

Single window in the context of the WTO Trade Facilitation Agreement

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Abstract

This paper is based on the findings of a research project that was designed to support the Australian government's trade facilitation agenda by providing a trade stakeholder position on the development of an effective Australian single window for trade. Among other things, the Australian report examined the standards and best practices promulgated by recognised international authorities on this subject, including the World Trade Organization's Trade Facilitation Agreement (TFA). As this was possibly the first study on single window driven by the private sector of a major developed trading country since implementation of the TFA, certain aspects of the study would seem to be relevant in the larger global context of that agreement and it is these aspects which are discussed in this paper. The paper concludes that all TFA signatories need to carefully consider their implementation priorities under the agreement. In doing so, it presents a series of conclusions from the original research that has relevance to all TFA signatory countries, regardless of their development status.

1. Introduction

In its most widely accepted international definition, a single window is a facility that allows parties involved in trade and transport to lodge standardised information and documents with a single entry point to fulfil all import, export and transit-related regulatory requirements. If information is electronic, then individual data elements should only be submitted once (UNECE, 2015).

Australia has been an active supporter of the World Trade Organization (WTO), and was an early adopter of its Trade Facilitation Agreement (TFA) and other multilateral efforts to foster trade facilitation. As a sizable developed economy heavily dependent on international trade, Australia has a significant number of regulatory requirements impacting cross-border goods movements, directly or indirectly administered and enforced by more than 40 agencies at national and state levels. Australia has implemented a number of electronic reporting and permitting systems supporting cross-border trade, with some having been in place for a number of years. A notable example is the Integrated Cargo System (ICS), first implemented in 2005, which serves as a primary means for a variety of stakeholders in the supply chain to report core import and export data used by government stakeholders for risk assessment and clearance purposes. While this system was linked to some extent to other government agencies, over time it became clear that it did not rise to the level of a single window in line with international standards.

In 2016, the development of a trade single window was expressly adopted as a political priority of the Australian government, motivated by a desire for trade facilitation, particularly for exporters, and a reduction in red tape. The government expressed the goal of designing 'a cutting edge system that is reliable, which provides genuine trade facilitation gains and which will have longevity' (Dutton, 2017),

and it established a dedicated multiagency Inter-Departmental Committee on Single Window (IDCSW) to progress the project as well as bringing the topic to the attention of Australia's National Committee on Trade Facilitation (NCTF), set up under the auspices of the WTO TFA.

This paper is derived from the findings of a research project conducted in 2017 (Widdowson et al., 2018). Funded with the support of a broad coalition of the Australian trade community,¹ its aim was to complement the Australian government's single window project by preparing the way for development of a trade stakeholder position on the development of an effective Australian single window for trade; one reflecting the needs and aspirations of the country's private sector. To do so, it provided a high-level overview of the current Australian import and export process environment, including the extent to which this environment currently involved (or had near-term plans to increase) IT-enabled processes within and across Australian government agencies. It further gathered data on needs and potential benefits of a single window identified by Australian private sector stakeholders and provided a review of the above in light of relevant prescriptions in the TFA, as well as the standards and best practices promulgated by recognised international authorities on this subject, such as the United Nations Economic Commission for Europe (UNECE) and the World Customs Organization (WCO).

The report's recommendations were subsequently adopted and presented to government as a consensus position of the private sector members of Australia's NCTF, where they remain under consideration as a benchmark for future single window implementation in that country.

As this was possibly the first private-sector-driven study on single window in a major developed trading country since implementation of the TFA, certain aspects of the study would seem to be relevant in the larger global context of that agreement and it is these aspects which are in focus in this paper. On the one hand, the TFA's provisions, some directly relevant to single window, are binding on its signatories—unlike the many pre-existing standards and recommendations on the subject—and may require countries with existing or planned single window projects to consider that in their approach. On the other hand, the project conclusions, which incorporate private sector views may, at least in part, reflect the views held by trade stakeholders in the global context and provide useful insights for future single window design and implementation.

2. Background: Contemporary border management

Control of national borders is one of the primary means for a country to assert its sovereignty, and the border has historically also been a substantial source of revenue for government:

The spaces of borders, corresponding to their map lines, are marked by ports of entry and exit. It is here where cross-border transactions of people and goods are processed through the exercise of immigration and customs authorities. Typically, the scope of these border inspection authorities is most broad regardless of legal system. Sovereignty asserts itself aggressively at the border threshold to determine who and what has the right or privilege of entrance (inbound) and exit (outbound). (Bersin, 2012, p. 115)

Virtually all countries have historically assigned control of the border to a powerful agency, traditionally referred to in most countries as Customs, with broad powers to admit (often after payment of duties and other taxes) or deny access to the domestic commerce of the country, or to allow domestic exporters to access markets abroad, generally after a process involving declarations and inspections or other controls.

Over the last several decades, as duty rates have fallen and international trade has grown, the focus of Customs in enforcing domestic safety and conformity requirements at the border has increased, particularly in developed trade-driven countries. In most cases, such requirements are primarily administered by other government agencies (OGAs) with broad responsibility throughout the domestic market—not just at the border.

With the implementation of free trade agreements and the growth of multi-country supply chains, more and more products, previously primarily produced in the domestic economy, are supplemented or replaced with foreign-made equivalents, produced in countries that are not necessarily subject to domestic norms or safety-related regulatory oversight. In recent years, high-profile scandals related to unsafe imports have received widespread publicity at a global level and have been augmented by concerns of potential contamination in the supply chain or bioterrorist activity. As a result, existing regulatory requirements have been tightened and pressure has grown for closer attention to imports. Concerns with unacceptable and anti-competitive trade practices in relation to such things as endangered species, child labour, prison labour and intellectual property, are also leading to new requirements, based on social policy, that require documented compliance as a prerequisite to import clearance.

The above factors have driven increased use of information technology in the border clearance process, with many paper-based declaration and certification requirements transitioning to a virtual environment over the past two decades. This increased use of IT and automation in the border clearance process is reflected in parallel (and often uncoordinated) efforts by agencies to automate their respective product registration, evaluation and certification efforts relating to safety requirements. Another dimension in the border challenge is the need for accurate and timely statistical data collected by both Customs and other border agencies involved in cross-border trade. Modern IT has revolutionised the capacity of effectively collecting, efficiently analysing, and disseminating such data. These factors have rather quickly moved national border processes from a paper-driven customs release process to one where one or more electronic data submissions by properly authorised parties in one or more systems in the appropriate sequence may be required.

While the agency with responsibility for regulatory control over specific products being brought into the domestic market, or produced domestically for export, will generally retain its primary authority, it may be unable to staff the border with its own officers, thereby requiring it to collaborate with Customs in enforcing its priorities at the border.

