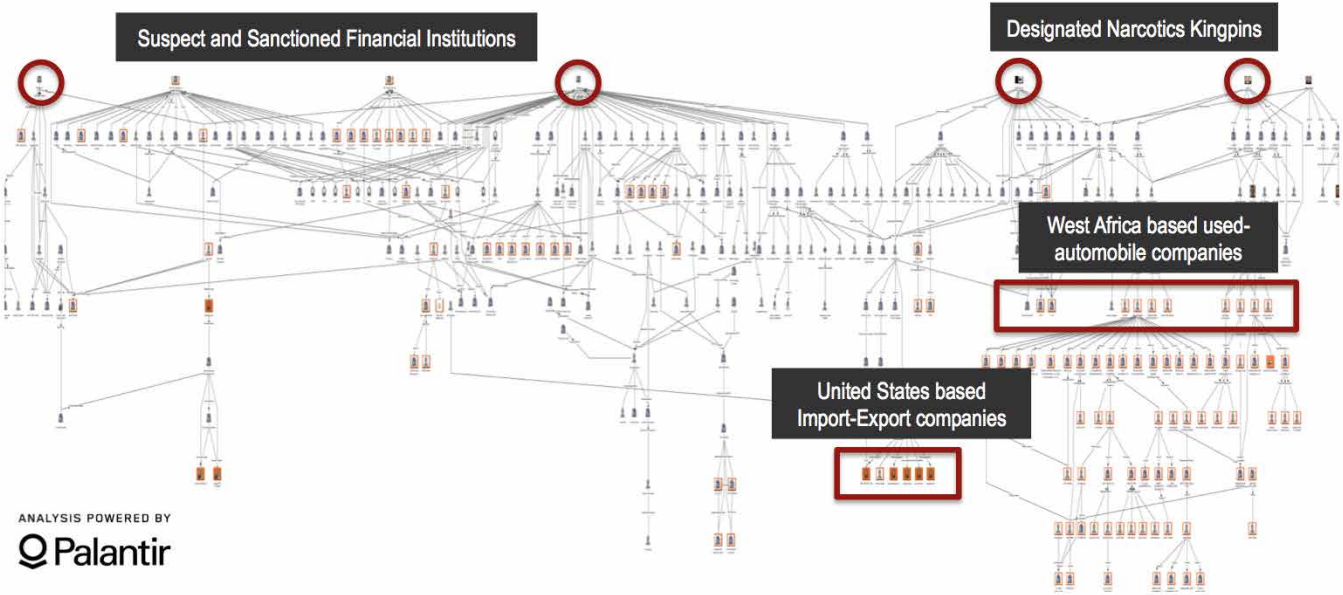
edge technology to manage, integrate, and analyze data from diverse languages, regions, and sources, we provide evidence-driven, non-partisan analysis on a range of first tier threats, including terror financing, trade-based money laundering, arms trafficking, environmental crime, and kleptocratic asset tracing. Our analysis has led us to develop several key insights into the fundamentals of open source investigations.

First, investigating illicit enterprises requires an understanding of the international businesses, markets and financial institutions that illegal actors seek to exploit. Accessing business directories, tax registries, property listings, court documents, intellectual property records, and official trade gazettes from diverse jurisdictions yield huge volumes of data. When combined with the correct analytical approach, this data can reveal vast illicit financial enterprises.

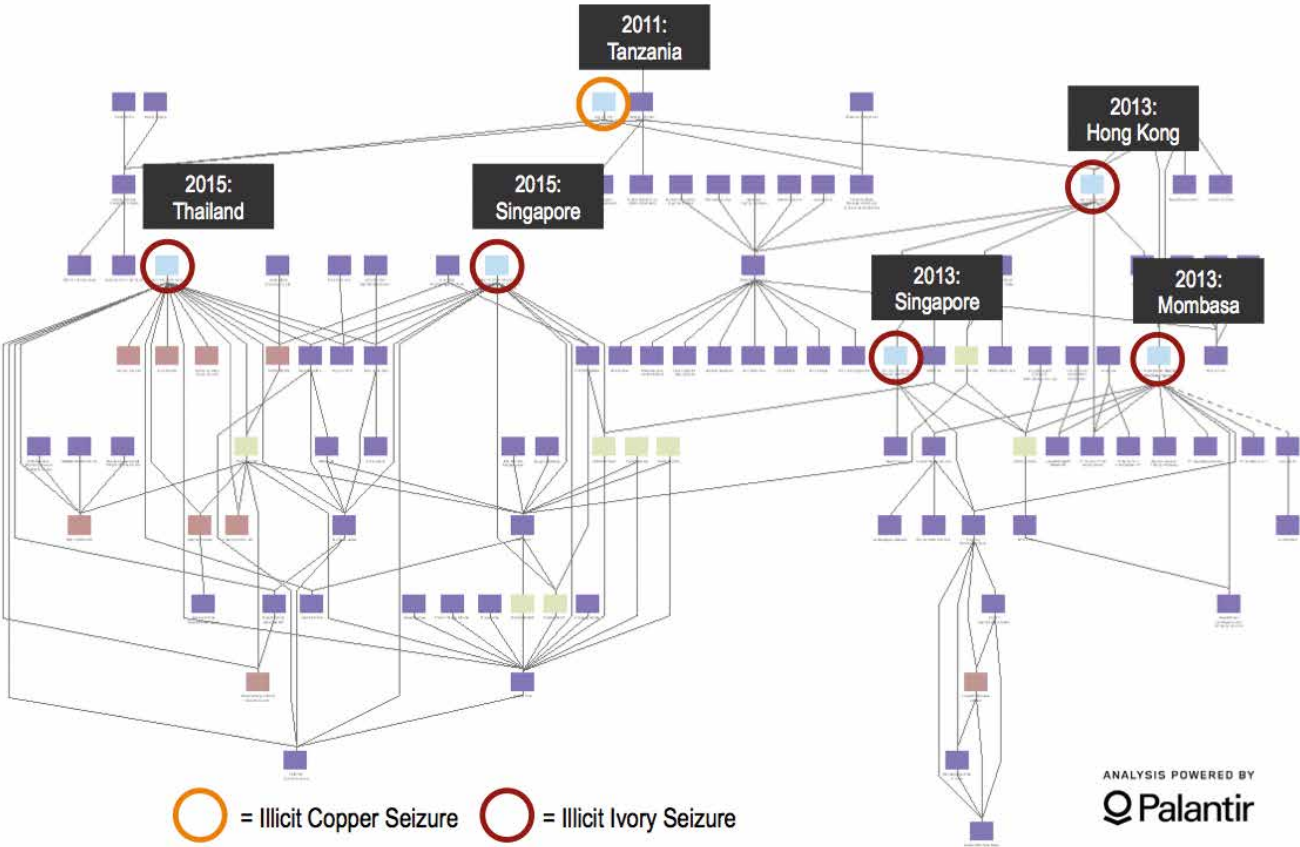
Second, analysts seeking to counteract illicit networks must match their global reach. This requires developing an integrated unit of analysts with varied lingual and regional specialties that can share information between seemingly separate investigations. Through coupling open source data with local knowledge, these investigations frequently uncover high levels of convergence across illicit vertical markets.

Third, cutting-edge technology is required to effectively manage high volumes and varieties of data. Network analytical tools, such as those developed by Palantir Technologies, help structure data and enable analysts to quickly identify patterns, trends, and visualize networks. When combined with a multitude of other analytical platforms, geospatial modeling programs, and statistical tools, big data can be structured and explained in an easily digestible manner.

The advantages of open data have been clearly demonstrated in several high-profile investigations that have resulted in



This chart displays convergence between transportation agents and shell companies that facilitated five seized ivory consignments, as well as an instance of illicit copper trafficking



This network chart highlights connections between designated narcotics kingpins and financial institutions to terror financing money laundering schemes

action against narcotics kingpins, environmental product traffickers, and facilitators of money laundering schemes. These illicit actors have proven they have the ability to quickly shift their methodologies and procedures to avoid detection. This flexibility necessitates that private institutions combating these criminal enterprises remain equally agile. Institutions that succeed in maintaining independence from bureaucratic constraints are best positioned to match and rapidly adapt to dynamic changes in illicit networks.

Environmental criminal networks have become an issue of growing concern for the international community; according to the latest available figures from the United Nations Environmental Program, illicit environmental trade may generate 100 billion USD in revenues annually. The trade in illicit ivory products contributes substantially to this number.

C4ADS maintains one of the world's most extensive ivory seizure databases, with over 900 seizure instances between 2009 and 2015, as well as 20,000 individuals and entities identified in relation to ivory trafficking operations. Housed in Palantir, an analytic platform used worldwide by the intelligence, defence, and law enforcement communities, the ivory seizure database is structured so emerging trends and networks can be easily identified and tracked over time. Each entity is extensively tagged with qualitative data including bills of lading, Customs press releases, judicial documentation, and company registrations and tax records for entities associated with a specific trafficking instance.

By structuring big data in an accessible way, our ivory seizure database helps provide actionable analysis to law enforcement bodies mandated to address the illicit trade in environmental products. In addition to tracking trends, the database allows analysts to map transnational criminal networks, identifying new developments that can assist Customs agencies in refining screening and targeting processes.

In 2015, two large ivory seizures in South East Asia demonstrated how properly structured data may help refine Customs

screening protocols. The following investigation identified a transnational ivory trafficking network connected to five ivory seizures, totaling 13 tons of ivory, in several countries. The 2015 ivory consignments, although at first glance unrelated, were both declared as tea leaves, exported by the same shell company, and shipped from the Port of Mombasa in Kenya. The shell company, likely established as a front for ivory exports, was linked to several freight forwarders, trucking agents, export companies, and individuals suspected to have facilitated at least three other un-seized ivory shipments.

The investigation identified several weaknesses that may aid Customs officials in enhancing screening and enforcement protocols. First, at the time of export, shipments declared as tea leaves were exempt from additional screening at the Port of Mombasa in order to expedite trade for one of Kenya's major industries. Traffickers were not only aware of such loopholes, but actively exploited them. Although this loophole was eliminated in response to the seizures, similar analysis could help to identify other weaknesses in port policies.

Second, the vehicle that delivered the containers of ivory to the Port of Mombasa was known to have previously delivered ivory shipments to Mombasa in 2013. This vehicle was known to Kenyan government authorities, but was not included on a watch list at the port, highlighting the potential need for more frequent communication and updates between government and Customs watch lists.

Finally, the consignee for the shipment was changed several times following export. The containers were originally assigned to a consignee in Dubai, and therefore did not receive the additional screening usually associated with East Asian destinations. Following their export, the destinations of the containers were changed several times, and eventually sent to a company in Vietnam. Changes made while containers are en route, such as these consignee changes, frequently seek to obfuscate the destination of illicit shipments.

Identifying such red flag indicators could have alerted Customs authorities in Dubai to the movement of an illicit shipment. Analysis on these seizure instances and the mechanisms that the traffickers used to successfully export the consignments are part of larger trends in ivory product trafficking which may help Customs authorities enhance screening measures for key high-risk ports and entities in the future.

Other investigations highlight the extent to which transnational organized criminal syndicates nest their activities within illicit systems of trade and commerce. In 2015, we investigated a West Africa based financial network with alleged ties to terror financing. The network operated trade based money-laundering schemes through sanctioned financial institutions, using used automobile businesses and import-export companies owned by several known narcotics kingpins in West Africa.

Using publically available, official documentation, C4ADS expanded the network to identify beneficial ownership structures, revealing that multiple companies within this network had overlapping executives, shareholders, and addresses with previously sanctioned entities. In addition to points of high-risk convergence for terror financing activities, several entities shared addresses with companies that maintained trade relationships with businesses in the United States (US). The resulting network exposed a global web of companies managing several illicit operations, including narcotics trafficking, money laundering, and wire fraud.

The connections C4ADS established between known terror financing entities and used automobile money laundering schemes resulted in enforcement action. The links between these sanctioned entities and the companies engaging in trade relationships with the US demonstrated that even the world's most closely monitored financial institutions and Customs agencies are still vulnerable to criminal exploitation, and can therefore highly benefit from open source analysis.

More information

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Customs, cultural goods and data

By María Esther Portela Vázquez,

RESEARCHER, CULTURAL HERITAGE INTERNATIONAL PROTECTION

For years, Customs administrations have been able to transform the raw information they collect on drugs, weapons, and humans trafficking into data which could be analysed to provide meaningful insights in the fight against these illegal activities. However, when it comes to the illicit trade in cultural goods, progress achieved in data collection is some way behind that obtained in other transnational crime areas. This article identifies the data which needs to be collected, stored and analysed following the seizure of cultural goods, and how it can be used to enhance the protection of cultural heritage.

EXPERTS ESTIMATE THAT the illicit trade in cultural goods is amongst the types of transnational crime generating the most revenue. Our past is being looted, stolen, and illicitly traded, but to what extent? That is an unresolved question. Finding an answer is not easy because the data that could be used to estimate the scale of this type of crime does not seem available.

In fact, anyone asking about data is likely to receive contradictory answers. Some will tell you that there is data, and others that data on the illicit trade in cultural goods cannot be collated.

The truth is that there are important and valuable databases on stolen artworks, such as the INTERPOL Stolen Works of Art database, and initiatives such as Project PSYCHE (Protection System for Cultural Heritage), which aims to facilitate data collection and further increase the content of the INTERPOL database.

One has to bear in mind that databases are not useful without a representative quantity of entries, and well-defined fields of information. Obtaining and collecting reliable data on the trade in cultural goods should be considered as an unavoidable necessity. After all, it is considered perfectly normal in other disciplines.

These tools are useful for anyone looking for specific data on a reported stolen artwork or wishing to report a theft of an artwork and information about the stolen items, such as a precise description of the missing artwork, photographs or other relevant data.

Besides those tools, many developed countries have their own enforcement databases which include information about seizures and investigations, and researchers looking for specific data can request to have access to this information. This being said, why is there still a belief among practitioners in the field that no quantitative data on the illicit trade in cultural goods is available?

Lack of data: myth or reality?

Several explanations can be put forward.

First, most data is not made public. Databases are normally owned by enforcement agencies or governments and, for security reasons, access is restricted despite the fact that the illicit trade in cultural goods is a problem that not only interests enforcement agencies, but also many protagonists involved in this field, such as archaeologists, anthropologists, antique dealers, collectors, tribes, museums, and lawyers among others. Each of them has its own need for data.

Second, there might be a lack of data. Convincing administrations to share data is not always easy. International organizations dealing with the protection of cultural goods can find themselves in a situation where not enough data is available for a proper analysis.

Third, there might be a lack of efforts to share data. Each country has its own constraints and priorities. Lack of resources and awareness, low priority ranking of this type of crime compared to terrorism or other transnational crime, such as drugs or human trafficking, can explain why countries are not all collecting and transmitting data on the smuggling of cultural goods.

Fourth, there might be a lack of quality in the data, including low levels of detail. We are living in a time that has been defined as a 'time of datification', i.e. processes or activities that were previously invisible are turned into data. We buy tickets and books and make reservations online, and within minutes receive targeted adverts based on our searches. Our actions are registered and automatically analysed.

Although existing technology allows for the gathering, storing and analysing of big quantities of data, databases used to store data on the illicit trade in cultural goods is sometimes not formatted to store all possible sorts of data, or requests a level of information that is too general, with critical information being left out. Other times, databases are more complete, but do not allow for information to be cross-referenced in order to exploit the full potential that the data offers.

For instance, can a correlation between the place of theft, the kind of objects seized and the location where the seizure was made be established? And between the types of objects, their country of origin and the specific border where the seizure took place?

Fifth, it could be due to the type of raw information that is stored in existing databases, which reflects the intended use of the data. INTERPOL states that "National statistics are often based on the

circumstances of the theft rather than the type of object stolen."

Cultural goods are very specific: they are heterogeneous and have their own peculiarities. An Egyptian sarcophagus, an ancient funerary mask or a pre-Columbian archaeological object could be considered cultural goods, but so could an AK-47 if it belonged to a national leader or was linked to a historical event.

Raw information regarding the type of object usually exists and is used by enforcement agencies to search for missing objects or to report seized objects, but it is frequently stored using descriptive fields rather than pre-defined ones. This is probably the best way to store information if it is to be used by enforcement services, but not if the information is to be quantified.

For instance, reporting that the 'Codex Calixtinus' was stolen from the cathedral of Santiago de Compostela in Spain, with a full description of its contents, dimensions and characteristics, is not the same thing as breaking down the information for easy analysis and quantification as follows:

- Number of items = 1;
- Type of object = manuscript, old books or documents;
- Place of theft = museum, monument or similar institution;
- Country of origin = Spain;
- Age = between 1100 and 1200 A.D.

Collected Customs information: how can it help?

Customs administrations collect and store an extraordinary amount of raw information that has huge potential to enhance the fight against the illegal trade in cultural goods. Information gathered when a cultural good is seized can be transformed into data if procedures and certain criteria are established.

For instance, let us imagine that Customs at JFK Airport in the United States (US) seizes a pre-Columbian artefact hidden in the suitcase of a New York-based antiquities dealer, and that although the object's origin is unknown, it is known that the man was coming from Guatemala. This

raw information can be broken down into the following data:

- Type of object = archaeological object;
- Number of objects = 1;
- Country where seizure was carried out = US;
- State = New York;
- Border = East Coast;
- Location at the moment of seizure = airport;
- Age of object = before 1522;
- Type of subject = antiquities dealer;
- Place of origin = unknown;
- Date of seizure = 5 January 2016;
- Export country = Guatemala;
- Type of entry = non-declared, etc.

Information obtained following a seizure could be divided into three categories: subjects (individuals or companies); objects; and incidents. Raw information regarding subjects can be useful both before and after being codified and categorized. The advantage of post-codified data is that it is not protected by law, as it is broken down and does not refer to specific individuals but categories which makes it shareable.

For instance, the profession of the subject could be relevant information if it is established that certain professionals or economic activities are the most common kind of subject involved in seizures of cultural goods.

With regards to the smuggling of cultural goods, information related to objects is as important as information about the subjects due to the singularity and relevance of the objects seized. Most of them are unique and irreplaceable. Data related to objects can help identify patterns and trends.

For example, if a large number of ancient archaeological objects of Middle Eastern origin are being seized in more than one European country, it could reveal that there are attempts to bring antiquities from conflict areas onto the market.

Information derived from the analysis of data collected from seizure information would also enable the efficiency of the laws enacted to protect cultural goods to be tested. For example, cultural objects should appear on an inventory if they

are stolen from museums, monuments or similar institutions.

But above all, this data could sometimes help highlight the very existence of an object and/or its theft. The existence of certain objects, such as those looted from unknown sites, remains in itself a mystery until these objects are detected at a country's point of entry, or on its markets.

When a substantial number of the same kind of archaeological objects are being seized and those objects are from an unknown origin but with similar characteristics to other identified objects, it could suggest that a new site has been discovered and looted. The same is true for thefts – the disappearance of a cultural object in a library, for example, may go unnoticed until the object itself is found during a Customs check.

Data related to incidents can be useful in identifying smuggling patterns and trends, as well as smugglers' behaviour. Certain aspects, such as the means of transport used, the chosen border, and the place where cultural goods were hidden or the period or frequency of border crossings can give some clues to better target controls.

Other information, such as the date of import and export, can be crucial too. A specific archaeological object, for example, could be protected by law depending on the date it was exported from its country of origin and/or the date it was imported into another country.

Harmonized System (HS) Code: what can this Customs tool do?

The other type of information that Customs administrations collect is the HS code of the goods seized – another important source of information. Works of art, collector's pieces and antiques are found in Chapter 97 of the HS nomenclature. Classifying cultural goods according to the HS is especially important because it allows Customs administrations to shed some light on three different scenarios, and on the type of fraud involved if the transaction is found to be fraudulent: cultural goods that have been declared under Chapter 97 codes; cultural goods that have been declared with other codes; and undeclared cultural goods.

HS code statistics have another important role to play in the fight against the smuggling of cultural goods. As information on the illicit trade in cultural goods is rather fragmented, any researcher would find it helpful if supplementary raw information could be grouped. For example, for each type of cultural goods seized, the number and/or value of the goods according to the HS code under which they were declared, whether they were correctly classified or not, and similar statistics for goods that have been detected but not declared. This information could be complemented with other data collected, such as the country of origin, the type of location where the seizure occurred (airport, auction house, gallery, museum, private residence, etc.), and the border where it took place. The level of detail could even be higher, and could include the laws which were infringed, the real value of the seized items, etc.

One has to realize that the pieces of raw information stored by Customs can be extremely useful. The databases mentioned at the beginning of this article provide crucial information, but the illicit trade in cultural goods is a global phenomenon which transcends borders, and there is a clear need to collect more valuable and usable data, and to share it at a global level.

Some Customs administrations have made an effort to create safe virtual spaces where information can be shared. The WCO Customs Enforcement Network (CEN), for instance, is one of them. It is simple and user-friendly, and this makes it easy for Customs administrations around the world to report their data. In addition, the information contained in the CEN could provide a better understanding of the phenomenon, even if it is only partial.

Conclusion

One has to bear in mind that databases are not useful without a representative quantity of entries, and well-defined fields of information. Obtaining and collecting reliable data on the trade in cultural goods should be considered as an unavoidable necessity. After all, it is considered perfectly normal in other disciplines.

More information

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Table 1 – Breakdown of the analysis process applied to raw information obtained on subjects, objects and incidents

Information type	Raw information provided by seizures	Data obtained	Data analysis	Use of data
Regarding the subject	Name and surname Address Place of birth Professional activity Date of arrival/ departure	Individual/company Profession Nationality	Distribution of seizures or objects seized by: - Type of subject seized - Subject's professional activity - Subject's country of origin	Identification of: - Connections - Patterns and insights - Legal loopholes - Weak points Testing efficiency of laws Reinforcement of laws Prediction and anticipation of certain activities or behaviour
Regarding the object	Description of object/s seized: - Volume - Characteristics - Age - Origin - Registration of an inventory of intermediary States or countries	Number of objects seized Type of object Range of ages Place of origin Registered objects	Distribution of seizures or objects seized by: - Kind of object seized - State or country of origin Combined analyses: - Types of cultural goods, place of seizure and location Compared analyses by: - Type of cultural goods - Countries	Identification of: - Patterns and insights - Active areas - Legal loopholes - Weak points Warnings about: - New looted places - Unreported thefts - Cultural goods in peril Reinforcement of laws or Customs procedures Testing efficiency of laws Improvement of cultural goods protection Prediction and anticipation of certain activities or behaviour Characterization of the illicit trade in cultural goods
Regarding the incidents	Means of transport used Border/s crossed Import or export details Place of seizure Travel itinerary Reason for seizure Law applied Date of seizure Date of restitution	Means of transport Dates of import and export Location at the moment of seizure Place of theft Year of seizure Restitution year Legal instrument/s applied	Distribution of seizures or objects seized by: - Means of transport - Year - Legal instrument/s - Place of theft - Place of seizure - Analysis of reaction or procedure time - Restitutions by year or country Combined analyses: - Place of origin and destination - Location at the moment of theft or looting, and at the moment of seizure - Types of cultural goods, place of seizure and location Compared analyses by: - Time period - Countries - Place of theft - Location	Identification of: - Routes - Patterns and insights - Active areas - Legal loopholes - Weak points - Methods of cultural smuggling Reinforcement of laws or Customs procedures Testing: - Efficiency of laws - Efficiency of Customs administrations Improvement of cultural goods protection Prediction and anticipation of certain activities or behaviour Reduction of reaction times Characterization of the illicit trade in cultural goods

Table 2 – Breakdown of the analysis process applied to codified information related to subjects, objects and incidents

Type of information on a transaction according to the HSC	Data obtained	Data analysis	Use of data
Import and export of cultural goods Importers and exporters' personal information Declared value of cultural goods Transit locations	Volume of import and export by: - A cultural goods code - Country - Declared value	Distribution by: - Imported cultural goods by code - Exported cultural goods by code - Import countries - Export countries - Declared value - Continents Import and Export countries' data comparison	Identifying the flow of cultural goods at import and export countries Identifying methods of smuggling and fraud Measuring relevance and the economic impact of each scenario Identifying protective measures



Supporting private sector engagement – the CBSA's stakeholder engagement model

By the Canada Border Services Agency (CBSA) and the Canadian Society of Customs Brokers (CSCB)

CANADA IS INTERNATIONALLY recognized as one of the best places in the world to do business. If it is to maintain its competitive edge, increase productivity and spur innovation, Canada must constantly strive to improve the conditions for doing business. The Canada Border Services Agency (CBSA) plays a critical role in ensuring that businesses can continue to thrive in a global context. To achieve this, the CBSA collaborates regularly with the private sector as a valued partner in the Customs process in order to streamline and simplify the border experience.

Whether through workshops or formal consultative committees, the CBSA facilitates frequent interactions with the private sector. This enables it to effectively advance ambitious projects, such as the Single Window Initiative and eManifest,

which are minimizing the requirement for paper forms, reducing red tape, and lowering the costs of doing business across the border. All of this enables the more efficient movement of goods across its border, encourages trade and growth, and helps Canada stay economically competitive.

CBSA's approach

The decisions of Customs administrations have a profound impact on business and their bottom line. Recognising this fact, the CBSA supports the involvement of the business community in the development and delivery of its policies and programmes, building a solid culture of stakeholder engagement. This engagement extends throughout its headquarters and regional offices, and to different multilateral fora, such as the WCO.

By consulting and partnering with industry, the CBSA can engage in thoughtful discussions regarding its vision of trade facilitation. The CBSA identifies shared

interests and objectives, and discusses opportunities to collaborate to achieve results for both the Agency and industry. Developing strong relationships with stakeholders creates meaningful dialogue and challenges existing mindsets. These relationships add transparency to the development of policy, and create a more fruitful understanding of their outcomes.

As stakeholders have different demands from Customs administrations, the CBSA recognizes that a 'one size fits all' approach to private sector engagement does not work for a dynamic business community. The CBSA has developed different strategies to meet these different needs. The Agency uses the mechanism of formal committees to share information, raise awareness of issues, and discuss high-level, strategic and policy-oriented questions. It typically uses working groups and sub-committees to seek feedback from stakeholders, and to find solutions to technical or process-related problems.



To reach a wider audience in a country as expansive as Canada, technological solutions, such as webinars, teleconferences and videoconferences, are increasingly being utilized to great effect. These sessions can be recorded and re-broadcast, and interested stakeholders, such as business associations, often host these events for their members.

To share and exchange information, the CBSA participates in conferences and workshops, as well as other types of outreach activities. These include the national and/or regional conferences of various associations and groups, such as the Canadian Society of Customs Brokers (CSCB). These events provide a forum for the CBSA to engage with stakeholders directly on emerging trends, industry issues, and the impacts and outcomes associated with the CBSA's programmes and services. This allows for an effective two-way transfer of knowledge between the public and private sector, creating mutually beneficial exchanges.

To reach a wider audience in a country as expansive as Canada, technological solutions, such as webinars, teleconferences and videoconferences, are increasingly being utilized to great effect. These sessions can be recorded and re-broadcast, and interested stakeholders, such as business associations, often host these events for their members. Consultations may also be posted on the Government of Canada's "Consulting With Canadians" website. This site provides the private sector and Canadian citizens with 'single window' access to a list of consultations from selected government departments and agencies.

The CBSA also holds one-on-one meetings on specific topics of interest with stakeholder organizations. Engaged business leaders often prefer focused, issue-specific bilateral discussions as the best way to achieve their objectives. Executive, senior and/or working-level representatives from the CBSA regularly participate in these meetings, which provide the opportunity for both the CBSA and stakeholders to discuss technical details, key concerns, and next steps for the implementation of long-term initiatives.

Border Commercial Consultative Committee

The Border Commercial Consultative Committee (BCCC) is the main mechanism through which the CBSA engages its private sector stakeholders. BCCC members represent organizations involved in cross-border trade; this forum provides Customs officials and commercial stakeholders with a platform to discuss border-related policies, operational programmes, and the administrative procedures that govern Canada's commercial trade.

The BCCC itself acts as a plenary body that provides oversight and direction to a number of technical sub-committees, established to advance specific elements of the

BCCC's shared agenda. This shared agenda was established by identifying a number of challenges and common interests where BCCC members agreed to work together to find mutually beneficial solutions.

Examples of effective engagement: Single Window Initiative and eManifest

Meaningful engagement with the business community through effective communication and consultation has been critical to the successful implementation of the CBSA's eManifest programme and the Single Window Initiative (SWI), which will both improve trade facilitation and increase efficiency in border business processes.

eManifest is a transformational programme that will modernize and improve cross-border commercial processes. When fully implemented, eManifest will require stakeholders (carriers, freight forwarders and importers) to transmit advance commercial information electronically to the CBSA for all modes of transportation, and within prescribed mode-specific timeframes.

The SWI is an initiative that provides a single entry point for the advance electronic reporting of import information

required to satisfy CBSA and other governmental requirements. This initiative will minimize paper forms in the import process, increase the number of departments and agencies conducting business electronically at the border, and increase data harmonization for imports into both Canada and the United States.

When dealing with major projects like eManifest and the SWI, it is essential to communicate and consult with affected stakeholders as early as possible in the process, and to ensure that they are informed and engaged throughout each phase (design, development, implementation and transition).

It is mutually beneficial to provide a communication mechanism to keep stakeholders informed and provide up-to-date messaging (e.g. websites, webinars, email updates, etc.). Ensuring that subject matter experts are readily available to provide stakeholders with advice during the implementation and transition phases of a major initiative is crucial for the successful implementation of such a project.

Coordinated Border Management (CBM) is critical to making the border function efficient and effective. Neither government nor the private sector can maximize the benefits of Customs simplification if there are costs and obstacles associated with the requirements of other government agencies. The CBSA recognizes that CBM requires a genuine and sustained commitment from all stakeholders, and remains committed to working together with its partners on this and other important initiatives.

Canada's contribution to WCO tools to assist private sector engagement

Given its significant experience with stakeholder engagement, and as a recognized leader in global border management and Customs matters, the CBSA continues to share its expertise in the development of the Customs-to-Business Guidance document developed by the WCO, as well as the Advanced Pillar. As such, the CBSA provided extensive comments and suggestions as well as examples of areas where it has been successful.

However, successful stakeholder engagement is constantly evolving; while the CBSA has been a contributor, it has also benefited from the content of the document. The CBSA is thankful to the Customs community for having shared its own experiences, and encourages all WCO Members to work towards the institutionalization and continuous improvement of stakeholder engagement in their activities.

Looking to the future

The CBSA is always exploring new avenues through which to partner with the private sector in order to increase joint awareness of each other's operating contexts and interests. For example, the CBSA is developing internal guidelines and encouraging its regional officers to hold joint Customs-business awareness sessions as a means for the Agency and its stakeholders to develop a better understanding of each other's processes.

The Agency is also exploring opportunities to partner with external stakeholders to leverage existing training courses, including internationally. In particular, the CBSA is looking to collaborate with external stakeholders during the development of a new commercial training curriculum by piloting and evaluating course material offered by external partners. This also includes exploring options to co-develop a training module on Customs-to-business partnerships, and the mutual benefits in securing and facilitating the movement of commercial goods.

The private sector and government organizations are prepared to work together to identify, articulate and implement priorities, but they need to see results. In seeking the continuous improvement of its engagement with stakeholders, the CBSA will pay particular attention to ensuring open communication, effective collaboration and meaningful consultations, where the goal is effective and efficient management and implementation of change that benefits both CBSA and business alike.

More information

www.cbsa-asfc.gc.ca

www.cscb.ca

The current cargo clearance process in the USVI requires all Customs entries to be made in person by Customs business service companies and importers.

This current lack of electronic communication creates a heavy paper environment at all USVI ports of entry.



CBP gauges automation of US Virgin Islands' trade entry process

In an effort to improve the United States Virgin Islands' (USVI) paper-based entry process for all imported commercial products and expedite the importation process, US Customs and Border Protection (CBP) announced on 2 February 2016 that they would continue to assess a viable way to incorporate the USVI into CBP's Automated Commercial Environment (ACE), which provides for modern, streamlined trade processing across all sectors.

CBP requirements in the USVI are unique because the islands operate under Danish Public Law 64; a law that has remained in effect since 1914, with the sale of the islands to the US by Denmark. This deal was finalized on 17 January 1917 when the US and Denmark exchanged their respective ratifications of the 1916 Treaty of the Danish West Indies.

San Juan Field Office Assistant Director for Trade, Edward Ryan, and ACE Single Window Director, Stephen Hilsen, visited the port area of St Thomas to gather information about the current cargo clearance process in the USVI in which all Customs entries are made in person by Customs business service companies and importers. This current lack of electronic communication creates a heavy paper environment at all USVI ports of entry.

In addition, CBP visited local USVI Customs business service companies to gain some insight into the needs of the trade community, with the aim of improving and facilitating the Customs declaration process. "We need to make the trade entry process in the USVI more customer friendly," stated Ryan. "By automating the Customs entry process, we can be more efficient in working in the USVI, and

better support our partner government agencies."