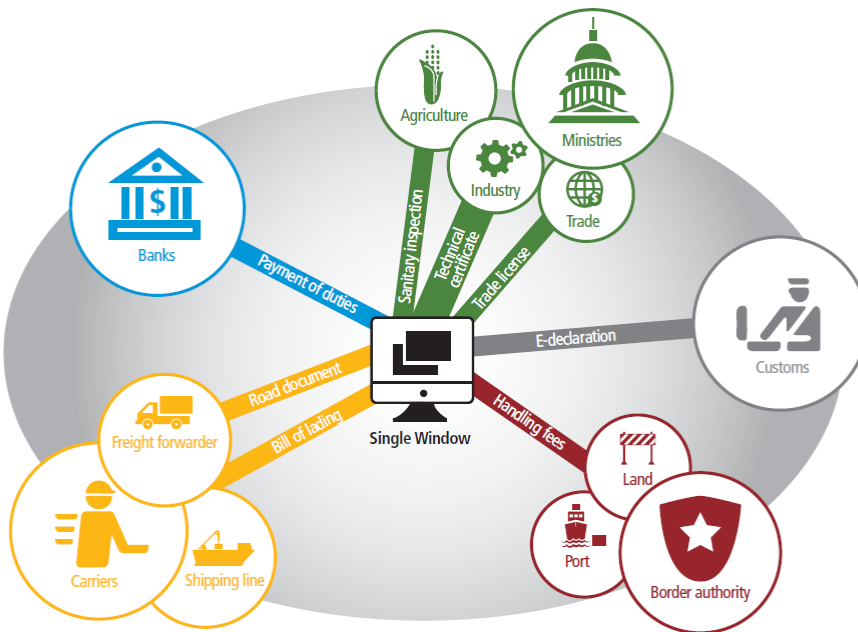
From a practical perspective, then, there is a need for Customs and the other agencies to cooperate closely in managing increasingly IT-enabled and automated border processes in order to facilitate the flow of goods. Failure to do so can lead to undetected non-compliance and impediments to legitimate international trade, harming both the national economy and consumers. The single window concept, with its emphasis on collaboration and sharing of information, offers a vision to enhance these processes to support both trade facilitation and border enforcement.

3. Single window in practice

Within the contemporary border management framework, the single window should be viewed as a concept embracing a set of precepts and building blocks designed to allow government to enhance its ability to administer and enforce legal requirements across multiple agencies via the use of integrated processes, while at the same time enabling the rapid and efficient flow of legitimate trade across the border.

While single window projects almost always involve IT-based innovation, IT is not itself the goal. Rather, the goal is to create a platform for effective collaboration at the border between Customs, OGAs and business – enhanced and enabled by IT and an appropriate level of automation, to facilitate the efficient movement of goods across borders. Advanced single window concepts can connect a range of actors involved in cross-border traffic, as can be seen in Figure 1 (World Bank, 2017, p. 81).

Figure 1: Actors and data exchanges in a single window environment



Source: World Bank (2017, p. 81).

At this point, it is important to point out that the single window concept is focused on the regulatory process as operationally implemented in a synchronised manner with goods movements across the border—pre-arrival/departure permitting or reporting, the lodging of declarations and other documents for incoming or outgoing consignments, and the process of authorising those consignments to continue along the supply chain.

A successful single window is, therefore, both transactional and operational in nature and many of its functions are time-critical. It comes into play once consignments are on the move, or just prior to that point, and is essential to enabling them to complete their international journey. This presents a clear distinction between a single window and the more advance-planning focused ‘trade portal’ or ‘trade informational portal’ facility. While significant potential synergies exist between a single window and a trade portal, they are different concepts and should not be conflated.²

The hard work of building a successful single window requires a step-by-step approach, combining the management of policy, organisational approach, legal issues, operational and communication frameworks, business process re-engineering, IT architectural decision-making, data harmonisation, messaging standards, procurement, project implementation management and—importantly—change management, both during the project and following implementation. Inadequate attention to any of these factors can lead to project delays, cost overruns, and even project failure—and critical problems are often unrelated to IT issues, although they can be exacerbated by them.

4. Single window best practice

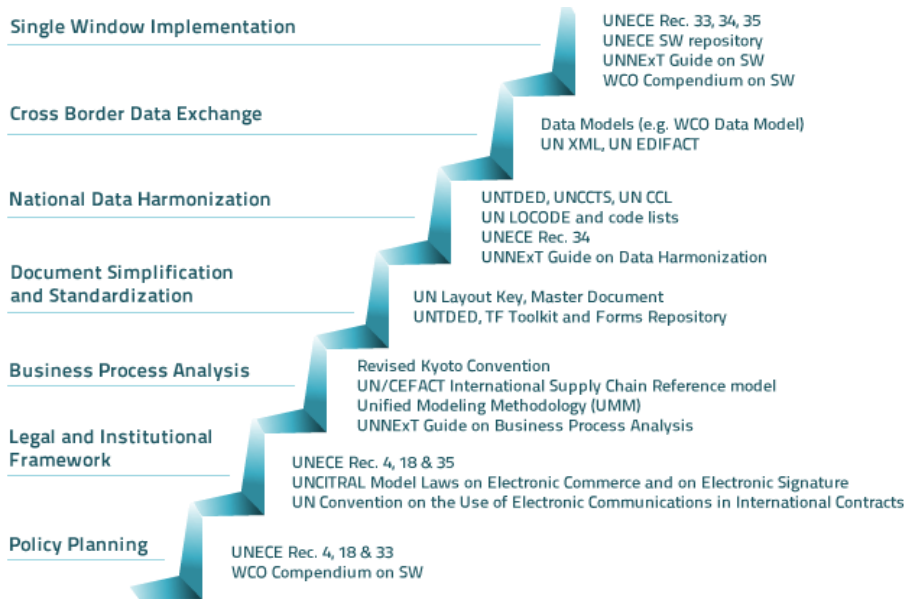
With international trade being long recognised as a driver of national economic growth, multilateral bodies focused on the promotion of economic development have had a focus on the single window concept for some time. Various units of the United Nations (UN) have been notably engaged in gathering information on single window implementations around the world, distilling best practices, and providing guidance and advice to countries looking to start a new project or improve those already underway. The World Bank Group, the Inter-American Development Bank, and other multilateral and national organisations focused on trade promotion for economic development have done a great deal of work in the area of single window.³

UN initiatives related to single window include those led by a variety of UN operating units, including the United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP), UNECE, United Nations Centre for Trade Facilitation and Electronic Business (UN/CEFACT), the United Nations Network of Experts for Paperless Trade and Transport in Asia and the Pacific (UNNExT), the United Nations Commission on International Trade Law (UNCITRAL) and the United Nations Conference on Trade and Development (UNCTAD). Both UNECE and UNESCAP have become global focal points for trade facilitation recommendations and electronic business standards in general, and single window has taken on an increasingly large role in their work.

UN/CEFACT was established as the vehicle to provide cooperation and develop standards in these areas. Over the past several decades, all of these UN agencies have produced a large corpus of international standards, best practice recommendations, case studies and guidance documents in the field of trade facilitation, many of them focused on or directly relevant to single window, with periodic updates to reflect technological developments. Although these instruments are not binding, they have been adopted as de facto international standards as they collect and organise the know-how that has been gathered in the diverse experiences of countries implementing single window. The work of UNCITRAL, which focuses on international trade law standards, provides further guidance on some of the underlying legal building blocks for single window.