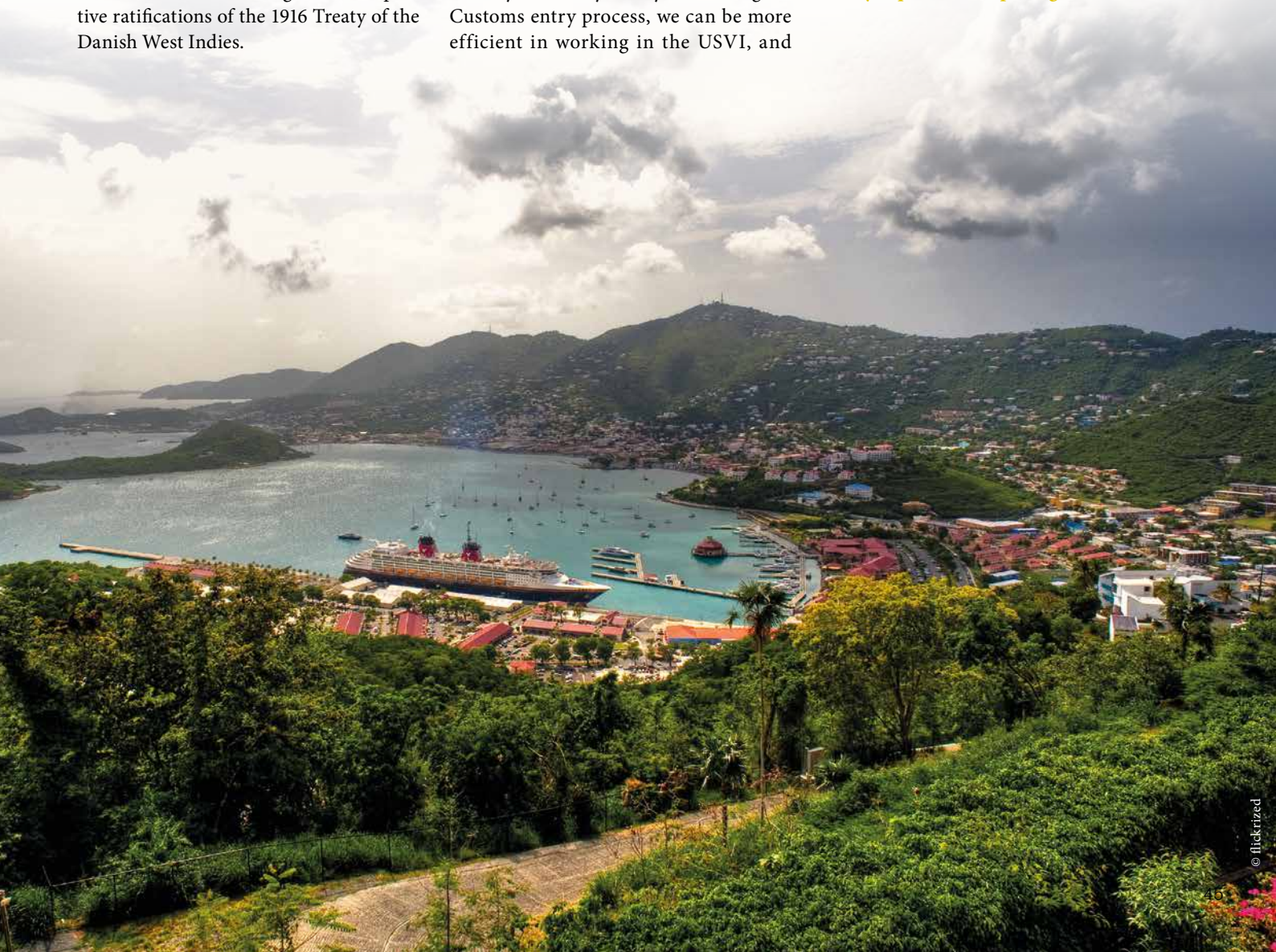
Located in the Caribbean, about 60 km east of Puerto Rico and immediately west of the British Virgin Islands, the USVI are a territory of the US that is neither a part of one of the 50 US states nor the US federal district of Washington, D.C. US federal government statutes require CBP to collect Customs duties on behalf of the USVI, and they have the authority and broad discretion to administer the Customs laws of the islands.

More information

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The EU cracks down on e-waste crime

By Juha Hintsa and Sangeeta Mohanty,

CROSS-BORDER RESEARCH ASSOCIATION

Countering the illegal trade in waste in electrical and electronic equipment, also known as e-waste or by the acronym WEEE, is a challenging, and actual topic for governments, industries, and academics alike. Human health and safety issues, environmental protection concerns, and the economic aspects related to the re-use of raw material, all call for increased attention and enhanced enforcement in the context of e-waste trade, transport, and treatment. To assist government policymakers and enforcement bodies, as well as WEEE-related industries, in countering illicit activities around e-waste, the European Commission decided to launch, in 2013, the Countering WEEE Illegal Trade (CWIT) project. This article outlines the recommendations developed by a group of experienced professionals who participated in the project.

WEEE volumes

Estimating the total volumes of e-waste produced and the size of the illicit market was one of the first tasks undertaken by the experts who participated in the CWIT project. They found that the total amount of WEEE generated in 2012 by the 28 European Union (EU) Member States plus Norway and Switzerland was 9.45 million metric tons. Of these, 3.3 million tons were reported by EU Member States as having been collected

and recycled, 0.75 million tons were estimated to have ended up in the waste bin, and 2.2 million tons of mainly steel-dominated consumer appliances were collected and processed under non-compliant and sub-standard conditions with other metal scrap.

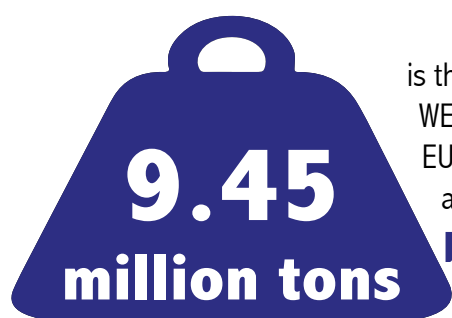
Based on a market survey, it is estimated that 750,000 tons of valuable parts do not make it to the official collection points. They include significant amounts

of refrigerator compressors (84,000 tons out of 300,000 are scavenged; roughly equal to the annual CO₂ emissions of five million cars!), and cable and information technology (IT) components (180,000 tons), all of which are commonly exported to Asia. In total, 1.5 million tons leave the EU annually: 200,000 tons are documented as used electrical and electronic equipment (UEEE) exports, since it is legal to export functioning UEEE; and the remaining 1.3 million tons are also predominantly UEEE, but are frequently mixed with WEEE before being exported.

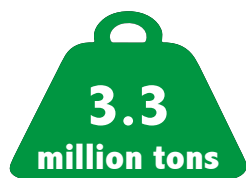
Weaknesses in legislation and enforcement

The group then looked into the existing gaps in legislation and enforcement systems. Several loopholes created enough leeway for criminal operators to circumvent controls, and in case of detection, to get away with minimum penalties. Some of the major gaps are mentioned below:

- Ambiguities in the definition and classification of WEEE in international legislation have led to discrepancies in classification among EU Member States, and made distinction between waste and non-waste particularly difficult for Customs officers;
- Shortage of human capacity among port authorities to physically inspect all containers dispatched from Europe – as an indication, at a major European port about 20 containers of WEEE are packed each week (approximately 1000 containers per year), and the port authority only manages to inspect about 10 containers a year;
- No unified information system among national and international agencies to enable targeted inspections;



is the total amount of WEEE generated by EU-28 plus Norway and Switzerland **but only...**



are officially reported as **collected and recycled**



are estimated to end up in the **waste bin**

- Lack of specific training for Customs inspectors and police on WEEE issues;
- Lack of technical equipment to assess the hazardous nature of WEEE shipments;
- Cumbersome process of collecting evidence against the perpetrator, and proving the hazardous nature of the shipment;
- Low penalties imposed in many countries that do not act as a deterrent to crime;
- Large discrepancies in the penalty levels and systems across EU Member States that cause offenders to shift their activities to less stringent jurisdictions;
- Limited number of prosecutions carried out.

Individual recommendations

A set of recommendations to improve the situation were provided to policymakers and regulators, the law enforcement community (Customs, police and environmental administrations), and the WEEE treatment and electronic industry, under four overarching themes.

Recommendations under theme 1: collect more, prevent leakage, and monitor performance

i) Educate consumers

A lack of public awareness on WEEE issues is related to bad disposal practices. Concrete improvement measures include rolling out communication campaigns for end users to raise awareness around the proper disposal of WEEE, running of attitudinal surveys to investigate motivations and potential incentives for users, and assessing the possibility of running law enforcement campaigns for end users to tackle fly tipping and improper kerbside disposal of WEEE.

ii) Improve collection

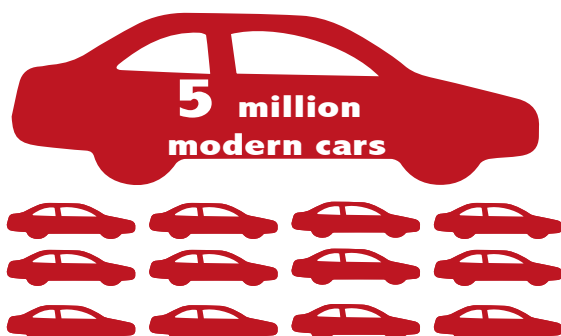
In many EU countries, collection facilities are too few, insufficiently accessible, or exposed to thefts. Improvement suggestions include increasing the number of collection points, enhancing the visibility and accessibility of existing ones, improving security at collection points, and introducing a ban on cash transactions to reduce the profitability of unlawful activities and the viability of cash transfers related to WEEE illegal trade.

iii) Improve national monitoring

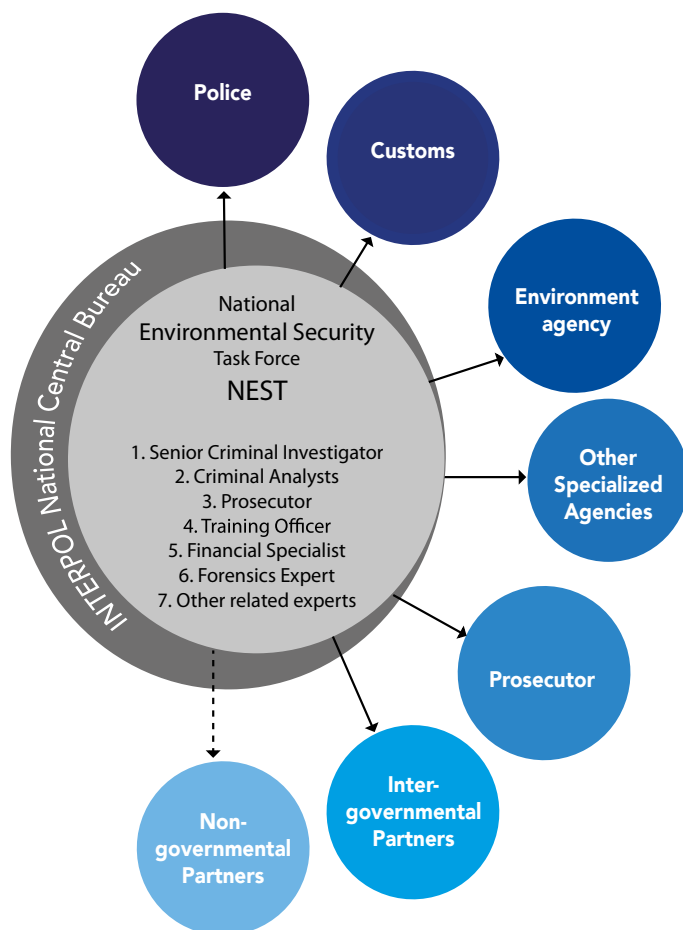
Reliable quantitative data is crucial to determine progress towards achieving WEEE collection targets, or the amounts of e-waste that end up outside the official WEEE chain. The proposed action steps include improving local monitoring and benchmarking in all official collection points, improving access to information by creating specific lists for WEEE-related companies, developing a national WEEE monitoring strategy, and improving current methods for calculating e-waste indicators that form the basis for national mass balance calculations.

iv) Reporting by all actors

EU countries face the common problem of non-reporting, incorrect reporting, and underreporting of collected and treated WEEE amounts by compliance schemes, producers, and recyclers of WEEE due to certain deficiencies in the system and incompatible codifications. The suggested improvement measures include establishing reporting obligations for all actors collecting WEEE products, using an unequivocal description of WEEE that is understood by all actors that have to report, use of the same



84,000 tonnes of fridge compressors are stolen before collection, equal to the CO₂ equivalent of 5 million modern passenger cars on the road... Annually!



INTERPOL model for the National Environmental Security Task Force

codes or use of codes that allow comparability in reporting processes, and establishing a control system of data collected that will assess the reliability of the data reported.

Recommendations under theme 2: trading, treatment, and the economic drivers

i) Improve treatment

A core problem is the lack of quality standards in WEEE treatment. A specific challenge is that many of the recycling requirements do not positively impact the legitimate industry over non-regulated players. As a consequence, unqualified treatment operators put responsible recyclers at a disadvantage. Initiatives must, therefore, be designed to support the legitimate treatment industry through the implementation of (mandatory) WEEE standards, improving reporting on treatment within and outside Europe, making de-pollution more economically rewarding, and improving treatment in developing countries.

ii) Improve reuse

There is an urgent need for clarity on the implementation of the various guidelines, and to develop measures on how to discriminate between shipments for proper reuse, and those shipments of mixed quality with too many appliances of low, or no remaining, useful life. Low quality shipments can be reduced by using harmonized definitions for reuse and refurbishment, developing uniform reuse standards and guidelines, providing training and capacity building for the refurbishment/reuse industry, and establishing 'green' reuse channels and approved reuse centres, under the precondition that sufficient upstream inspections take place, and that the various guidelines for testing and packaging are fully implemented.

iii) National WEEE networks

Poor cooperation across authorities – including Customs, police, prosecuting, and other specialised agencies – results in difficulties in the identification of environmental crimes,

and in securing evidence required for successful prosecution. Two actions were recommended: enhancing multi-stakeholder networks by involving different types of stakeholders in programmes aimed at tackling the WEEE illegal trade; and establishing National Environmental Security Taskforces (NESTs) to ensure a coordinated multi-agency response.

- iv) Smarter inspections and investigations
According to the European Commission, only 2% of all the world's maritime containers are physically inspected by Customs authorities, and of the 2%, only a small number of inspections are done for WEEE shipments. As regards investigation procedures, there seems to be no general methodology for investigating environmental crimes, and the numbers of investigated cases are limited. These issues can be appropriately handled by ensuring more effective and successful inspections through targeted border inspections, conducting intelligence-led risk assessments and improving detection techniques, improving WEEE investigations through better investigative procedures, and conducting more and smarter upstream inspections of facilities in order to prevent illegal activities moving downstream.

Recommendations under theme 3: robust and uniform legal framework, and implementation

i) Improve waste codifications

The suggested actions to improve the classification of WEEE are to develop import/export codes for WEEE and second-hand commodities in order to differentiate between new and used ones, have a consistent interpretation of waste versus non-waste, encourage collaboration and agreement between stakeholders to progress towards more harmonized WEEE classifications and definitions, and develop compatibility tables to allow for conversion between codification systems.

ii) Produce and maintain consistent guidelines

Various definitions and guidelines related to WEEE exist at national, regional, and international levels.

These issues can be addressed by improving the availability, awareness and understanding of existing guidelines, providing sufficient support and training to authorities, developing certification in the use of guidelines, and campaigning for official endorsement of guidelines by relevant authorities.

iii) Train authorities

Insufficient guidance and training often prevent Customs and environmental officers from proving the illegal nature of a shipment. Proposed actions include the establishment of centres of excellence and/or an EU waste agency, providing specialized training for personnel (Customs officers, environmental inspectors, etc.), facilitating cross-border inter-agency capacity training between stakeholders involved in both the export and import of WEEE, and the establishment of public-private partnership schemes (between law

enforcement authorities (LEAs) and the WEEE industry).

iv) Harmonize and enhance penalty systems

Participation in WEEE illegal activities does not appear risky to offenders due to the low probability of being prosecuted and sentenced, and there are large discrepancies in the penalty systems and levels for the illegal trade in e-waste across the EU. The proposed actions include assessing if sanctions are proportionate and dissuasive, increasing penalty levels for natural persons who are company representatives, harmonizing offences related to WEEE crimes at the EU level (wording, definitions, and severity), harmonizing penalty types at the EU level, and providing specific penalties to tackle organized crime involvement in WEEE illegal activities.

Recommendations under theme 4: best practices in enforcement and prosecution

i) Enhance information management systems

A lack of information exchange, and a lack of statistics about illegal WEEE activities have been reported both at national and international levels. Discrepancies have been identified in data reported by different authorities in the same country. Suggested actions to counter the situation include putting in place formalized agreements for the exchange of information between law enforcement, judicial authorities, and the WEEE industry, establishing an Operational Intelligence Management System (OIMS) that enables the secure input, management, development, analysis, and dissemination of intelligence and critical information especially during the planning of law enforcement

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actions, using intelligence to prioritize and direct resources towards the operations and policies that will be most effective in combating crime, and building a national intelligence model to implement a full set of best practices in intelligence-led policing and law enforcement.

- ii) Invest in capacity building for LEAs
A common bottleneck for poor implementation in most countries is limited resources and capacity. It is therefore deemed necessary to provide more human resources and equipment, facilitate international cooperation, including the exchange of Customs inspectors, across competent authorities, conduct a risk assessment and allocate staff according to the expected risks identified, and strengthen the capacity of existing networks (such as EUROPOL and INTERPOL), as an effective and cost-efficient capacity building initiative, instead of creating new networks.

- iii) Improve international WEEE networks

To strengthen international cooperation in law enforcement, two actions are proposed: first, encourage the participation of relevant agencies involved in international waste operations and enforcement actions to bring together neighbouring countries to target waste and WEEE trade/operations; and second, create an EU waste implementation agency to support Member States through training, and to act as a platform for the exchange of knowledge and best practices.

- iv) Enhance prosecution and sentencing capabilities

Environmental crime seems to be an under-sentenced area. There appears to be a major gap between the number of WEEE violations and the number of successfully prosecuted cases across Europe. This can be addressed by improving the capacity and resources

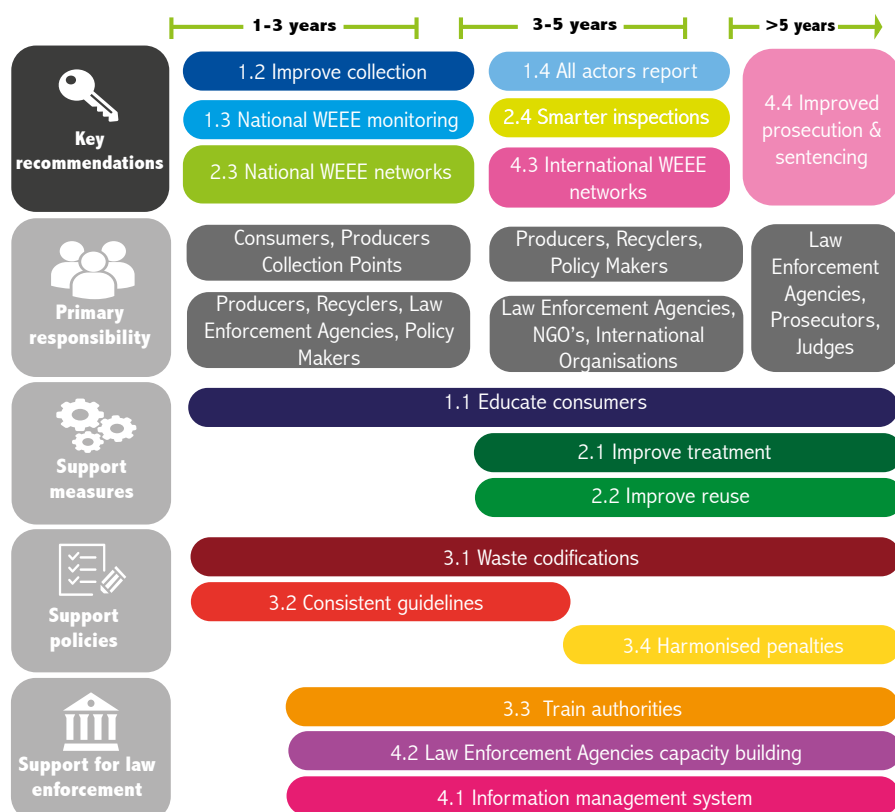
of prosecutors and judges, and enhancing communication and cooperation among prosecutors and judicial authorities, in order to establish a database of information, contact points, and joint investigation teams. Increasing the role of EU and international networks, such as EUROJUST (an EU agency dealing with judicial cooperation in criminal matters), is considered another positive step.

Roadmap

These recommendations are not standalone, but rather mutually dependent and impact one another. Hence, the final step in the project was to prioritize and structure the recommendations, and to develop a roadmap illustrating the time needed for implementation, as well as the actors that are primarily involved. This roadmap is reproduced below.

Moreover, for the benefit of global Customs and police communities, a follow-up project called “Development of tools to counter illegal management and trade in waste, or ‘DOTCOM Waste’”, has just been launched.

Implementation Roadmap



More information

www.cwitproject.eu
www.dotcomwaste.eu



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Following the creation of a Command Centre within the Enforcement Division's Anti-Smuggling Department in 2012, Serbia Customs has significantly improved its capacity to fight smuggling. This improvement can be attributed to the implementation of a range of tools, including a new web application that provides features and tools to enhance the work of the Anti-Smuggling Department.

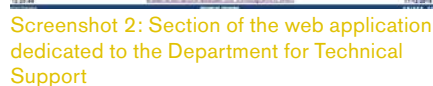
- data processing and analysis - the Centre analyses collected information to identify risk indicators of possible violations of Customs regulations;
- disseminating information - the Centre ensures fast and secure data exchange both within the Customs Enforcement Division, and within the entire Customs service;
- action planning - based on risk indicators, the Centre decides on the action plan of the Anti-Smuggling Department;
- managing operations - the Centre monitors officers of the Anti-Smuggling Department conducting controls, and coordinates the activities of each operational unit within the Customs territory.

In order to achieve its objectives, the Command Centre launched a range of tools which enable a continuous flow of information between Customs' Headquarters, local offices and border crossings. The IT systems installed in the Command Centre include:

- **ISIS**, the Customs Service Information System and its database which contains detailed information on all goods and Customs transactions;
- **IPS**, a system which enables the Centre to monitor scanning units remotely – as soon as a mobile scanner captures an image, it is immediately visible in the Command Centre due to the ingenuity of the system;
- **DBS**, an application which enables the mobile scanner units to remotely access the Database of Vehicles Inspected by Mobile Scanners (PSV), containing details on the vehicle, the driver, the type of transported goods and the route taken, as well as on the nature of any smuggled goods found during the inspection, including concealment methods;
- **SNM 64**, an application which enables video surveillance of scanners in real time;



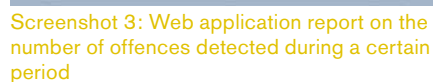
IT ALL STARTED with a man and a vision. The Head of the Anti-Smuggling Department in Serbian Customs' Enforcement Division wanted to equip Customs officers working in the Division with the appropriate tools to be able to locate, in one unique location, all the necessary equipment to coordinate the planning, organization and implementation of activities, while at the same time enabling managers to monitor the activities of their staff.



Customs Inspector Milomir Jovic developed an application which provides anti-smuggling Customs officers with the possibility to access information, instructions, forms, data, statistical reports, data collection forms, databases and images of scanned vehicles in a fast, simple and secure way from a computer connected to the Serbian Customs Administration's corporate network (Intranet). The application was launched at the end of 2014 and received immediate positive feedback.

In 2012, Serbian Customs established a Command Centre within its Anti-Smuggling Department. The main task of the new structure is to provide support to Customs officers in the field during their daily control operations, as well as to coordinate their actions. This includes:

- collecting data - the Centre ensures the systematic collection of information from internal and external sources;





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- GIS, an application used to monitor the radio devices of officers in the Anti-Smuggling Department;
- RIS, the Rivers Information System, used by the Centre to monitor river traffic – the system, which is also installed on vessels used by the Waterways Control Unit, provides information on the current position of vessels, on the vessels themselves, as well as on the presence of stationary objects.

New web application

In order to facilitate access to these systems and to improve officers' work station environment, a web application was developed. To access the application, access rights are required, which are customized for each officer according to their responsibilities and role. Although some features are common to all, the application homepage contains a basic menu that guides the user to their section of the Anti-Smuggling Department, and to a gallery of detected violations, as well as to specific databases.

Specific restricted sections of the web application contain forms used by the Anti-Smuggling Department – for data collection and reporting for example, information about the protection of officers at work, different guidelines essential for the workplace, relevant news items, and

contact details of the managers and officers of the Anti-Smuggling Department.

The application enables Command Center officers to assist field officers in analysing the image of a scanned vehicle, regardless of their geographic location. Previously, this was impossible. Officers can access the system of a particular mobile scanner to download the image of a scanned vehicle, or the entire image database of the mobile scanner.

The application also allows the database of about 150,000 scanned vehicles to be searched offline according to different criteria, using, for example, the registration number of the vehicle, the state (province/region) in which the vehicle is registered, its origin and destination, the goods, the date of the scan, the assessment, and the title of the image.

Managers have access to all web application content, and are thus able to access all information and data collected during Customs controls conducted by anti-smuggling officers. They can prepare automatic activity reports in accordance with pre-defined criteria. For example, a report of the Customs offences detected from 1 to 5 December 2015 (see screenshot 3) can be easily compiled. It would typically include information such as the municipality or

the site where a Customs offence was detected, the time of the offence, the name of the officer who led the control operation, etc.

Managers can also generate reports on the controls undertaken at border crossings, in warehouses, on vessels, and in private premises at certain periods of time in order to review and assess activities and, ultimately, plan future activities and improve the performance of the Anti-Smuggling Department. Other options include the capacity to visualize the fuel consumption of vehicles used by anti-smuggling officers during a particular period.

The implementation of the application was warmly welcomed by the Department's staff and had a tremendous impact. In particular, the fact that each unit can henceforth showcase interesting cases and communicate details such as the place of detection, and methods of concealment. This has a direct impact on officers who are now able to learn from these cases, boost their knowledge, and, ultimately, improve their capacity to detect offences or other crimes.

More information

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Implementing the WTO Trade Facilitation Agreement will deliver huge dividends to the global economy

By Coleman Nee and Robert Teh,
COUNSELLORS, WORLD TRADE ORGANIZATION

BY THE CONCLUSION of the World Trade Organization's (WTO) Tenth Ministerial Conference in Nairobi, Kenya in December 2015, a total of 63 WTO members had ratified the Trade Facilitation Agreement (TFA), bringing the Organization closer to the threshold – two-thirds of its 162 members – necessary for the Agreement to come into force.

The TFA is designed to streamline, speed up and coordinate trade procedures across countries, which promises to lower trade costs globally and provide a significant, sustained boost to international trade, particularly in developing countries. The anticipated benefits from the TFA also include faster global economic growth and greater export diversification in implementing countries.

The 2015 World Trade Report, released on 26 October 2015 by the WTO, estimates that the TFA will increase world trade by between 750 billion and 1 trillion US dollars (USD) per year (possibly more under ideal circumstances, such as full implementation), and boost global gross

domestic product (GDP) growth by an estimated 0.5% per annum.

Since the scale of potential benefits depends on the speed and extent of implementation, the TFA includes provisions to help developing countries reach full compliance. As the first multilateral trade agreement since the establishment of the WTO in 1995, the TFA also represents a major breakthrough.

Although mega-regional trade agreements, such as the Trans-Pacific Partnership (TPP), have garnered more attention recently, the multilateral nature of the TFA means that its impact could ultimately be more far-reaching.

The TFA in context

In today's interconnected global economy, the speed and ease with which goods cross borders matters for trade, at least as much as traditional trade obstacles such as tariffs and quantitative restrictions. Efficient trade procedures are particularly important in a world characterized by global supply chains, where production networks often require just-in-time delivery of essential inputs. It is possible for countries to unilaterally undertake trade

facilitation reforms, so why is a multilateral agreement necessary?

Improvements in trade procedures benefit not only the reforming country but also its trade partners. However, trade facilitation reform often requires a country to invest resources. Governments behaving rationally will only spend on improvements up to the point where marginal benefits to the nation equal marginal costs, which means trade facilitation reform will be undersupplied globally. A multilateral agreement on trade facilitation would help countries realize opportunities for mutual gains, thereby leading to greater investments in efficient Customs procedures.

A multilateral agreement also proffers a solution to a persistent coordination problem. Common or similar procedures, such as those developed by the WCO, make it easier for traders to familiarize themselves with Customs procedures in different countries. A similar coordination role is foreseen in the way the Agreement facilitates the provision of technical assistance to developing countries, allowing these countries to undertake trade facilitation reforms that they could not achieve on their own. In addition, the legally binding



nature of the TFA may help implementing governments overcome vested interests at home, in order to eliminate cumbersome border procedures.

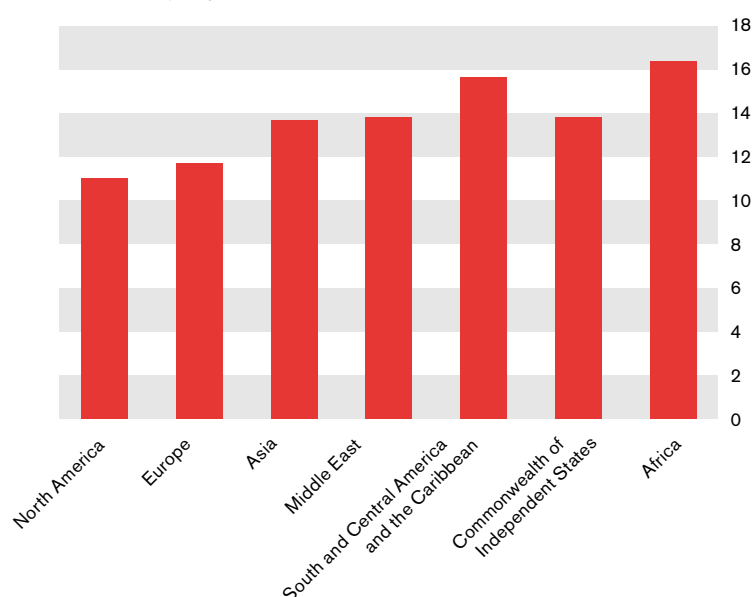
The TFA's provisions enhance certain aspects of existing WTO agreements while also creating a number of new disciplines. Specifically, the TFA contains measures related to the publication and availability of information, the opportunity to comment before entry into force of new/amended laws and regulations, advance rulings, appeal procedures, non-discrimination and transparency, fees and charges, release and clearance of goods, border agency cooperation, movement of goods, import/export/transit formalities, freedom of transit, and Customs cooperation.

Even though the implementation costs of the TFA are expected to be modest, they may still exceed the limited resources of many low-income developing countries. To address this issue, the Agreement includes extensive and innovative 'special and differential treatment' (S&D) provisions that allow developing countries to tailor the scope and timing of implementation to their particular circumstances.

At the same time, the TFA provides for technical assistance for developing countries from donor countries and organizations, in order to ensure full implementation. This assistance will be coordinated through the recently-inaugurated Trade Facilitation Agreement Facility, which is intended to act as a clearinghouse for information and a matchmaker of last resort between aid donors and partner countries (see www.wto.org/english/news_e/news14_e/fac_22jul14_e.htm).

In contrast to the TFA, Regional Trade Agreements (RTAs) that deal with trade facilitation generally do not include S&D provisions and aid for implementation. These omissions reduce the likelihood of trade facilitation measures in RTAs being implemented in poorer countries, where they are arguably most needed. The strength of WTO enforcement and dispute settlement mechanisms also distinguishes the TFA from other agreements that touch on trade facilitation. However, more ambitious RTAs could serve as a complement to the TFA.

Figure 1: Estimated reductions in ad valorem tariff equivalent trade costs due to TFA implementation by region



Source: World Trade Report 2015.

Expected economic impact of the TFA

The trade costs that the TFA is designed to address are large, and differ markedly across regions and groups of countries. These costs are equivalent to an ad valorem tariff of around 170% for a typical developed country, and 219% for a typical developing country. Inefficient trade procedures appear to make up a significant part of these costs, which the TFA would reduce by more than 14% on average (see Figure 1).

Inefficient trade procedures result in importers paying more for traded goods, and exporters receiving less in exchange for their goods. However, when a country improves its trade procedures so that trade costs are reduced to zero, this price wedge vanishes. As a result, consumers in importing countries benefit from lower prices, and exporters receive higher prices for their output. Trade facilitation contributes to a marked improvement in the income of both importers and exporters, improving their terms of trade and creating a 'win-win' situation.

The 2015 World Trade Report relies on a Computable General Equilibrium (CGE) simulation model to estimate export and GDP gains from the TFA. As noted above, expected trade gains range from 750 billion to over 1 trillion USD per year, with larger values corresponding to faster and fuller implementation (see Table 1). Other estimation techniques – so called 'gravity

models' – yield even larger estimates of the expected gains, assuming full implementation, which suggests that the CGE estimates may be somewhat conservative.

Implementing the TFA would not only provide a badly-needed lift to the global economy in the short term, it would also raise its growth trajectory over the medium-to-long term. If fully implemented, the TFA could add up to 2.7% a year to world export growth and 0.5% per year to world GDP growth, over the 2015-2030 period.

Table 1: Estimated trade and GDP impacts of TFA implementation, 2015-2030

	Units	Range of values	
World exports	Annual increase (billion constant 2007 USD)	750 USD	1,000 USD
	Addition to average annual growth, 2015-2030 (percentage change)	2.1	2.7
World GDP	Annual increase (billion constant 2007 USD)	345 USD	555 USD
	Addition to average annual growth, 2015-2030 (percentage change)	0.3	0.5

Source: World Trade Report 2015.

Beyond simply increasing trade and output, the TFA would also create additional benefits that include:

- Export diversification – The WTO expects developing and least developed countries (LDCs) to reap significant export diversification gains from the TFA, increasing the number of products they export per destination by 36%. They would also increase the number of export destinations per product by nearly 60% after implementation. Export diversification would help insulate developing countries and LDCs from adverse economic shocks affecting specific sectors or destination markets;
- Faster delivery of time-sensitive goods – Delivery times are crucial for the effective operation of global supply chains, and also for trade in perishable agricultural goods. The TFA is expected to boost trade in these products by reducing the time needed to export, and by increasing predictability of delivery times;
- Greater participation of small and medium-sized enterprises (SMEs) in trade – Burdensome trade procedures and Customs regulations are often cited as major obstacles to exports by SMEs. This may be because larger firms, and especially multinationals, are better equipped to navigate complex regulatory environments. Drawing on World Bank Enterprise Surveys, the report finds evidence that SMEs are far more likely to export and to increase their export shares than large firms, when Customs clearance times are reduced;
- More foreign direct investment (FDI) – In the case of small economies, trade facilitation not only leads to more trade, but also increases FDI inflows. This is confirmed by empirical analysis showing a positive and statistically significant

link between trade facilitation and inward FDI flows, using a dataset covering 141 countries over a 10-year period, namely 2004-2013;

- More efficient revenue collection – Trade facilitation reforms help boost government revenues by increasing trade flows, thereby expanding the tax base and increasing tax collection efficiency for any given level of imports;
- Reduced corruption – The incentives to engage in fraudulent practices at the border are greater when more time is needed to complete Customs procedures. Since trade facilitation is expected to shorten waiting times, it creates an important avenue for reducing incidences of trade-related corruption.

Implementation challenges

The costs associated with improved trade facilitation include diagnostic and needs-assessment costs, regulatory and legislative costs, institutional and organizational costs, human resources and training costs, equipment and infrastructure costs, awareness-raising costs, the costs of addressing political resistance, and operational/maintenance costs.

For developing countries, some of these costs will be offset by aid from donor countries and technical assistance from institutions like the WCO, but they are not the only, or even the main obstacles to implementation. Based on experience

The costs associated with improved trade facilitation include diagnostic and needs-assessment costs, regulatory and legislative costs, institutional and organizational costs, human resources and training costs, equipment and infrastructure costs, awareness-raising costs, the costs of addressing political resistance, and operational/maintenance costs.

gained from existing trade facilitation efforts, successful reform will require a sense of national ownership and broad stakeholder participation, including the private sector. Other keys to success include mobilization of material and financial resources, and correct sequencing of reforms.