UNECE provides a comprehensive online Trade Facilitation Implementation Guide (UNECE, 2012b), which has a dedicated section on single window (UNECE, 2012c) that is constantly updated with the latest information related to a number of topics (one current project is related to using Blockchain technology as a trade facilitation enabler in the single window context; see UNECE, 2017a), including links to a very extensive set of materials related to single window implementation. Selected ones are referenced below in Figure 2, which depicts, by topic, key steps in the creation of a single window.

Figure 2: UN toolset for single window: Step by step



Source: UNECE (2012b).

These materials provide an essential starting point for any single window project, and even though many are focused on single window implementation in the developing country context, a high percentage of their content is pertinent to developed countries. Notable efforts include the *Data harmonisation and modelling guide for single window environment* (UNESCAP, 2012a), which provides an exhaustive analysis of the benefits of data harmonisation to enable efficient and predictable transactions based on trade facilitation principles and international standards. It delivers a step-by-step approach to help government officials and the trading community in their plans to capture, assess and define data and to structure electronic documents. Another useful document is the *Business process analysis guide to simplify trade procedures* (UNESCAP, 2012b), which presents a methodology to identify, describe and analyse the existing ‘as-is’ business processes, including activities and tasks involved in international transactions within the framework of UNECE’s buy-ship-pay international supply chain model (UNECE, 2012a). It delivers practical steps (and detailed examples) and activities, from scoping the business process analysis project, planning its implementation and collecting relevant data, to analysing the captured data to identify bottlenecks and developing recommendations for improvement.

UNECE has worked over several decades to develop a series of interlinked recommendations (noted in Figure 2 above) that represent a global consensus of best practice on cross-border trade facilitation, including a number of formal recommendations directly relevant to single window. UNCTAD has extensive experience in various areas of international trade, trade facilitation and transport/logistics (UNCTAD, 2016). With the beginning of the WTO trade facilitation agreement negotiations, support to developing countries in these negotiations became another major focus of UNCTAD through analytical and policy publications, training and awareness-raising events, as well as the implementation of technical assistance and capacity-building activities.

Today, the UNCTAD trade facilitation package includes support for implementation of the TFA, along with broader, more ambitious transport, transit and trade facilitation reforms.

UNCTAD support is provided in close collaboration with other international organisations, including the International Trade Centre (ITC) and UNECE, and it has recently expanded its efforts to offer UN members access to guidance, technical assistance, and software tools to build single windows and related applications (see UNCTAD, n.d.).

Another international organisation that is active in this area is the WCO. The WCO is an intergovernmental organisation, based in Brussels and established in 1952 through an international convention termed the Customs Cooperation Council, that represents the global customs community in a wide range of operational and policy issues. It creates and manages conventions, standards and other instruments aimed at improving the efficiency and effectiveness of border regulation in general and customs procedures in particular.

As a key part of its charter, the WCO works with other government and industry organisations, such as the WTO, UN/CEFACT, the International Federation of Freight Forwarders (FIATA) and the International Chamber of Commerce (ICC). This engagement with private and public sector stakeholders is a critical aspect of the WCO's mission. All trade facilitation technical forums at the WCO are typified by extensive representation of the many industry and intergovernmental agencies with an interest in the topics under discussion. The representatives can contribute to discussion equally and, as a result, help shape the outcome.

Since 2003, the WCO has been actively engaged in the promotion of the single window concept in conjunction with UN/CEFACT, including the two-volume single window compendium (WCO, n.d.a) that presents the legal, technical, human resource and procedural aspects of single window from the perspective of executive management and operational staff in Customs.

A key differentiation in the WCO literature on single window is the use of the word 'intelligent' to define how the WCO envisages a single window system operating. It uses the term 'intelligent' because the WCO suggests that any effective single window is to be more than a data switch/gateway to other regulatory agency environments or a web portal. It must provide shared services to all stakeholders, and ideally incorporate integrated risk management that satisfies the requirements of all agencies involved as single window stakeholders, provide for the appropriate sharing of data and represent an integrated duty/tax/fee management system that would include the banking sector. Furthermore, the WCO is of the view that a best-practice system must achieve a combined transactional response to the trader, one which either signals a release or alerts the trader to any impediment to release by providing adequate information on the governmental requirements (whether from Customs or any other agency involved in the single window) to enable the trader to resolve them.

The WCO's single window compendium has been augmented over the years with the addition of several explanatory and related documents, such as the IT Guide for Executives (WCO, n.d.c), which provides invaluable advice for Customs or other agency heads contemplating large-scale IT projects such as a single window system, and the 2015 *Supplement edition to the WCO SW compendium*, which reads, in part:

The Single Window concept examines regulatory controls through the eyes of the trader and views all interactions between trade and regulatory agencies without regard for the internal divisions within government. (WCO, 2015, p. 3)

Another important related document is the WCO Single Window Data Harmonization guidelines (WCO, 2007), which are much the same as UN/CEFACT Recommendation 34 on the same topic, but were tabled and accepted in February 2007, before the UN recommendation. This is of significance because in recommending data harmonisation, the WCO is in a position to offer the WCO Data Model (WCODM) as the base template against which countries can create a standardised national data set.

The WCODM was aimed originally at creating an international standard for data and message structures required for the various exchanges between Customs and trade in order to manage the various border regulatory requirements. With the single window concept in mind, the WCODM was extensively upgraded from 2005 to include the data and messaging for a wide range of other border regulatory requirements, such as human health, food standards, animal and plant quarantine. Apart from data structures, the WCODM includes the United Nations Rules for Electronic Data Interchange for Administration, Commerce and Transport (UN/EDIFACT) and xml standard message templates, business process and information models and a wide range of international and national code sets. Through the creation of the Government Cross Border Regulatory (GOVCBR) UN/EDIFACT message in 2009 based on data model structures, the WCO championed the first standard message set able to manage information exchanges in a single window environment, and it continues to work in this area.

Other WCO initiatives that have strong links with single window include the Coordinated Border Management (CBM) concept and the Framework of Standards to Secure and Facilitate Global Trade (the SAFE Framework).

CBM is a term used in WCO parlance to describe closer collaboration between border agencies for a wide range of potential activities—it is a concept that is widely promulgated by the World Bank, UN agencies and the WTO (and, indeed, several TFA provisions are aligned with it), sometimes under slightly different terminology, such as ‘Collaborative Border Management’, but with the same intent. Single window can be seen as a part of this wider interagency cooperation. CBM is an important component of the WCO’s vision for the 21st century and it incorporates a broad range of procedural, administrative, legal, physical, data and technical issues, such as joint controls, shared facilities and joint intelligence and targeting centres, and it is closely linked to prescriptions in the TFA (see Section 7 below).