WTO members are steadily ratifying the TFA. When the

Agreement is finally in place, it promises to make a strong contribution to the revitalization of international trade at a time when such rejuvenation is badly needed. Once it is in force, it will be essential to monitor the implementation of the TFA to gauge its progress, identify problems, and assess how well the S&D provisions of the Agreement are working.

The WTO, together with other organizations, such as the WCO and regional development banks, should invest more resources in the collection of data, particularly with regard to implementation costs, the improvement of existing indicators and analytic tools, and the development of new ones, so as to better monitor and evaluate the implementation of the TFA.

The full report can be downloaded from the WTO's website, which also contains a wealth of detailed information on the TFA and its provisions.

More information

www.wto.org/english/res_e/publications_e/wtr15_e.htm



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Addressing the misuse of Customs valuation databases

By John Danilovich,

SECRETARY-GENERAL, INTERNATIONAL CHAMBER OF COMMERCE

JUST TWO YEARS ago, economists widely predicted that global trade flows would grow by 7% in 2015. The reality – as shown by new World Bank data released just a few weeks ago – is that they barely grew at all, with several countries seeing sizable drops in trade over the past 12 months.

The United Nations' (UN) 2030 development agenda places a heavy emphasis on trade as a driver of sustainable growth and jobs. This means that we cannot accept the apparent status quo of flat-lining or, in some cases, falling trade. As the world business organization, the International Chamber of Commerce (ICC) believes that adherence to international rules and regulations – by both governments and businesses alike – is vital for an environment that stimulates and enables trade-led growth.

In particular, harmonized and predictable Customs valuation rules are essential to smooth trade flows. The stark reality is that deviations from internationally agreed rules and regulations exist and can have a major negative effect on global trade and economic growth. In this regard, ICC is highly concerned by the growing problems caused by the misuse of valuation databases, and the application of prohibited valuation methods generally known as “reference pricing”.

Many of the countries that use databases and apply reference pricing are developing or emerging economies with a large informal sector often characterized by a lack of reliable documentation. The global business community is, to be sure, mindful that Customs duties and border taxes are an important source of revenue for governments – and, moreover, that developing countries are often faced with limited administrative and technical resources. In

this context, ICC fully acknowledges that Customs valuation databases may serve as a helpful risk assessment tool for Customs administrations.

However, ICC believes that this should not be a pretext for countries to apply Customs valuation practices that involve reference pricing in violation of internationally agreed standards laid down in the World Trade Organization's (WTO) Customs Valuation Agreement (CVA), which is administered by the WCO. The reality is that the misuse of Customs valuation databases to set reference or minimum prices potentially undermines the functioning of the CVA – and in doing so, potentially places a major brake on trade as well as inward investment opportunities.

ICC members report that they are confronted by an increasing number of countries applying Customs valuation databases in an inappropriate way. To take just one example: “country x” is reported to apply its Customs valuation database to set reference prices by comparing the import price against a historical price on the same product or similar products. Any variance over 10% might trigger Customs to automatically challenge the price, which leads to a burdensome task in defending the pricing – resulting in delays and high trade costs.

ICC's recent statement, “The Misuse of Customs Valuation Databases,” sets out a range of other real-world examples which illustrate how the inappropriate use of Customs valuation databases to set reference or minimum prices leads to delays in the clearance of goods, administratively burdensome procedures, and higher trade costs. All this is bad for business, bad for growth – and, what's more, bad for government revenue.

When talking about the utility of Customs valuation databases, it is important to



emphasize that there are legitimate business reasons why prices for the same goods may vary. There are many commercial pricing practices applied by cross-border traders that may result in a lower declared value than indicated by Customs valuation databases. These may range from goods which are imported at discounted prices, through to differences in intra-portfolio pricing and duty free channels.

The misuse of Customs databases is clearly of growing concern to many of the businesses I speak to each week throughout our global network covering more than 130 countries. That is why we are keen to work with governments and Customs authorities to ensure that national practices align with international standards.

It is our view that partnerships with the legitimate trade community should be a source for developing mutually beneficial programmes. That's why we believe that countries should create an environment in which formal traders – that we would define as those traders that can provide authentic transactional documents to support the Customs entry – are given an opportunity to import unhampered by



Valuation database as a risk assessment tool

Ecuador, India and Kenya Customs share their experience

By the WCO Secretariat in cooperation with the Customs administrations of Ecuador, India and Kenya

THE WCO RECEIVES many requests from its Members for assistance on the development and use of valuation databases. The Organization acknowledges that such databases may be a useful tool, particularly for developing countries who have yet to apply effective post-clearance audit controls, and who face challenges from high levels of non-compliance and informality.

It is strongly underlined however, that valuation databases should be used only as a risk assessment tool and must be developed within a broader risk management framework, alongside other risk indicators. In addition, it is equally important that business operators maintain adequate commercial documentation, which can be produced when Customs requests evidence of payments made for imported goods.

The first point of reference for an administration considering the development of a valuation database should be the WCO Guidelines on the Development and Use of a National Valuation Database as a Risk Assessment Tool, as well as the WCO Revenue Package's Practical Guidelines for Valuation Control which also offer examples of WCO Members' best practices. This article takes a look at how the Customs administrations of Ecuador,

India and Kenya use their valuation databases as a means of facilitating risk assessments.

Establishing a valuation database

The type of software and hardware used for a valuation database is a matter for each administration. But whatever the system used, it works best by extracting key data on previous importations from the Customs clearance database.

The Indian Customs Valuation Database project, more commonly referred to as the National Import Database (NIDB) project, was initiated in June 2004 to develop a real-time, electronic database

for goods imported through all Customs stations in India. All data pertaining to valuation is compiled on a daily basis from import declarations. The data on commodities which is considered sensitive is then analysed by a software programme to determine unit values, weighted average values of identical goods, and percentage deviations and outliers, while being supplemented with

international price information.

This analysis is done by forming clusters of identical/similar goods and working out representative prices based on mathematical formulae with the help of statistical tools, in order to identify transactions where the declared value may be in doubt. The idea is not to automatically reject declared values, but rather to facilitate the verification process. The data, duly

the constraints applied to the informal sector.

The new ICC statement sets out seven additional recommendations to help address the misuse of Customs databases: we hope that governments – and WCO delegates in particular – will be ready to engage with us on these recommendations in the months ahead. As the UN's new development agenda emphasizes, we all have an interest in getting our approach to trade right.

More information

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Valuation databases should be used only as a risk assessment tool and must be developed within a broader risk management framework. In addition, it is equally important that business operators maintain adequate commercial documentation.

analysed and flagged by Indian Customs' Directorate of Valuation (DOV), is then sent to all assessing officers for use as an effective tool to detect under-valuation and valuation fraud, in order to safeguard Customs revenue.

The quality of import data captured is crucial for achieving reliable risk assessment. In Ecuador, to ensure the quality of the data, a group of specialists vet or 'clean' the data extracted from the Customs clearance database before it is input into the database. Values are not included where, for example, descriptions are inadequate – indeed, prices vary considerably for goods within a particular classification depending on brand, package size, quality, and country of manufacture. During a physical inspection, photos of the goods are also taken and stored digitally along with the price data for the product in question, providing a further means of comparison.

Ecuador Customs is, moreover, working on a project to enhance the quality of the goods description appearing on a Customs declaration by creating catalogues on certain products that importers or exporters can refer to when completing their Customs declaration.

To overcome similar difficulties, especially in analysing or comparing contemporaneous imports due to the fact that information related to the description of goods, units of quantity, and so on are submitted in a non-standardized or non-uniform format, Indian Customs has incorporated new technological changes to its valuation database. The new version includes an 'items-profiling' module, which enables inconsistencies to be overcome.

The profiling module has the capability to distinguish various ways in which a particular item can be described on a Customs clearance. For example, 'Stainless Steel,' can be written as 'Stain Less Steel,' 'stainlesssteel,' 'S S,' 'SS,' or even 'S.S.' Without such capacity, a computer would read these 'entries' as different items, and create different clusters of the same goods.

In addition, the module can also classify the same commodity according to specific attributes which have an influence on the price, as required by the user – for example, the brand, model, grade, size,



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and colour, thereby enabling an officer to cross-check the contemporaneous imports of identical and/or similar goods. The new system is also more user-friendly in regard to submitting queries and retrieving data from the database, and has a better reporting module for issuing standard reports.

Risk management module

Once a database is established and populated with data, an administration must develop a procedure for using it. Some administrations have integrated their valuation database into their risk management module (RMM), as recommended by the WCO. In India, the Directorate General of Valuation (DGOV) joined hands with the national Risk Management Team to devise a strategy for valuation risk assessment and control, in the context of developing a Risk Management System (RMS) for import and export cargo clearances.

The valuation database has been integrated with the Risk Management Module (RMM) through an interface called the 'valuation corridor,' which takes inputs from the database, such as details on the imported commodity, tax compliance indicators, and key factors for assessment. These inputs are mainly fed into the RMM as 'compulsory compliance requirements.' It is only when a stakeholder fails to comply with these requirements that the systemic facilitation is stopped, and the declaration is diverted to an officer for consideration. Moreover, based on more

specific inputs/intelligence from the database, some consignments are directed for examination and assessment by an officer.

To measure the performance of the different tools used by the DGOV, a reporting module was embedded in the Indian RMS. The facilitation level has been the biggest yardstick to measure the performance of various valuation tools. There has been an increase in the facilitation level, which Indian Customs is endeavouring to further enhance.

Ecuador Customs also evaluates the performance of its database by analysing feedback which is provided automatically following enforcement officers' controls. On the basis of this analysis, the risk parameters are updated as necessary.

International cooperation

Indian Customs developed its Customs valuation database and RMS on its own. Having gained a lot of experience on how to develop, maintain and use such tools, it started assisting other countries in the setting up of their own systems.

One of the countries which benefited from the experience of Indian Customs is Kenya. This fruitful cooperation started in 2006 and led to the launch in 2009 of a new valuation database in Kenya, which is compliant with the principles of the World Trade Organization (WTO). The database enables the Kenya Revenue Authority (KRA) to mitigate any resultant hurdles from subjective valuation decisions which

are contrary to the principles of the WTO Valuation Agreement.

The Simba 2005 system which Kenya Customs was using at the time did not support the management of an efficient valuation database nor valuation corridor management functions. Indian Customs' DOV was identified as having such a system, and was contacted accordingly. With a positive response from the DOV, KRA representatives made a visit to understand how the valuation database, as a best practice, was implemented in India. Various aspects, including infrastructure, use, capacity building, technical assistance and other areas of cooperation, were discussed and agreed upon.

Thereafter, the DOV team visited Kenya Customs to undertake a status evaluation and needs analysis, after which they embarked on developing a database tailored to the KRA's needs. The database was uploaded, tested and piloted, and went live in

the latter part of 2008 after confirmation that it met the KRA's needs at that time.

A Memorandum of Understanding (MoU) was signed and is still in force between the KRA and India's Centre for Development in Advanced Computing (C-DAC) which carried out the system development for the KRA under the supervision of the DOV. From time to time, there is consultation between the three parties on possible areas of enhancement and other agreed deliverables, as contained in the MoU.

The valuation database was integrated with Simba 2005, and the KRA's Post-Clearance Audit (PCA) Unit utilizes the information for risk analysis with a view to enhancing voluntary compliance and recovering any revenue that may have been lost. Indian Customs played the role of project coordinator for the development of the KRA's Customs valuation database, hence the methodology adopted by the KRA is similar to the Indian valuation system.

The KRA is in the process of acquiring an automated RMS which will be integrated with the valuation database for automating risk profiling. Meanwhile, risk profiling for valuation purposes is undertaken by staff, especially those working in the Valuation and Tariff Section as well as in the Post-Clearance Audit and Enforcement Units, to arrive at informed and justified valuation decisions.

Echoing the positive experience of Indian Customs, compliance levels were also enhanced in Kenya, following the introduction of the valuation database for risk profiling. Ecuador too improved the effectiveness of their valuation controls, both at the clearance level and at the post-clearance level.

More information
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Higher tobacco taxes increase revenue and save lives: a review of the WHO Report on the Global Tobacco Epidemic, 2015

By Robert Ireland,

HEAD OF WCO RESEARCH AND COMMUNICATIONS

TAXING TOBACCO PRODUCTS has historically been a simple way for governments, through their Customs and tax agencies, to collect revenue. Indeed, Adam Smith wrote in his 1776 book *The Wealth of Nations*, “sugar, rum, and tobacco are commodities which are nowhere necessities of life, which have become objects of almost universal consumption, and which are therefore extremely popular subjects of taxation.”

Tobacco taxes are relatively easy to administer, especially if specific excise taxes are used. Moreover, the volume of money currently collected by taxing tobacco is substantial. In 2013 the World Health Organization (WHO) estimated that Customs and other revenue agencies worldwide collected approximately 300 billion US dollars (USD) annually in tobacco tax revenue.

Public health is a second major benefit ensuing from tobacco taxation. This benefit has its basis in the well-established economic principle that higher prices reduce the demand for a product, service, or activity. Economist Paul Samuelson explained that this “downward-sloping demand curve” occurs “when the price of a good is raised (at the same time that all other things are held constant), less of it is demanded.” The WHO Report on the Global Tobacco Epidemic, 2015, which this article reviews, examines the policy of higher tobacco taxes.

Reducing negative externalities and internalities

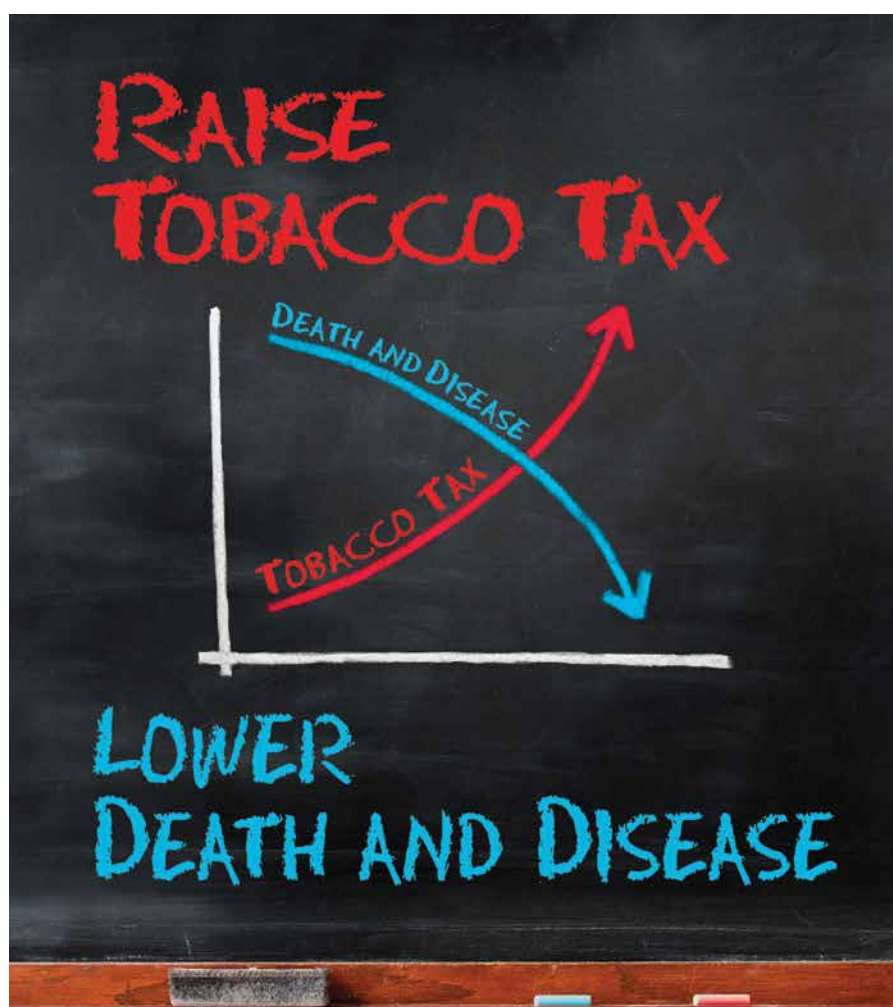
Public policy can raise the price of bad things and also lower the price of good things. Concerning the former objective, reducing negative externalities (bad things impacting third parties) and negative internalities (bad things impacting the self), governments have at their disposal a number of approaches to raise prices. In particular, taxation is an effective and

efficient way to raise the price of bad things and thus reduce their usage.

This is, for instance, the leading recommended strategy for mitigating global warming. By raising the carbon price, either with a carbon tax or by emissions trading, carbon pollution will decrease. Concerning the objective of lowering the price of desired goods, and also in the

context of global warming, taxes can be lowered on cars which do not emit carbon dioxide in order to encourage wider purchases and use of electric vehicles.

Another prime policy example of decreasing negative externalities and internalities is tobacco taxation, which raises the price of tobacco products. Higher prices reduce tobacco usage, which subsequently lead



Higher tobacco taxes = fewer smokers,
less death and healthier communities.



WORLD NO TOBACCO DAY, 31 MAY
www.who.int/world-no-tobacco-day

to a fall in tobacco-induced diseases and premature deaths. This is not to say that taxes are the only influencer on price; for instance, retail sales prices set by tobacco companies can also be an important factor.

In addition to the policy rationale, there is an international legal basis for the notion that tobacco taxes should be higher for public health purposes. Article 6 of the WHO Framework Convention on Tobacco Control (FCTC) states that “the Parties recognize that price and tax measures are an effective and important means of reducing tobacco consumption by various segments of the population, in particular young persons” and that they should “adopt or maintain measures which may include implementing tax policies and, where appropriate, price policies, on tobacco products so as to contribute to the health objectives aimed at reducing tobacco consumption.”