The SAFE Framework was the collective customs response to the terrorist actions of 9/11 and its core concept is awareness of the importance of seeing the international trade supply chain as an interconnected series of actions and exchanges of information at a significant number of physical locations amongst a wide array of private and public sector actors, many of whom would be unaware of each other and the role(s) they play. Since the development of SAFE Framework in 2005, the importance of cooperation between Customs and other government/intergovernment agencies involved in the border regulation of international trade and supply chain security has increased. In recognition of this, WCO introduced tools and instruments, such as CBM and the WCODM, and augmented the SAFE Framework with a number of standards covering Customs to other government agency cooperation. This provides further context to the importance and relevance of single window to the strategic thinking of the WCO.

5. Key success factors in single window projects

Two decades of experience in the implementation of single windows around the globe, reflected in the work of the multilateral agencies, have highlighted the factors that must be addressed in order to achieve successful implementation. Single windows, if successfully implemented, have been lauded as a key part of what the World Bank calls a national digitalisation strategy, and can have a significant positive effect on economic growth (UNECE, 2017d). Nevertheless, single window implementations around the world also provide more than a few cautionary tales, with a recent report noting:

It is not uncommon to see, in one country, several entities claiming to be Single Windows, acting in a coherent framework, notably when this stems from a strategic approach by the authorities. But most often, Single Window initiatives are implemented in an uncoordinated manner, against a background of hidden rivalries among administrations, with totally unproductive results for the country. At the level of architectures, power relations may also impose sometimes cumbersome, costly and ineffective operational architectures. (African Alliance for Electronic Commerce, 2017, p. 19)

Distilling the lessons learned, best practices, and recommendations encapsulated in the many reference works produced by multilateral agencies on the topic of single window, we summarise some key factors to be kept in mind from the outset of any single window project.

Legal framework

National laws governing cross-border trade, including those relating to the authority of Customs or other agency vested with the primary role of controlling national borders, tend to be aligned with border processes (such as importing goods), in part due to the coordinating work of the WCO over the past 50+ years and the provisions of the Revised Kyoto Convention and exhibit broad similarities from country to country. But the enabling legislation for other agencies, which often have an operational focus that is primarily domestic in nature, is often widely divergent and, even where it grants border-related authority or imposes mandates enforceable at the border, it rarely does so in a way which is aligned with customs law or customs operations. Also, to the extent agency legislation mandates information collection, permitting, or the like, it will often do so in a way which is not entirely compatible with modern IT processes.

This being the case, there is a major legal component essential to the preparation of any single window project, which is why multilateral agencies such as UNECE (UNECE, UNESCAP & UNNExt, 2013), UNCITRAL,⁴ UN/CEFACT⁵ and the WCO (WCO, n.d.) have devoted significant time and resources to setting out comprehensive guidance, recommendations, and explanatory information for parties to consider when embarking upon a single window (UNECE, 2010a) and the legal aspects feature prominently.

A single window requires a firm foundation in the national legal framework. For example, depending upon the solution chosen, a country's customs legislation might need significant amendment to provide Customs with the authority to be the lead agency, and to require Customs as well as OGAs to collaborate as they progress initiatives to incorporate their trade-facing activities into the single window. Similarly, legislation giving power to OGAs to inspect goods, collect data and so on, will need to be amended to reference the new data-sharing system and the division of responsibilities between Customs and the OGAs. Alternatively, it is possible that a single window might obtain its legal authority courtesy of a purpose-built enabling Act, overriding previous conflicting legislation at the agency level.

Lead agency and operational model

A single window project can only succeed in a national environment where agencies with border responsibilities have established a collaborative working relationship.⁶ As a practical matter, a single window facility needs to have a lead agency (or an agency that represents the government in a public-private partnership) in charge of its planning and implementation, and to take the primary role in running the system once it is operational. Typically, this agency is Customs (or the nearest national equivalent with border control responsibility).

As noted above, appointment of a lead agency requires a grant of authority, preferably legislation-based, which is binding on the lead agency as well as all OGAs participating in the single window. This grant of authority may be accompanied by a mandate from the highest level (e.g. the prime minister's/president's office) that agencies with responsibilities touching on goods crossing the national borders must utilise the single window as the primary means of gathering information, monitoring compliance with regulatory requirements, and collaborating with the lead agency on decisions and actions relating to cross-border movements of goods within their scope of jurisdiction.

Once a grant of authority and a mandate for OGA participation are in place, the lead agency must establish a close working relationship among all agencies which will participate in the single window from the earliest possible planning stage. Close and effective inter-agency communication is essential

for the success of any single window, and crucial aspects, such as risk management, data harmonisation, and business process re-engineering, can only be accomplished with a shared vision and close (and continuing) collaboration.

Once a single window is operational, the need for close collaboration continues as the involved agencies will need to handle any emerging issues (for example, system availability/functionality issues) in tandem and manage the inevitable changes in regulatory requirements, technology, and the trading environment over time. The single window needs to incorporate principles of good IT governance, including clear and effective rules (authorisations, access criteria, monitoring, data protection, archiving), and be capable of significant scalability.

Multi-agency risk management

One of the most significant (and underestimated) challenges in creating a single window is harmonising the risk management strategies of the agencies involved in a way that enhances trade facilitation. Risk management is a topic to which much attention has been paid in the customs and border management context, and multilateral agencies, such as the WCO, UN agencies and the World Bank, have devoted considerable resources to devising, documenting and promoting best practices,⁷ with many countries having adopted them. But the topic of risk management of internationally traded goods is not always in focus in those agencies with a domestic mandate (e.g. safety- or consumer-protection-related requirements).

In most countries, Customs has moved away from a 'stop and search' methodology applied to all cross-border consignments to much more sophisticated risk management techniques involving advance information, intelligence gathering, profiling and targeting, statistical sampling, compliance-based risk profiling and 'trusted trader' schemes. Where possible, risk analysis is applied by use of advance information about the goods, the trader and the supply-chain, so that the risk can be mitigated by making a determination about the regulatory treatment of imported goods prior to them reaching the border (or even before they depart the point of origin). The same logic applies to exports where risk assessment must be performed well before loading on the international means of transport, ideally as soon as possible after they are dispatched from their point of origin.

In less critical situations, imported goods can be allowed to cross the border with the condition that post-entry modifications (e.g. labelling) are used to bring the goods into conformity with national standards before being brought into domestic commerce. Whereas national customs authorities utilise these methods as a matter of course, OGAs may not be familiar with them, or may be hesitant to use them, and indeed may simply maintain that their mandate requires 100 per cent inspection of certain items and an assurance that they are completely in conformity with relevant standards before they physically enter the country. While there are circumstances where this may be justified, such measures impede trade and alternatives may be available to lessen the impact on commerce. For countries exporting foodstuffs, quality assurance is of great importance and may be significantly augmented through greater interagency collaboration in a single window.

In a multi-agency single window environment, it is essential that all such issues be discussed and risk management agreed between Customs and all OGAs prior to implementation within the single window environment. It is essential that each agency communicate the risk management measures it intends the single window (as managed by the lead agency) to perform, including detail on timing and format of information to be collected, whether risk assessment and risk management decisions should be dealt with directly by operation of the single window (e.g. through automation or instructions to border personnel), or after obtaining OGA input.

It is also important to document the parameters relating to whether consignments associated with risk factors can be released only after such have been mitigated through physical or documentary inspection, or whether post-entry/pre-loading treatments are available. In most cases, the lead agency will need to enter into an agreement with each OGA, documenting these matters, with periodic updates to take account of operational and regulatory changes.

Data sharing and data protection

The sharing of sensitive data for risk assessment and other purposes within a single window raises issues of privacy, commercial confidentiality and data protection. Some of that can be managed legislatively ((for example, *Electronic Transaction ACT 1999* in Australia, or similar) but many of the detailed procedural issues may be managed through memoranda of understanding or other written agreements between agencies guaranteeing the interests of all stakeholders involved in the single window. Data protection issues can be difficult even in a domestic inter-agency single window context, but they become exponentially more so in an international environment, as when the single window is linked into a multi-country networked environment.

Involvement of trade stakeholders

While the initial decision to pursue a national single window strategy lies with the government, in most cases the decision will be predicated on either direct input from trade stakeholders or economic analyses which bolster the case for a return on investment (accruing to government, but in line with TFA precepts, also generating gains in trade efficiency for trade stakeholders in general). Any new government system will have an impact on trader processes, and the impact needs to be clearly understood and reflected in the overall project cost-benefit and regulatory impact analysis. Some impacts may not be clear to government and this makes involvement of key trade stakeholders in the feasibility study phase of the project essential.

Once the project is launched, involvement of trade stakeholders in all project phases continues to be essential to ensure that the single window captures both the relevant aspects of trade processes and opportunities for process improvements during the design phase, but also to generate a sense of collaboration and ownership among traders, which can greatly ease system implementation and the inevitable issues which may arise when the system goes live. As noted above, once the system is operational, continuing dialogue with trade stakeholders is essential to identify further improvements in the single window and to effectively tackle new regulatory developments as they arise.

Financial aspects

As with any major IT system project, financing is essential from the outset. Single window financing models vary greatly from country to country, and run the gamut from systems wholly financed by the government (whether motivated by anticipated economic growth, cost savings, improved revenue collection, or all of the above), to systems financed, at least in part, by user fees, to systems which involve public–private partnership models designed to pay for themselves or even to generate operational revenue. Project planning and implementation options will be closely dependent on the model chosen, so it is essential that the financing model is clear before the project begins.

Another financial aspect relates to the method by which operational revenues—which can include duties, goods and services or value-added tax (GST/VAT), and fees for permits, and registrations—are collected and distributed (e.g. to the involved agencies, with or without revenue sharing to the agency running the

single window). From a trader perspective, the single window as a ‘one-stop-shop’ for payment can be a benefit in itself, especially if the single window model allows for periodic payment via a consolidated bill. As with the single window project financing model, this operational model needs to be determined earlier rather than later as it is a central issue in discussions between banks, agencies and the trade, and also has an impact on system design.

Authentication and information security

Another issue surrounds authentication (confirming the accuracy and trustworthiness of information), which is a general legal concern with automated exchanges of information, but which assumes particular importance in a single window environment given the number of parties dealing with sensitive information, the complex legislative environment that may prevail, and the variety of trader/agency, agency/agency, and even (in the case of an interoperable single window) government/government exchanges. All parties must agree the means by which they can be identified, the integrity of exchanges and how issues such as identity assurance and non-repudiation (i.e. that the sender of data is really the sender and cannot later deny the fact) should be managed.

With today’s omnipresent cybersecurity risks, a single window system represents a tempting target. The system processes vast amounts of data, much of it commercially confidential and related to privacy concerns, and the system is essential to the smooth flow of trade across the national border. If the system is down, goods may not be easily cleared. If critical commercial data is hacked, the national economy may suffer as a result. This means that the single window needs to be designed from inception with such security concerns in mind and it must be resilient enough to remain in service despite attacks and be capable of having its defences regularly updated.

Business process re-engineering

International best practice and the written advice of international agencies such as the UN (see UNNEXt, 2016) and the WCO (WCO, n.d.a), recommend that a change initiative as broad and complex as single window ought to be accompanied by a business process review and, where appropriate, a business process re-engineering exercise. It is a long-established fact of automation that computerising poor or outmoded procedures will not lead to the optimum outcome—rather, it can entrench those outmoded and inefficient procedures.

Taking paper documents and simply exchanging them for electronic document images is a common mistake and rarely leads to trade facilitation. The greatly increased collaboration amongst border regulatory agencies and their new methods for dealing with industry provide a potentially rich basis for a successful review and changes to existing procedures, and it is indeed in this area that the TFA provides a strong motivation for single window implementation.

Technical architecture

Single window embraces a variety of technical issues, but within that descriptor, there are several categories of overarching importance. One of these is the system architecture. Will the single window be a discrete system, monolithic in nature, or will it be a networked gateway behind which exist an array of interlinked systems? Today’s technology landscape presents many options, and these must be analysed and agreed amongst all parties to the single window at project inception, and options will be partly dependent upon the legal issues mentioned above.

Decisions as to whether the system should be interoperable with external systems, such as banks, trade portals and port communities, must also be taken and incorporated into the architecture. The policy decision about lead agency and whether the single window should be managed by an external provider are further influences on the final system design.

The IT security aspects mentioned previously also play a significant role in single window architecture decisions, as do operational fail-safes, such as parallel processing, multiple instances and system cutover capabilities. Data backup methods need to ensure that the system can be brought back online with all data re-constituted in a very short timeframe, and fallback procedures need to be known and operationally tested in the event of system downtime.

Experience has shown that, without an appropriate operational security architecture in place, the single window can easily become a ‘single point of failure’, instantly being transformed from a tool of trade facilitation to an impenetrable obstacle to cross-border trade. This aspect of single window design is very much a moving target (indeed, the standard-setting agencies such as UN/CEFACT are only now working to update their recommendations, see, e.g. UNECE (2017c), which addresses these topics), and the system must be designed not only to meet the challenges of today’s environment, but also for evolving future threats—and the budget for the system needs to be set accordingly.

Data and data standards

The messaging modalities for the single window need to be defined, and be as flexible and modern as possible, along with the data structure, both in the context of trade-facing data transmission as well as inter-agency data sharing and access. If it is felt that a common data platform is best, then a data harmonisation exercise will be needed (also a key factor in business process re-engineering) and that, in turn, means that a base data standard must be chosen.

Once again, UN/CEFACT (UNECE, 2010b) and the WCO (2007) recommend data harmonisation as an essential accompaniment to single window using the United Nations Trade Data Element Directory (UNTDDED) and using the WCODM as the standard, at least to the extent that the national single window’s internal data structure is harmonised with and can easily interact with the WCODM. Note that no international standard, on its own, will likely be able to handle all needs in a national single window, and therefore data standards often need to be supplemented and extended to meet country needs.