Following the adoption of higher tobacco taxes, Customs administrations and other revenue agencies are thus contributing to the dual objectives of increased revenue collection and improved public health.

Types of tobacco taxation: specific excise taxes are best for revenue collection and public health

There are several types of tobacco taxes, such as excise taxes (specific or ad valorem), Customs import duties, value-added taxes (VAT), and sales taxes. Specific excise taxes are assessed based on the quantity or weight of the product, while ad valorem excise taxes are assessed based on the value of the product.

Simplicity is a fundamental characteristic for a tax structure to achieve public policy objectives, and this is why tobacco control experts advocate specific excise taxes on tobacco products. The WHO report, mirroring the WHO FCTC Article 6 Guidelines, supports specific excise taxes as the best way to achieve public health and

Tobacco price increases and the subsequent decline in usage are relatively similar in rich and poor countries. There is, however, more upside potential in low- and middle-income countries as they tend to have lower tobacco taxes and higher smoking rates.

revenue objectives, particularly because they are easier to administer, and control price movements, when compared with ad valorem excise taxes.

Along the same lines, tobacco control expert Dr. Jha Prabhat and several co-authors wrote: “Specific excise taxes are more important insofar as they differentiate tobacco product prices from other prices more than broader taxes do. A high reliance on ad valorem and similar taxes by most LIMCs [low- and middle-income countries] creates large price gaps and increases incentives to switch to cheaper products.”

One requirement related to specific excise taxes is that they need to be raised periodically to keep up with inflation. For more extensive analysis of the use of excise taxes in tobacco control, the WHO’s 2010 Technical Manual on Tobacco Tax Administration is an excellent primer.

Higher tobacco taxes increase revenue

Although it may seem obvious, higher tobacco taxes increase the amount of revenue collected. Two of the examples cited in the WHO report illustrate this. In Turkey, the tobacco tax rate rose from 58% to 65% of the retail price – cigarette prices tripled, and revenue from cigarette taxes more than doubled between 2005 and 2011. In South Africa, from 1993 to 2009, total cigarette taxes rose from 32% to 52% of the retail price, and the government enjoyed a nine-fold augmentation in revenue yield from tobacco taxation.

Big tobacco tax increases also augment revenue collection even as the number of smokers begins to decline. Research by the World Bank shows “that even very substantial cigarette tax increases will still reduce consumption and increase tax revenues. This is in part because the proportionate reduction in demand does not match the proportionate size of the tax increase, since addicted consumers respond relatively slowly to price rises. Furthermore, some of the money saved by quitters will be spent on other goods which are also taxed. Historically, raising tobacco taxes, no matter how large the increase, has never once led to a decrease in cigarette tax revenues.”

Higher tobacco taxes reduce tobacco usage

Higher tobacco prices lead to decreases in tobacco consumption. The WHO report cites an extensive amount of research that shows how higher tobacco taxes correspond to lower tobacco usage. Three of the examples cited in the WHO report are the United States (US), Brazil, and Turkey:

- Cigarette prices increased nearly 350% in the US between 1990 and 2004, largely due to tax increases. During this time period the percentage of adult American smokers dropped by 33% and the number of cigarettes smoked decreased by more than 50%;
- Brazil experienced similar success. Between 1989 and 2010, the country saw an approximately 46% decline in smoking rates, and most of this was due to higher tobacco taxes;
- As previously mentioned, Turkey increased tobacco taxes while still enjoying higher revenue collection. In addition, between 2008 and 2012, tobacco sales in the country declined by 12% and the prevalence of smoking declined from 31.2% to 27.1%.

Another example is Australia, which in 2010 adopted plain packaging legislation and hiked tobacco taxes by 25%. By 2013, consumption of tobacco products had declined by 11% according to a report released by the Australian Ministry of Finance. Mr. David Crow, the Managing Director of British American Tobacco Australia, said at a government hearing in August 2011 that there “was a 25 per cent increase in the excise and we saw the volumes go down by about 10.2 per cent; there was about a 10.2 per cent reduction in the industry last year in Australia.”

Tobacco price increases and the subsequent decline in usage are relatively similar in rich and poor countries. There is, however, more upside potential in low- and middle-income countries as they tend to have lower tobacco taxes and higher smoking rates. The WHO report summarizes the research on the impact differentials of tobacco price increases for high-income versus low- and middle-income countries in the following Table:

Country type	Tobacco price increase	Range of reduction in tobacco usage	Average reduction in tobacco usage
High-income countries	10%	2.5%-5%	4%
Low- and middle-income countries	10%	2%-8%	5%

Tobacco usage and non-usage can be further understood by considering the terms ‘initiation,’ ‘cessation,’ and ‘intensity.’ Higher tobacco taxes can positively impact each of these dynamics. Many people start smoking when they are teenagers; higher tobacco prices deter some young people from ever starting as they are generally more price sensitive, particularly because they have less disposable income. Cessation (quitting) and lowering intensity (a person who reduces the number of cigarettes they smoke but does not quit)

can also be positively impacted by higher tobacco taxes, but face the obstacle of overcoming the addictive power of cigarettes.

Higher tobacco taxes do not lead to rampant illicit trade

Peer-reviewed evidence shows that higher tobacco taxes do not automatically lead to increased illicit trade in tobacco. The illicit trade in tobacco does, however, correlate to weak, inefficient, or corrupt governance which is why building effective, efficient, and less corrupt Customs administrations is important for collecting revenue as well as supporting public health.

One example among many is the United Kingdom (UK). While the nominal price per pack more than doubled from 3.74 British pounds (GBP) in 2000 to 7.13 GBP in 2013, the UK illicit cigarette market share dropped sharply from 21% in 2001 to 9% in 2013. During this period, cigarette usage in the UK declined significantly. This success (higher tobacco taxes, more government revenue, less smoking, and lower illicit trade) was supported by the formulation and implementation of a robust anti-illicit trade in tobacco strategy by UK Customs.

In addition to its public health and revenue successes related to tobacco control, Australia is also experiencing lower illicit trade in tobacco. Although seizures are not a perfect proxy for illicit trade, the volume of tonnes of tobacco seized has been declining while the country continues to put similar resources into countering the illicit trade in tobacco.

A 2015 peer-reviewed research paper by tobacco control expert Dr. Michelle Scollo and three co-authors states that there is “no evidence in Australia of increased use of two categories of manufactured cigarettes likely to be contraband, no increase in purchase from informal sellers, and no increased use of unbranded illicit ‘chop-chop’ tobacco.” Demand for illicit tobacco products is likely to continue to decrease in Australia.

Tobacco taxation rates

An important question for policymakers is what level to set tobacco taxes. The consensus of tobacco control experts is that tobacco taxes should be raised substantially and quickly to achieve government revenue and public health objectives.

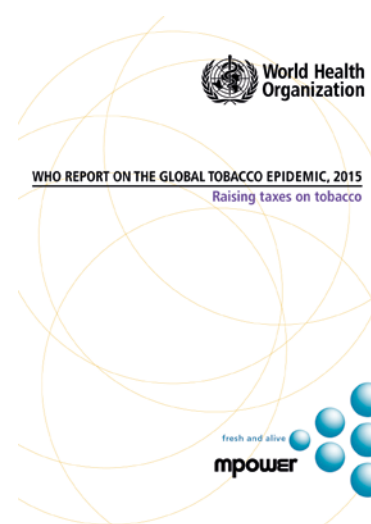
The WHO recommends “that excise taxes should account for at least 70% of the retail price of tobacco products, with continued increases above inflation and income growth after reaching this threshold.” The WHO report states that, as of 2014, 33 countries had managed to raise tobacco taxes to 75% of the retail price.

Conclusion

As countries increasingly adhere to the WHO FCTC with higher tobacco taxes, governments will collect more money and facilitate lower tobacco usage. Accordingly, by collecting tobacco taxes, Customs and other revenue agencies are making a vital contribution to human as well as to fiscal health.

More information

www.who.int/tobacco/global_report/2015/en





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Interdisciplinary approach, a hallmark of the 2015 WCO PICARD Conference

By Sylvie Degryse,

COMMUNICATIONS SERVICE, WORLD CUSTOMS ORGANIZATION

THE ANNUAL WCO PICARD Conference took place in Baku, Azerbaijan from 8 to 10 September 2015, giving rise to stimulating interdisciplinary debates around the following main themes: global value chains (GVCs); taxation and other revenue matters; and smuggling.

Following the issuance of a Call for Papers (CFP), over 65 submissions were received for consideration – a new record for the Conference. The Conference Scientific Board ultimately selected approximately 25 papers for presentation by Customs professionals and academics from disciplines such as anthropology, criminology, economics, law, and political science.

Since 2006, the ‘Partnership In Customs Academic Research and Development’ (PICARD) has contributed actively to the dynamic exchange of views between Customs administrations, universities, and research institutes on topics relevant to Customs and international trade, which can constructively feed decision-making processes.

Some 240 participants from over 50 countries, representing Customs administrations, the academic and research communities, and international and regional organizations, as well as the private sector, attended this three-day event. It offered a unique opportunity for networking, and for exchanging views on very specific topics.

Chaired by Robert Ireland, the WCO’s Head of Research and Communications, and hosted by the State Customs Committee of Azerbaijan, this 10th edition of the PICARD Conference officially kicked-off with opening addresses by the Secretary General of the WCO, Kunio Mikuriya, the Chairman of the State Customs Committee of Azerbaijan, Aydin Aliyev, the Deputy

Prime Minister of Azerbaijan, H.E. Abid Sharifov, and Vice-Commissioner Donh-Hyun Lee from the Korea Customs Service (KCS).

In his address, Secretary General Mikuriya said that, “Public officials need quality information and reliable analysis on which they can base their decision-making to manage change and guide their organizations.”

During the Conference, keynote addresses were delivered by three Nobel Laureate economists, Dr Eric Maskin, Professor at Harvard University (United States), Dr Edward Prescott, Professor at Arizona State University (United States), and Dr Finn Kydland, Professor at the University of California in Santa Barbara (United States).

The political economist Dr Mick Moore, Chief Executive Officer of the International Centre for Tax and Development in the United Kingdom, also delivered a keynote address by setting the overall scene for the topics to be discussed during the Conference.

He compared the evolution of tariffs and corporate taxes linked to their determinants within the increasingly globalized international trade framework that exists. While massive international trade expansion has been witnessed during the last decade, corporate taxes collected from Transnational Corporations (TNCs) did not follow the same positive trend.

Increased support to value-added tax (VAT), trade facilitation and GVC by authoritative bodies, such as the World Trade Organization (WTO), impacted positively on trade expansion on the one hand, while increased tax avoidance by TNCs and the multiplication of tax havens hindered tax collection, on the other.

In this context, Dr Moore underlined the wide scope given to possible transfer

mispricing as well as the disadvantages that many developing countries face due to the weaker organizational capabilities of their tax administrations, which depend heavily on corporate income taxes (CIT). To address this situation, he suggested that Customs should work hand-in-hand with national tax bodies to collect information from TNCs, and compare the data.

Also on the agenda were presentations made by representatives of journals that publish papers on Customs and border issues, including the Global Trade and Customs Journal, the Journal of Borderlands Studies, and the World Customs Journal, as well as the International Network of Customs Universities (INCUI).

In the spirit of looking to the future, a Youth Forum brought together some 70 students from various universities to discuss topics raised during the Conference, as well as future career possibilities in Customs and in the international trade arena.

Main themes of PICARD 2015

Drivers of incentivization of Customs officers

PANELLISTS: SIV REBEKKA RUNHOVDE, NORWEGIAN POLICE UNIVERSITY COLLEGE; MINETTE LIBOM, DIRECTOR GENERAL, CAMEROON CUSTOMS; AND M.R. RAJMOHAN, SRI LANKA CUSTOMS.

Within a Customs administration, incentivization systems are often developed to encourage officials in their daily work.

Based on concrete examples, various incentivization methods in place in Customs administrations around the world, such as in Cameroon, Norway and Sri Lanka, were analysed. These methods can take the form of financial and non-financial rewards, but some possible shortcomings were also pointed out.





In Norway, seizures of products protected under the Convention on International Trade in Endangered Wild Fauna and Flora (CITES) were highlighted as occurring too often by chance, given that they are frequently not among the targets embedded in risk management systems used by Customs officers, often due to these seizures not being accorded as high a priority as other seizures, such as narcotics.

Therefore, the support or non-support by Customs officers to the implementation of existing legislation, addressing the illegal wildlife trade for example, can depend directly on the incentivization method in place, which itself is dependent on organizational strategies and policies.

Global value chains

PANELLISTS: ANTOINE VION, AIX-MARSEILLE UNIVERSITY (FRANCE); GAËLLE BALINEAU, AGENCE FRANÇAISE DE DÉVELOPPEMENT (FRANCE); NICHOLAS HUMPHRIES, AUSTRALIAN CUSTOMS; AND DYLAN GERAETS, LEUVEN CENTRE FOR GLOBAL GOVERNANCE STUDIES (BELGIUM).

The globalized economy leads to the increased fragmentation of production processes at the international level and the circulation of intermediary goods. GVCs are, therefore, of major interest to Customs professionals, who work at borders.

During this session, it was explained how the requirements for specific sustainable development-related standard-setting systems for some consumer products were shown as having some impact on GVCs.

GVCs and their direct implications for Customs were also analysed, with data showing the existence of correlations between GVCs and trade facilitation, and GVCs and revenue collection. Interestingly, suggestions were also provided on how best, through revised government strategy and

economic policies, a country could increase its participation in GVCs.

Delegates were advised that, given the multidimensional nature of GVCs, the best approach should remain multifaceted to be successful: it should not only imply trade facilitation reforms with unilateral and multilateral liberalization of tariff and non-tariff barriers, but also the implementation of policies that would promote skills development, and ensure innovation and strategic infrastructure.

Finally, GVCs were also analysed in relation to the application of rules of origin (RoO) systems currently in place. Given that GVCs have drastically altered the international trade environment and that the complexity of RoO systems sometimes causes companies to forego preferential tariff treatment, it was suggested that using a more value-added approach would better suit modern business realities.

Innovation in Customs

PANELLISTS: IGBAL BABAYEV, AZERBAIJAN STATE CUSTOMS COMMITTEE; VALERIYA ERMAKOVA, INSTITUTE OF LEGISLATION AND COMPARATIVE LAW (RUSSIA); AND MIN WANG, SHANGHAI CUSTOMS COLLEGE (CHINA)

International trade is in constant evolution and innovations are crucial to Customs, which needs to adapt to keep up with the latest trends. This topic was looked at from systemic, strategic and sectoral perspectives.

First, the necessary ingredients that make a dynamic project successful were analysed, revealing that besides new ideas which are necessary, attention to risk mitigation, careful management, and employees' competencies should not be neglected in the process.

Based on concrete examples, various incentivization methods in place in Customs administrations around the world, such as in Cameroon, Norway and Sri Lanka, were analysed. These methods can take the form of financial and non-financial rewards, but some possible shortcomings were also pointed out.

Second, information technology (IT) systems currently being developed at national level to ensure global interstate information-sharing between Customs, in a context of progressive, enhanced economic integration, were explained.

The last presentation looked at the cross-border trade situation of electronic goods, underlined as being strategic by nature, and concluded that there was an urgent need to unify the rules governing this sector within a globalized trade environment to ensure higher predictability for business activities.

Revenue and tariff matters

PANELLISTS: THEO COLESKY, SOUTH AFRICAN REVENUE SERVICE; JUHA HINTSA, CROSS-BORDER RESEARCH ASSOCIATION (SWITZERLAND); AND ROBERT LUESSI, SWISS CUSTOMS.

Customs deals with tariff classification on a daily basis, which is very technical but crucial to revenue collection. As a result, the first presentation looked at the provisions and practices governing dispute resolution on tariff classification matters, comparing the systems in place in South Africa with the ones in Australia and Canada.

This presentation concluded that their highly technical nature requires either an independent and specialized court to be established, or the mandate of current tax courts to be extended to ensure more accurate tariff classification, thereby contributing to trade facilitation. Indeed, this would also lead to reduced litigation costs and time, and ensure higher transparency.

The second presentation shared with the audience some results of a survey on the advantages and possible development of a global Customs revenue collection benchmarking database for sharing information on tax revenue streams and tax collection costs among Customs administrations.

Finally, given that Customs deals with revenue collection, the economy, security and migration, and health and environment issues that involve other administrations, the benefits of a shared database between agencies for enhanced exchange of information were shared during the last intervention under this session. Such

cooperation is leading, in particular, to IT cost reduction, increased transparency, and improved legal certainty.

Fraud and data

PANELLISTS: CRISTINA MITARITONNA, CEPII (FRANCE); CYRIL CHALENDARD, CERDI (FRANCE); LOFTI AYADI, RESEARCHER (TUNISIA); RONG HU, SHANGHAI CUSTOMS COLLEGE (CHINA); AND SHINTARO HAMANAKA, ASIAN DEVELOPMENT BANK.

Goods moving around the world lead to high volumes of data exchange, which can lead to hiccups and the need for stricter management at borders.

Issues concerning Customs duty evasion were raised in relation to tariff receipts, which can only be addressed by a wide range of reforms. However, the positive impact of the adoption of automated Customs data treatment solutions and, in some cases, pre-shipment inspections were explained.

Typologies of some fraud risks were also analysed in relation to the way stores and Customs clearance areas are managed and handled, and how they could be addressed through risk management and other policies, with Tunisia being used as an example.