Change management and future-proofing

A single window is never ‘done’; changes to the national regulatory environment, the international trading environment and technological capabilities are constant, and any single window system (and the system’s operational management and budget) must be set up to stay on top of this change resiliently, without being overwhelmed.

While historically government IT systems were typically built on a customised model characterised as ‘state-of-the-art’ at a particular time, all governments have learned that this model leads to (expensive) legacy systems that need to either be updated and expanded (often very expensive) or phased out and completely replaced. Today’s technology options are much more flexible and interoperable than in the past, and any single window system needs to take advantage of this by a ‘future-proof’ architecture that embraces continual change, but incrementally without the need to replace the entire existing system.

6. Single window trends

While single window implementations advance, so do the associated technologies and innovative ideas to apply in them, and there are several topics impacting single window that are generating discussion at present. All should be reviewed and considered in terms of whether they could (or should) play a role in an eventual single window for a country, and the following summaries of three such ‘hot topics’ are provided as background.

Trade portal

Over the past several decades, most government agencies have established an internet presence, generally incorporating information about the agency and its responsibilities, with links to contact details, guidance, enabling legislation and the like. Over time, many agencies have also taken further steps to provide services (of various levels of complexity) to the public, for example replacing paper forms and approvals with electronic ones, allowing for electronic payment of fees, and moving the process of applying for permits online. Agencies with responsibilities at the border often have a specific section for importers and exporters, focused on their needs and requirements. And in most countries, Customs has a comprehensive website aimed at importers and exporters.

But each of these agencies develops its website in its own style and with information specific to its own scope of authority; it is rare to find agencies that present import and export information in a comprehensive manner that also covers the steps and requirements of other relevant agencies. All of this combines to challenge the ability of the importer or exporter to be assured that they are aware of all requirements applying to a given consignment, even in their own country, let alone in other countries.

Up until recently, it has been unusual to find a national government that provides a website providing a ‘one-stop shop’ covering all requirements for import or export into a country. Some countries have government-sponsored websites that are called ‘trade portals’, but they often tend to be focused on promoting exports and do not provide much useful information on general border procedures. That this state of affairs is detrimental to cross-border trade is not surprising. The World Bank observes:

A single source of all regulatory information, provided it is comprehensive, accurate and up-to-date, can result in tangible benefits in terms of trade facilitation. For a start there would be substantial cost savings if proper guidance can be obtained without the need to seek advice in person from several locations. Furthermore, conflicts would be avoided by having a single authoritative reference point, as would potential penalties for non-compliance. Cumulatively, these savings in time and cost should cut the overall cost of doing business and reduce the time to import or export goods thus contributing to a country increasing its overall standing in terms of transparency and ease of doing business. (Pugliatti, 2012, p. 3)

The appeal of this sort of trade portal is evident to almost anyone in the business world looking to access foreign markets or foreign suppliers. Until very recently, with ratification of the TFA, the multiple agencies with responsibilities touching on the border in any given country have had little incentive (and often no budget) to come together and agree on the implementation of a trade portal unless they received a specific mandate from above. The dearth of trade portals currently in existence (they are currently being implemented in countries that are involved in trade facilitation development projects sponsored by the World Bank, but they are otherwise currently virtually non-existent) shows that it is rare that a government has made creation of such a portal a priority.

Nevertheless, it should be immediately evident that the organisational factors which are necessary pre-requisites for a single window project would also lend themselves to creation and maintenance of a national trade portal. In fact, the necessity for a successful single window to maintain its currency with the changing regulatory requirements of the agencies involved in it means that the lead agency must track and document all such developments impacting single window-enabled import and export processes. The incremental cost of providing that information to traders in a comprehensive trade portal would seem to be minimal.

Conceivably, a trade portal could move beyond the provision of information to assist traders in preparing for a cross-border shipment to the provision of services, such as registration, permitting, and payment of border-agency related fees. If a national single window exists, these (non-time-critical) services could

be cross-linked to the single window (where rapid release is desirable and often critical) for purposes of validation, authentication and risk management, leading to trade facilitation treatment which may be much more ‘personalised’, yet be largely automated, than would otherwise be possible. Even where such cross linkages are not in place, it is of critical importance that the trade advice in a portal is fully consistent with the operational functionality of a single window.

Interoperability of single window

Recognition of the benefits of national single windows has led to a realisation of the potential advantages of scaling the single window concept to cross-border exchanges of data. The great number and variety of public agencies means that the main challenges remain the simplification, harmonisation and standardisation of data collection (whether electronic or in paper form) and procedures. Other critical challenges include cross-border authentication, mutual recognition of respective legal domains and above all, mutual trust.

‘Interoperability’ refers to the exchange of specific categories of foreign trade-related information in a structured format between two or more single window systems in different economies or countries. According to the UN/CEFACT Recommendation 36 (released in early 2017), the aim of interoperability should be to exchange accurate, complete data (datasets) speedily, seamlessly and securely and to the greatest benefit for operators and users.

The scope of single window interoperability may be adjusted depending on the interest of parties. Recommendation 36, for instance, points out that they can be bilateral, or multilateral if more than two countries are included; as well as sectoral if interoperability operates only between specific sectors (Customs to Customs,⁸ phytosanitary authorities, or maritime agencies). Increasing interest in interoperability has led to proposals to include specific provisions in the latest preferential trade agreement negotiations.⁹

Countries and economies with mature single windows or data exchange systems in place are developing interoperability projects at the multilateral level, notably the Association of South East Asian Nations (ASEAN) group.¹⁰ The Pacific Alliance regional free trade arrangement (consisting of Chile, Columbia, Peru and Mexico) is the first to establish by treaty the obligation of members’ national single window systems to interoperate at a regional level; it defines the obligation as establishing the ‘capacity of the systems to allow the electronic exchange of information, aligned to internationally accepted standards’.¹¹

The system’s Interoperability Pack (IOP) started operations in July 2016¹²; it is an integrated platform for facilitating trade through faster clearance of cargo and release of shipments among Pacific Alliance countries. The IOP connects each member country’s single window which enables standardised submission and processing of data, as well as a single point of approval for clearance of cargo. The scope of this project is currently limited to exchange of phytosanitary and certificate of origin messages among the country members, but it is expected that, in the near future, the customs declaration will also be included in the system (see Ministry of Foreign Trade and Tourism of Peru, 2017). It is likely the world’s first case of multilateral single window interoperability in action.

It appears that the topic of single window is increasingly being directly included in free trade agreement discussions as part of the topic of trade facilitative measures, with focus specifically on the benefits that interoperability can bring.

Port community system

Port environments encompass a complex network of transactions with multiple and diverse public and private actors. Based on the characteristics of port operations, two groupings can be discerned: the port/cargo logistics services and operations (e.g. loading, unloading, mooring, towage, pilotage), traditionally known as the port community system (PCS), and the other related to regulatory reporting requirements (declarations to port authority, coast guard, immigration, Customs, etc.) for vessel and cargo clearance to and within the port premises; often called a 'port single window'.

A PCS is a collaborative electronic platform that facilitates end-to-end information flow and creates value for port users, trade and logistics businesses and government agencies. It is meant to be neutral and open and enables intelligent and secure exchange of information among parties to improve the efficiency and competitive position of the sea and airports' communities and optimises, manages and automates logistics processes through a single submission of data and by connecting transport and logistics chains.

At the conceptual level, a PCS is a system that aims to provide interoperable information exchange amongst a diverse stakeholder base and that corresponds very closely with the single window idea. PCSs share many architectural and other technical similarities with the single window concept and the information exchanged is often, at least in part, data which is also required in trader declarations and government reporting mandates.

The growth of requirements for real-time exchange of information and the rapid development of IT systems are creating demand for more integration between both environments, leading to an expansion of the previous narrow PCS notion into a more comprehensive one encompassing government agency reporting procedures. Because of this, in some countries, PCSs are linked to Customs and OGA applications and this model could provide a useful example in terms of a collaborative data sharing in the single window context.

A PCS integrated into a single window would, at minimum, embrace those reporting requirements related to the vessel and cargo that are required by government (e.g. in declarations). From a business process model perspective, such may be classified as follows:

- Regulatory: IMO-FAL forms, cargo manifests
- Operational: Vessel arrival notice
- B2B messaging: Booking, nomination of pilots
- Services requests: Bunkering, container pick up
- Delivery of information: Port services performance indicators, single window.

While UN/CEFACT Recommendation 33 is currently by design not applicable to B2B data exchanges, UNECE is engaged in a Single Submission Portal project (UNECE, n.d.) to bring in other categories of single-window-like platforms (which can include B2B aspects) under coverage of its range of recommendations. This effort is, in part, a response to work by the International Maritime Organization (IMO), which has contributed to this area by providing standards for the electronic exchange of information on cargo, crew and passengers as part of a revised and modernised annex to the *Convention on Facilitation of International Maritime Traffic (FAL Convention)*, known as 'FAL-Forms' (IMO, 2019) and are promoting a new 'Maritime Single Window' initiative (IMO, 2014).

7. Single window and the WTO Trade Facilitation Agreement

Up until 2017, virtually all work on single window projects was comprised of national implementations that were voluntary in nature, motivated by national, mainly government-centric considerations, such as a desire for more efficiency in border operations, more effective enforcement, and IT-driven cost and personnel savings. Although multilateral donor organisations, such as the World Bank and the regional development banks, began to promote (and finance) such systems over the last two decades as being beneficial to the economy of developing countries (by making access to international markets less costly), there was no binding obligation on national governments to implement single window systems.

As discussed above, while UN agencies, the WCO and others produced a very comprehensive and useful range of guidance on how best to implement single windows, whether to do so (and take account of that guidance) was a decision left to each country. With the entry into force of the TFA in early 2017, single window may be perceived to have a stronger foundational mandate than previously, at least in those countries which have acceded to the treaty's provisions. The discussion below examines whether, and to what extent, this perception is accurate.

TFA provisions on single window

The TFA contains specific provisions relating to single window, in Article 10, entitled 'Formalities Connected with Importation, Exportation and Transit', specifically in Article 10, Section 4, set forth below:

4 Single Window

- 4.1 Members shall endeavour to establish or maintain a single window, enabling traders to submit documentation and/or data requirements for importation, exportation, or transit of goods through a single entry point to the participating authorities or agencies. After the examination by the participating authorities or agencies of the documentation and/or data, the results shall be notified to the applicants through the single window in a timely manner.
- 4.2 In cases where documentation and/or data requirements have already been received through the single window, the same documentation and/or data requirements shall not be requested by participating authorities or agencies except in urgent circumstances and other limited exceptions which are made public.
- 4.3 Members shall notify the Committee of the details of operation of the single window.
- 4.4 Members shall, to the extent possible and practicable, use information technology to support the single window.

It should be noted from the outset that much of Article 10, including Section 4, is phrased to place obligations on 'Members', being WTO member states, in relation to formalities at the border. These provisions are clearly intended to address the government as a whole, encompassing all agencies imposing requirements on goods which move across the national border, not just on Customs (this is underlined by the fact that other TFA provisions do address Customs specifically, e.g. in Article 12), and regardless of whether those goods movements are in the nature of imports, exports, or transit.

Section 4.1 initially requires members only to 'endeavour' to establish or maintain a single window; this is not a mandatory requirement. If such a single window is in place, however, Section 4.1 requires them to enable '...traders to submit documentation and/or data requirements for importation, exportation, or transit of goods through a single entry point to the participating authorities or agencies.' It further states that, after examination of documentation and data submitted, the government shall notify the 'applicants' of the results 'through the Single Window', and 'in a timely manner'. This sets a relatively high set of standards for the authorities in those countries with single windows. Section 4.2 arguably sets an even

higher bar, by requiring agencies participating in a single window to refrain from demanding duplicative ‘documentation and/or data requirements’ (‘except in urgent circumstances and other limited exceptions which are made public’).

As with the definition of single window in UN/CEFACT Recommendation 33, none of the above TFA prescriptions necessarily imply that the single window is in fact an IT system; the implication is that it could be an entry point for submission of documents. Nevertheless, Section 4.4 does require (the word ‘shall’ is used) members with a single window to use information technology to support the single window (the ‘shall’ is then softened considerably by ‘to the extent possible and practicable’).

As part of Article 10, Section 4 needs to be read in light of Article 10, Section 1.1, which sets the standards by which all members’ border formalities are to be judged:

1 Formalities and Documentation Requirements

1.1 With a view to minimizing the incidence and complexity of import, export, and transit formalities and to decreasing and simplifying import, export, and transit documentation requirements and taking into account the legitimate policy objectives and other factors such as changed circumstances, relevant new information, business practices, availability of techniques and technology, international best practices, and inputs from interested parties, each Member shall review such formalities and documentation requirements and, based on the results of the review, ensure, as appropriate, that such formalities and documentation requirements are:

- (a) adopted and/or applied with a view to a rapid release and clearance of goods, particularly perishable goods;
- (b) adopted and/or applied in a manner that aims at reducing the time and cost of compliance for traders and operators;
- (c) the least trade restrictive measure chosen where two or more alternative measures are reasonably available for fulfilling the policy objective or objectives in question; and
- (d) not maintained, including parts thereof, if no longer required.

Of particular relevance to the single window discussion is that admonition to ‘take into account... availability of techniques and technology, international best practices...’. This appears to be especially relevant to meeting the tests of Section 1.1 (a) and (b) above.

TFA Article 10 also contains, in Section 3, a clear recommendation to members to take account of international standards in defining border formalities—a not-so-subtle link to the work of the UN agencies and the WCO outlined above, much of it directly relevant to the single window:

3 Use of International Standards

- 3.1 Members are encouraged to use relevant international standards or parts thereof as a basis for their import, export, or transit formalities and procedures, except as otherwise provided for in this Agreement.
- 3.2 Members are encouraged to take part, within the limits of their resources, in the preparation and periodic review of relevant international standards by appropriate international organizations.