To respond to issues coming from e-business development, China Customs was reported as having adopted a new anti-smuggling approach, using some integrated supply chain companies that are said to address not only traders' needs, but also the needs of governments.

Finally, more globally, the availability in a country of quality trade statistics was demonstrated as being a possible good indicator of trade governance.

Protection of Cultural Heritage

PANELLISTS: TOMASZ NOWAK, POLISH CUSTOMS; CEZARY SOWIŃSKI, DHL EXPRESS; AND ESTHER PORTELA VÁZQUEZ, RESEARCHER (SPAIN)

Conflict zones seem to favour the trafficking in cultural goods, so anti-smuggling strategies are urgently needed to protect cultural heritage in these zones.

Possible approaches on how best to address this form of trafficking by criminal groups focusing on countries in conflict, and how best to protect cultural property as part of the security policy of the European Union (EU) were discussed. Levels of protection should be adjusted following the trafficking patterns and the situation of a given country.

The analysis of data coming from seizures in the framework of the illicit trade in cultural property and archeological/ethnological objects by the United States' Immigration and Customs Enforcement (ICE) agency showed the existence of many loopholes in the way seizures are currently reported, leading to difficulties in having a clear overview of the phenomenon of cultural heritage trafficking. The use of standardized software could help improve the situation in this specific field.

Customs risk management

PANELLISTS: YULIA MAZANIK, STATE CUSTOMS COMMITTEE OF THE REPUBLIC



OF BELARUS; AND OLEG KOMAROV, STATE FISCAL SERVICE OF UKRAINE.

In a globalized economy, risk management is a core tool used by Customs, when controlling goods at the border.

Two pertinent examples were demonstrated during the session: in Belarus, how automated Customs risk management systems can support Customs officers in their valuation control work, and in the direct calculation of Customs duties and taxes; and in Ukraine, the advantages reaped through the use of automated systems in the field of enforcement.

Informal trade

PANELLISTS: SAMI BENSASSI, BIRMINGHAM BUSINESS SCHOOL (UNITED KINGDOM); VANESSA VAN DEN BOOGARD, UNIVERSITY OF TORONTO (CANADA); AND CYRIL ROUSSEL, FRENCH INSTITUTE OF THE MIDDLE EAST (FRANCE).

For revenue collection and tax revenue purposes, looking at the potential existence of informal trade in a region is highly relevant to Customs.

Typologies of the informal trade taking place at the borders between Algeria and the northern part of Mali, and between Iran, Iraq and Turkey, as well as in Sierra Leone, were described in detail during this last session, including the impact on their respective local economies.

Attention was also drawn to the importance of taking into account some of the specific characteristics of these informal cross-border trade practices, when examining Customs and tax reforms.

Conclusion

The 2015 PICARD Conference made great strides in strengthening an interdisciplinary approach to better understanding

international trade, borders, and Customs matters.

Christine Msemburi, the Director of the WCO Regional Office for Capacity Building in East and Southern Africa, closed Day 2 of the Conference by advocating the need for more research to ensure that Customs and border realities are properly told and understood. "Let's tell our stories," she said.

In closing the Conference, Robert Ireland expressed his warmest thanks to participants, and paraphrased the writer David Simon by saying that "the PICARD Conference is building something here, and all the pieces matter."

More information

<http://www.wcoomd.org/en/topics/research.aspx>

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WORLD CUSTOMS ORGANIZATION



Round-up of the WCO Technology & Innovation Forum

By Laure Tempier,

COMMUNICATIONS SERVICE, WORLD CUSTOMS ORGANIZATION

FROM 26 TO 29 October 2015, for the fifth time, the WCO organized its Technology & Innovation (TI) Forum, a platform for leading experts and decision-makers from various border agencies, technology companies, academia and international organizations to exchange ideas on border management, enforcement, and the assistance technology can provide.

When asked which innovations are going to shape the future, many participants declared that fusion is the future, that is a combination of technologies, and the ability of systems to interact with each other: electronic pre-declaration linked to a GPS tracking system which monitors the movement of goods in transit; and matching biometric and biographic data to better process passengers at airports.

Others highlighted the impact of the 'Internet of things,' i.e. the network of physical objects or 'things' embedded within electronics, software, sensors and network connectivity, which enables these objects to collect and exchange data.

The opportunity to boost analytical capacities by using 'big data' was also seen as a game changer, and automation as a key enabler: automated border controls for checking trusted and registered travellers; and the automated detection of objects and commodities in scanned cargo.

This article reports on some of the technology developments discussed and displayed at the Forum, but first looks at the vision and some of the projects implemented by the Customs Administration of the Netherlands who partnered with the WCO in organizing this event, with the slogan 'Pushing Boundaries, Changing Horizons.'

Perfect distribution country

"We are here to share our mutual knowledge and experience in how to achieve a balance between control and facilitation," said the General Director of Customs of the Netherlands, Ms. Aly van Berckel-Van de Langemheen during her opening speech. And the task for Dutch Customs is huge.

Indeed, the Netherlands plays a leading role in trade and logistics on the European continent, and is commonly referred to as

the 'perfect distribution country.' More than a quarter of all goods intended for European Union (EU) Member States arrive on Dutch soil; 300 million EU consumers depend on supplies that pass through the country, and volumes continue to rise.

This situation requires considerable efforts on the part of the Dutch Customs Administration, which has, in response, set a point on the horizon: an innovative, stratified enforcement concept that will benefit Customs and the business community. In essence: appropriate inspection of each market party – from reliable company to unknown entrepreneur.

During what all participants considered an amazing performance, Dutch Customs described its enforcement vision, with the motto 'Pushing Boundaries,' a vision according to which Customs is able to verify – for all forms of transport entering or leaving the EU Customs territory – whether the required reports and declarations have been submitted, thereby enabling Customs to obtain a solid overview of each incoming or outgoing container and pallet. Achieving this vision is based on information from declarations and

other sources, and relies on the use of state-of-the-art inspection, detection, and information technology (IT).

A crucial prerequisite for this vision to be accomplished is cooperation. Others occasionally have better technical resources, better information, or a higher level of expertise. Therefore, any supervisory task requires working closely together with other enforcement agencies that are also responsible for border management, with trade and industry, and with the scientific community.

“A typical Dutch trait is that we are organized and we keep each other constantly informed. You could also say we talk a lot,” explained Eric Wiebes, the Dutch State Secretary of Finance, during the opening session of the Forum. “They say when you put 20 people on a deserted island, they’ll eat each other within a week. Not here. Put 20 Dutchmen on a deserted island and within a week, they will have formed a council and have an agenda in front of them.”

“The Dutch have created a centre of excellence to validate technologies before purchasing them. They manage to stay at the forefront in terms of technology because they work in close collaboration with providers, and therefore the devices and machines they buy match their needs,” explained a representative of a technology firm.

SmartGate: integrating technology into logistics flows

The use of advanced technology, adapted to context and needs, is important, but equally important is the way technology is integrated into logistics flows, so that controls do not hinder trade. In the Netherlands, a collaborative arrangement has already resulted in innovative initiatives. One of them is a public-private partnership project being deployed at Schiphol Airport and called ‘Schiphol SmartGate Cargo,’ which enables controls and supervisions to be carried out according to a ‘one-stop-shop’ model.

Where inspections took place at different time intervals in the past, they are now combined, during ‘quiet moments’ in the logistics chain. In the coming months, they will also take place at one physical location, the Joint Inspection Centre (JIC). Soon, companies will be able to send

Others occasionally have better technical resources, better information, or a higher level of expertise. Therefore, any supervisory task requires working closely together with other enforcement agencies that are also responsible for border management, with trade and industry, and with the scientific community.

freight to be checked to the JIC, where their goods will be processed.

Remote scanning pilots are currently being conducted by a number of logistics companies, located at Schiphol Airport, whose premises have direct access to the apron, and who have their own scanners.

Officers from the JIC send a scanning request to the company holding the cargo to be checked. The company then reviews the selected shipments using its own X-ray equipment. The Centre staff receive these images remotely, in real time, analyse them, and then decide whether to send a team to the company’s premises or not.

Customs officers also receive audio and photo files, together with the Movement Reference Number – a unique number that is automatically allocated by the Customs office of export which accepts the export declaration in the EU.

Customs also has mobile scanners to inspect shipments, as well as scanners controlled by operators. Moreover, aeroplanes can be scanned with a backscatter – unlike a traditional X-ray machine, which relies on the transmission of X-rays through the object, a backscatter X-ray detects the radiation that reflects from the object and forms an image.

The installation of nuclear detection portals on the roads surrounding Schiphol’s secured airport premises is also part of the programme. All outgoing freight will soon

be checked for radiation in a comprehensive and fully automated way.

A site comparable to Schiphol Airport’s JIC will soon also be opened at the port of Rotterdam: the State Inspection Terminal. The facilities will largely resemble those at the airport, plus a separate warehouse for inspecting hazardous substances.

Inspection technology

Three major trends came up during the Forum in relation to inspection technology: Remote and centralized screening, combined or hybrid technologies and automation of detection.

Remote and centralized screening

The Dutch administration uses one innovation for scanning operations, displayed at the Forum: fully automated scanning, as well as the integration of screening systems into one workstation.

Countries usually have a fleet of scanning equipment, with each machine requiring a specific workstation/software, as well as specific training on how to use it. Non-Intrusive Inspection (NII) equipment is used in a standalone manner: all information collected from a scan is used once at the checkpoint level. It is not centralized, and creates ‘islands of information’ only visible at scanner sites.

The integration and centralization of radioscopic images generated by scanners can solve this shortcoming. Some Customs administrations and some technology providers have developed platforms that can handle different brands and models of scanning equipment. This addresses the issue of the lack of an international standard on the market that defines a universal format for the images and data produced by such machines.

Solutions providing for a common interface have been designed that enable all the images produced by the machines to be seen on the same screen, using the same analytical tool. Their benefits include the possibility of centralizing the management of scanning operations, and of handling inspections from a remote control centre. In addition, they eliminate the need for differentiated training for each type of X-ray equipment.

Some providers have integrated this solution into the network of their customers, enabling them to give access to any other data and information available in their systems for comparison with the image. Such solutions also open the possibility of sharing data from the equipment with others, i.e. within the administration as well as with other agencies or foreign administrations.

The utility of such a system when applied to transit trade is advantageous: scanning cargo at entry and exit enables images to be compared in order to detect any changes in the load. However, the exchange of images between countries could give rise to compatibility issues, including the fact that the image format would need to be made compatible or be standardized.

Combined or hybrid technology

Inspection devices now combine different types of technologies. An X-ray cargo inspection system can have an integrated radiation inspection capability, so that both inspections are performed simultaneously, without interfering with each other. The results of the radiation inspection are displayed with the X-ray image, so that the operator can evaluate an object which may have caused a radiation spike.

The next generation of NII technologies also combines X-ray techniques that are capable of localizing the shapes and chemical information of objects, and additional techniques more sensitive to specific substances (such as organic materials like explosives, drugs and plastic weapons), in order to improve the ability to discriminate between material, as well as resolve issues related to the overlapping of objects.

Automation of detection

Scanning technology providers are, moreover, working on algorithms that will enable machines to recognize objects. Automatic detection tools are commonly known by the acronym 'ATR,' which means Automatic Threat Recognition, or Assisted Target Recognition. "What we've been actively researching are machines that help operators and analysts to identify anomalies and threats," explained an exhibitor.

ATR technologies are based on machine learning, which is the development of algorithms that learn from experience.



Scanning technology providers are working on image recognition, i.e. training an algorithm to find specific patterns in X-ray scans of all sorts. This is not an easy task, as one needs to cooperate with clients, and possess a substantial bank of images.

Building such a reference database of X-ray images is the aim of an EU research project called 'ACXIS,' which stands for 'Automated Comparison of X-ray Images for Cargo Scanning,' and which gathers together industry representatives and public entities.

ACXIS detection is based on finding similarities between the active image and data gathered, by processing the reference cargo X-ray image. In other words, an image comparison is done between the reference library's image and the image under analysis, or from a previously stored image of the vehicle.

Such technology also enables specific objects – guns, for example – and abnormalities in the load to be found, and 'ISO

non-empty containers' to be revealed, in order to detect contraband and illegal goods, forgotten or intentionally left in an ISO container, or differences in the load.

Manufacturers are also working on the auto detection of the nature of goods: the combination of specific imaging technologies that enable an officer to distinguish between commodities, based on their material composition and density. The system will colour the image according to the HS code of the commodity.

"By only scanning cargo when a risk has been identified, we think Customs is not using its equipment the way it should. With the right machine at the right location, it is now possible to scan all cargo without hindering trade, and to enhance capacity to detect threats," explained the representative of a manufacturer.

Detection technology

The demand for fast and accurate mobile techniques for the detection and identification of products is higher than ever before. There are many handheld analytical devices on the market for chemical, metal, and alloy identification. The exhibitors gave the participants an opportunity to experience how these devices perform, and how easy they are to use. Issues related to the functionalities of these devices, such as the integrity of evidence, and the ability to easily add new substances to the device's library, were also discussed.

Technology providers are also bringing mobility to the table. One impetus for the use of mobile detection technologies is the lengthy time and high costs associated with laboratory analytical methods.

Thanks to mobile identification equipment, detecting a substance can be dealt with directly at the frontline. The new generation of handheld analytical devices is meant to provide users in the field with high quality evidence quickly and easily. "In the future, in many cases, there will be no need to send samples and wait for the results from a Customs laboratory. The technology enables us to analyse everything at the border," explained a Customs representative.

Track-and-trace

The fact that objects are increasingly being embedded within electronics, software, sensors and network connectivity, enables them to collect and exchange data, opening new ground in terms of surveillance and position tracking.

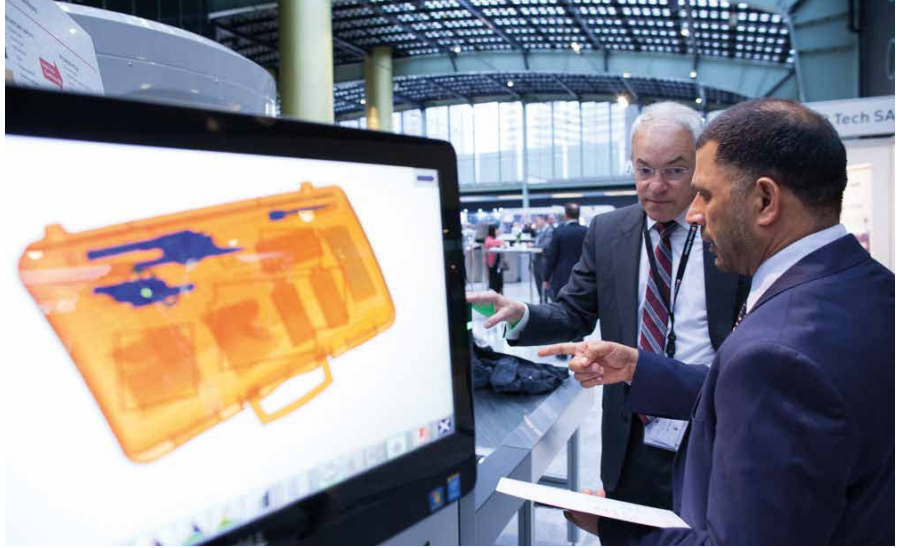
Electronic seals can now be programmed to send real-time location information, status information (temperature, humidity, status of sealing, etc.), and alarms for specific events – for example, if the load has not moved for a prescribed time, if there is a breakaway from the designated operational route, or if a container seal is removed by force. Seals can be reprogrammed whilst in route and can be placed inside the container, making it difficult to access.

A new solution to monitor ship movements at sea was also displayed at the Forum. The system pulls information from a ship's self-reported Automatic Identification System (AIS) vessel data, which tracks the ship's location, size, coordinates and identity, using multiple maritime data sources, including publicly available and open source information, to identify anomalies or specific patterns – for example, vessels that take unusual routes, have their beacon turned off, or enter a specific territory, etc.

Customs will become big data organizations

The industry continues to develop ways to collect and display data, and the 'Internet of things' is generating even more data. Customs has, or will have, a critical mass of data at its disposal. But simply having data has no value for its own sake. Data only has value when it is used, and in this regard Customs administrations need to develop their analytical capacity. However, turning this data into a valuable resource is not an easy task.

"People usually misunderstand what is big data," explained one of the speakers on the panel discussing the possibilities offered by data management-related technologies in terms of risk management. "It is an important technology, but there is confusion on what it means and what it can be used for. What are we trying to solve? What kind of data do we need? Is it big? Is it for you?"



Advances in analytics allow Customs to learn about patterns of non-compliance that it did not know before. "Innovation starts with a big clean: leave some ideas behind," highlighted another speaker, who explained that some results are counter-intuitive, and show that often intuition fails. It does not mean that algorithm forecasts are better than human ones, it just means that the combination of computer and human forecasts produces the best results.

"We look at big data as a way to come up with a system that detects illegal activities," explained a law enforcement representative. "You first have to decide which data you need to look at, then cross-index the information with the data collected, and refine the system until you do not have too many hits and good results."

Results need to be worked on with experts. "Key to the process is the blending of processing and analysis capabilities, of general subject matter experience and expertise, and of specialized expertise, with input from investigators, engineers and the industry, as well as from foreign partners."

The use of data analytics is a game changer, said experts, but most Customs and border agencies are lagging behind. So how do you start with big data? Leadership is critical, agreed the panellists. Indeed, analytics can transform an organization. Once leaders understand what this is about and where they want to go, they can start building a team. It is important to get early results, and take time to know what you want to look at. "Analytics programmes must start small so that they can be used across an organization easily."

Conclusion

Participants also discussed issues related to the vulnerability and security aspects of technologies, the necessity to build a dialogue between enforcement officers

and technology providers while respecting procurement rules, as well as human resource issues.

The deployment of new technologies will definitely impact human resource policy, with Customs needing to train staff, and to attract and retain new talent. "It is essential to know where we are going and what kind of professionals we require. If we do, we can prepare for that, start lobbying, invest, and train," explained a Customs representative.

"There is a great quote by Lewis Carroll from Alice in Wonderland, where the Red Queen tells Alice: 'My dear, here we must run as fast as we can, just to stay in place. And if you wish to go anywhere you must run twice as fast as that,' mentioned one of the Forum panellists, before adding "but, we may not have to run twice as fast; we may just need to use technology."

"Innovation is necessary if you want to remain at the same spot, while disruptive technology is necessary if you want to advance," raised the same speaker, reminding participants of the two categories new technologies are usually classified under: "sustaining technology," which relied on incremental improvements to an already established technology; and "disruptive technology," which is defined as a technology which displaces an established technology and shakes up the industry, or a ground-breaking product that creates a completely new industry.

It is critical for Customs administrations to understand which technologies will matter to them, and prepare accordingly. The WCO looks forward to meeting you at the WCO IT Conference and Exhibition in June 2016, or at the next TI Forum in 2017, to continue the dialogue.

More information

www.etouches.com/ti2015

Paper on the use of container status messages wins ‘best paper’ award

The WCO recognized the value of research and education as part of the response to the many challenges Customs administrations are facing. Crucial in stimulating research is enabling researchers and professionals to interact with each other. As hosts of the 5th TI Forum, the Customs administration of the Netherlands promoted further interaction between the research and development (R&D) and Customs communities by integrating a special track devoted to the latest research and developments in the field of technology use by Customs administrations. An award was given to the best research paper presented during the Forum.

THE TI FORUM research track was hosted by the Rotterdam School of Management (RSM) and Fontys University of Applied Sciences, and was supported by the European Commission's (EC's) Customs Detection Technology Expert Group (CDTG). Following a call for papers and posters for the special track, 22 submissions were received from all over the world. A programme committee, chaired by Professor Tan from the RSM, refereed the papers and posters, and selected the best paper. Accepted papers were presented at the T&I Forum in a break-out session, while the posters were put on display throughout the event. The winning paper, on the use of container status messages

for improved targeting, by Aris Tsois et al., was also presented as a plenary lecture in the Forum's closing session.

A container status message (CSM) describes an event that has occurred in relation to a container. These relatively well standardized messages are exchanged by companies involved in the transport of a container, and comprise information on the whereabouts of a container and its contents. Events recorded in a CSM include the stuffing of a container, the loading of a container on a vessel, and the discharge of a container from a vessel. The data captured in a CSM consists of the container number, a description of the

event, the location at which the event took place, the dates and times of the event, the identification of an associated vessel, the load status of the container, and the name of the carrier company.

Apart from its use among commercial supply chain actors, CSM's are also used by Customs and border management authorities, enabling them to trace back the handling actions pertaining to a specific container. Customs and Border Protection in the United States, for example, requires CSM's as part of its Importer Security Filing and Additional Carrier Requirements rule (commonly known as '10+2'). Even though standardized, as with any real-time data the

CSM is not necessarily uniform, nor is it complete, chronological in arrival, or lacking in mistakes. Further, in a fast moving world vessels are often transferred from one owner to another, and the tendency to come up with names of ships that are not unique is remarkable. This all calls for dedicated treatment of the CSM data before it can be used for intelligence purposes by law enforcement agencies.

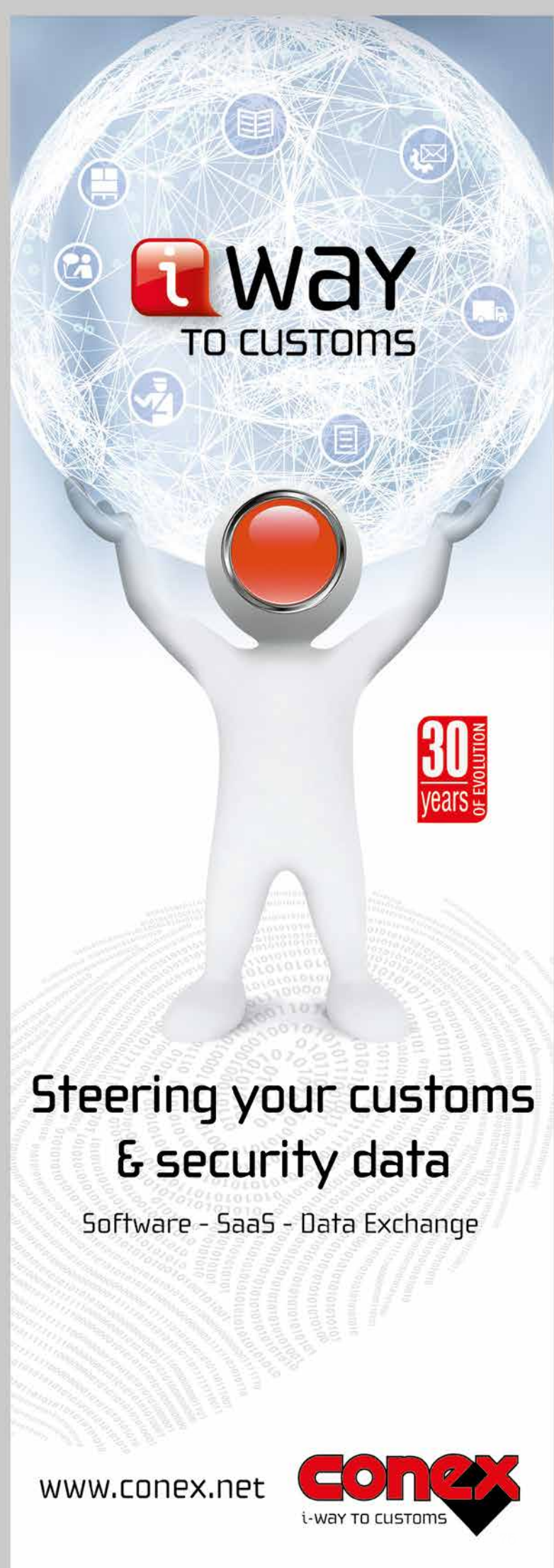
In fact, this dedicated treatment of CSM data was actually the first step of the research work that Aris Tsois and his group undertook at the EC's Joint Research Centre (JRC). In extracting useful information from the CSM's, Tsois et al. intend to answer the following questions representing the five relevant phases in a container's journey:

- 1) Pre-loading – when and where do the goods get stuffed in the container?
- 2) First loading – when and where do the goods start their deep-sea maritime transport?
- 3) Transshipment – when and where was the container transhipped while carrying the goods?
- 4) Final discharge – when and where do the goods end their deep-sea maritime transport?
- 5) Final destination – when and where do the goods get de-stuffed from the container?

They did so by devising container-trip information (CTI) for every journey of a single container from origin to final destination using a machine learning algorithm. In setting-up the CTI, CSM information is assigned to the five phases mentioned above using a conditional random fields algorithm. The data calculated from the CSM's contains important information: the container identifier; the location involved; and the time period covered in the phase of the journey and the vessel involved, for every phase. In cases where the algorithm signals the absence of relevant CSM data, it will infer from the data that is present the most likely value for the missing data.

Some questions, however, could not be directly answered from the CSM information. For example, no CSM is generated when a container stays on board a vessel while it calls at one or more ports on the way to its final destination, and as a consequence no CTI entry is made on the stay at these in-between ports both in terms of location and duration. Customs administrations on the other hand have found information on the location of an in-between stop and the duration of that stop to be of relevance in applying their risk assessment procedures.

For this reason, the JRC team also developed vessel-stop information (VSI) alongside CTI. Using a specifically designed vessel stop inference algorithm and employing all available CSM information, the build-up of the needed information became possible. As it turns out, this 'big data' analytic approach to CSM's yielded information which describes the location and the duration of in-between vessel stops in sufficient detail.



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Of course some challenges remain with this approach as the names of vessels may be the same, precision in date and time reporting is far from ideal, and data may be altogether erroneous. Two assumptions were made in order to confront these challenges: separate events at the same time with two vessels with the same name refer to one single vessel; and two vessels undergoing the same events at the same time refer to the same vessel.

The newly developed CTI and VSI lay the ground for innovative analysis of CSM data for profiling and container targeting purposes by Customs and border management authorities. Where officers involved in targeting currently attempt to trace back the journey of a single container, the developments described in Tsois's paper will enable an algorithmic evaluation of a large number of containers at one time – all the containers on a vessel arriving at the port of Rotterdam, for example. The key actually is to combine VSI's and CTI's present on the vessel as a whole. CSM's on a single container can leave one guessing. But aggregated sets of CTI's and VSI's allow for the filling of voids and the correcting of errors in CSM's, and the defining of pre-loading, first loading, transshipment, final discharge and final destination of every container. Moreover, these sets of data allow one to generate supplementary information on transshipment stops that the vessel passed through.

To enable law enforcement agencies to actually use these findings in everyday practise, a visual analytics tool and the ability to include risk indicators had to be constructed. The developed prototype of the visual analytics tool has now been included in the EC's CONTRAFFIC website, which provides information on container routes as well as risk assessment services to users from Customs and security authorities. The website enables registered users to construct geographical maps, timelines and text tables from the billions of CSM's and the millions of CTI's and VSI's calculated from them. This highly insightful way of presenting dense information can be used to select those container trips that are subject to route-based indications for wrongly declared origin, abnormal handling time, suspect ports en route, and the smuggling of drugs and weapons. In his paper, Tsois actually gives examples of a number of algorithms that could produce insightful indicators to this end.

Tsois and his team have, over the course of their research and development work on CSM's, gathered a large community of Customs experts that are kept up-to-date on the latest results – for example, through workshops. It is likely that this community will grow even larger following the presentation of his paper at the T&I Forum. The paper is a rare demonstration of a broadly applicable development, based on widely available source material that has been developed to be practical and, moreover, made available to the actual end-users themselves.

More information

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www.douane.nl

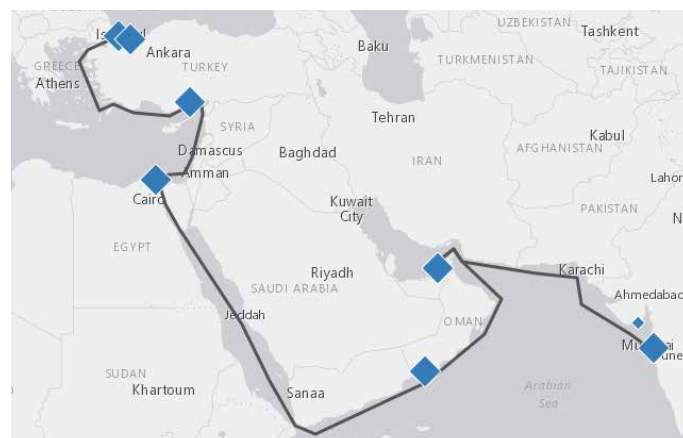
ConTraffic: improving route information to enhance risk management



What authorities in Rotterdam know about the container route: UK NL

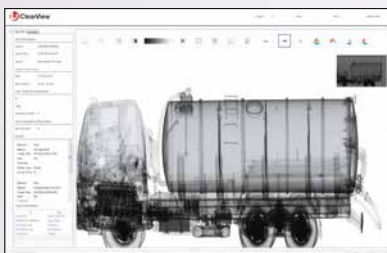
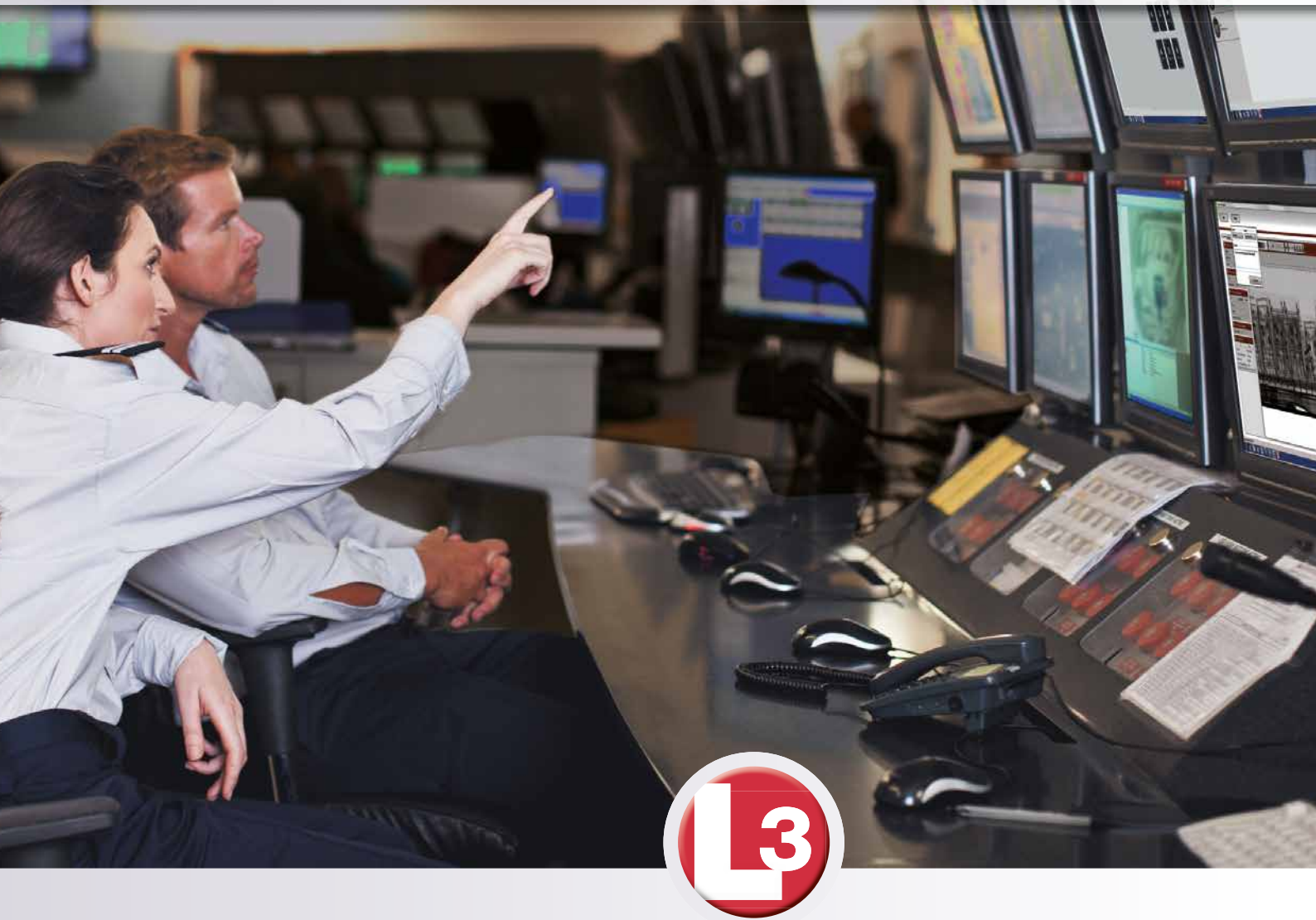


The actual route (4 transshipments): IN TR RO TR UK NL



Adding the places where the container vessel stopped reveals even more details: stops in Jebel Ali (AE), Salalah (OM), Dumat (EG) before reaching Turkey

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Calendar of Events

March

- 29 Feb. - 1 March Agreement on Trade Facilitation Working Group, 5th Meeting
- 29 Feb. - 3 March Enforcement Committee, 35th Session
 - 2 - 3 Permanent Technical Committee, 211th/212th Sessions
 - 4 Permanent Technical Committee/Enforcement Committee Joint Session
 - 7 - 8 Harmonized System Committee, Working Party
 - 9 - 18 Harmonized System Committee, 57th Session
- 21 - 22 Technical Experts Group on Air Cargo Security, 10th Meeting

April

- 4 - 7 Finance Committee, 99th Session
- 7 - 8 Regional Offices for Capacity Building /Regional Training Centres, 11th Meeting
- 11 -13 Capacity Building Committee, 7th Session
- 13 - 15 Integrity Sub-Committee, 15th Session
- 18 - 22 Technical Committee on Customs Valuation, 42nd Session

May

- 9 - 11 Data Model Project Team
- 11 - 13 3rd Global AEO Conference, Cancun (Mexico)
- 12 -13 Information Management Sub-Committee (IMSC), 70th Meeting
- 23 - 27 Harmonized System Review Sub-Committee, 50th Session

June

- 1 - 3 2016 IT Conference & Exhibition, Dakar (Senegal)
- 6 - 7 Global Information and Intelligence Strategy (GIIS) Project Group, 13th Meeting
- 27 Jun. - 6 July Knowledge Academy for Customs and Trade

July

- 11 - 13 Policy Commission, 75th Session
- 14 - 16 Council, 127th/128th Sessions

Mark the date!

WCO IT Conference & Exhibition to take place in Senegal from 1st to 3rd June

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It should be noted that WCO meetings are mentioned for information purposes and are not all open to the public. Unless otherwise indicated, all meetings are held in Brussels. Please note that these dates are indicative only and may be subject to change. The WCO meetings schedule is regularly updated on the WCO website.

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— February 1, 2016, 17:30:52 —

Extract of an interview of Jean Gurunlian Webb Fontaine President and Former Executive Secretary of the United Nations Summit on Trade Efficiency.