Border agency cooperation and informational requirements

Although the only specific mention of single window is in Article 10, Section 4, the TFA also contains, in Article 8, a very clear mandate which can certainly be read to guide any and all activities pursued under Article 10, including any national single window project:

ARTICLE 8: BORDER AGENCY COOPERATION

1. Each Member shall ensure that its authorities and agencies responsible for border controls and procedures dealing with the importation, exportation, and transit of goods cooperate with one another and coordinate their activities in order to facilitate trade.

This provision essentially serves to mandate the CBM concept promoted by the WCO and other multilateral organisations, as discussed previously in this paper. Implicit in this cooperation is coordination of risk management, and effective implementation of it in any single window system. In contrast to CBM in the WCO context, however, the focus of the mandate here harkens back to TFA Article 10, Section 1.1, with its goal of achieving results—‘...in order to facilitate trade’. This arguably means that the overarching goal of a single window implementation in any WTO member which has accepted the TFA must be doing so ‘in order to facilitate trade’.

An oft-cited obstacle to cross-border trade is the lack of easy access to accurate information on requirements for import and export, not just in terms of the actual border procedures, but also in terms of pre-requisites (e.g. registration requirements, permits, examinations) and the related costs.¹³ Government agencies, to the extent they provide such information at all, often do it only for their own regulatory processes, and leave it up to the trader (or their service provider) to build the various pieces into an overall picture of what it takes to move a given consignment of goods from a domestic factory to a customer in a foreign destination or to import foreign-produced goods into the country. In particular, small- and medium-sized traders may be reluctant to engage in international trade because of the lack of information and resulting unpredictability.

One way to address this issue is for a government to implement a trade portal. Perhaps not surprisingly, given its goal to facilitate cross-border trade, the TFA also contains provisions which are relevant to the Trade Portal concept discussed in Section 6 above. The provisions fall under TFA Article 1, entitled ‘Publication and Availability of Information’. Initially, Article 1 mandates that:

- 1.1 Each Member shall promptly publish the following information in a non-discriminatory and easily accessible manner in order to enable governments, traders, and other interested parties to become acquainted with them:
 - (e) procedures for importation, exportation, and transit (including port, airport, and other entry-point procedures), and required forms and documents;
 - (f) applied rates of duties and taxes of any kind imposed on or in connection with importation or exportation;
 - (g) fees and charges imposed by or for governmental agencies on or in connection with importation, exportation or transit;
 - (h) rules for the classification or valuation of products for customs purposes;
 - (i) laws, regulations, and administrative rulings of general application relating to rules of origin;
 - (j) import, export or transit restrictions or prohibitions;
 - (k) penalty provisions for breaches of import, export, or transit formalities;
 - (l) procedures for appeal or review;
 - (m) agreements or parts thereof with any country or countries relating to importation, exportation, or transit; and
 - (n) procedures relating to the administration of tariff quotas.

The above mandate in Article 1(1) does not extend to providing such information in any but the country’s national language and does not mandate provision of all such information via the internet. Article 1(2) does, however, go on to require a more general summary of national border regulatory procedures be published on the internet, ‘where practical’ also in one of the official languages of the WTO:

- 2.1 Each Member shall make available, and update to the extent possible and as appropriate, the following through the internet:
- (o) a description of its procedures for importation, exportation, and transit, including procedures for appeal or review, that informs governments, traders, and other interested parties of the practical steps needed for importation, exportation, and transit
 - (p) The forms and documents required for importation into, exportation from, or transit through the territory of that Member;
 - (q) contact information on its enquiry point(s).
- 2.2 Whenever practicable, the description referred to in subparagraph 2.1(a) shall also be made available in one of the official languages of the WTO.
- 2.3 Members are encouraged to make available further trade-related information through the internet, including relevant trade-related legislation and other items referred to in paragraph 1.1.

With regard to the ‘enquiry point’ referred to in Article 1(2.1)(c), this refers to the provisions on enquiry points in Article 1(3), which encourages a country ‘within its available resources’ to:

...establish or maintain one or more enquiry points to answer reasonable enquiries of governments, traders, and other interested parties on matters covered by paragraph 1.1 and to provide the required forms and documents referred to in subparagraph 1.1(a).

Article 1(3) goes on to require countries to ‘answer enquiries and provide the forms and documents within a reasonable time period’ and encourages them to do so without requiring fees (however, if fees are charged, countries ‘shall limit the amount of their fees and charges to the approximate cost of services rendered’).

As with many provisions of the TFA, there is a whole-of-government focus throughout Article 1; the provisions apply not only to Customs, but equally to all government agencies with responsibilities touching on cross-border movements. The requirements on publication of border-related requirements in Article 1(1), on provision of ‘a description of...procedures’ and other details in Article 1(2), and the provisions relating to the ‘enquiry point’ in Article 1(3) are all comprehensive in nature, and as such, presuppose a level of standardisation, coordination, and change management among the various government agencies which, while mandated by TFA Article 8, may present a serious challenge in implementation for any national government (and even require changes in legislation), even in the most developed countries.

Nevertheless, as should be evident from the discussion in Section 5 above, these requirements are fully aligned with the pre-requisites which must be in place for effective single window implementation and operation. Once these are in place, the stage is set for both a successful single window as well as a trade portal implementation, and the TFA provisions would seem to imply that both should be pursued in tandem.

8. Conclusions

As noted above, the TFA does not mandate that member countries establish a single window, rather TFA Article 10, Section 4.1 simply provides that ‘Members shall endeavour to establish or maintain a single window’. Nevertheless, the TFA does include mandatory provisions relating to border agency cooperation and transparency, the implementation of which could be eased via and aligned with a single window, and the TFA does arguably create an impetus towards a national single window in countries without them. As the TFA’s provisions are intended to be binding on all signatory countries (over time), whether having developed or developing status, this impetus for single window would seem to apply even to highly developed economies and would be augmented to the extent such a project could generate significant potential gains to efficiency across agencies and promote trade facilitation.

Clearly, all TFA signatories need to carefully consider their implementation priorities under the treaty. With the TFA requiring only an ‘endeavour’ to create a national single window, and no firm mandate to do so, a country may wish to postpone such a daunting project until after it has performed a comprehensive assessment of its compliance with the TFA’s mandates. In this regard, while a multi-agency border regulatory environment may appear to provide a good foundation for efficiency gains in cross-border trade via a single window, it is equally important to first lay the groundwork for such a system by focusing on improvements in cooperation among agencies, transparency, and other mandatory TFA provisions. This was one of the conclusions of the Australian private sector consultations (Widdowson et al., 2018). Other industry-based conclusions that are potentially of broader applicability to TFA signatory countries, regardless of a country’s development status, include the following:

- Regardless of whether implementation of a single window proceeds, a trade information portal, aligned with TFA Article 1, should be developed and maintained to support industry in identifying the myriad regulatory (and other) matters associated with international trade.
- If a decision to implement a national single window is made, a series of options should be proposed ranging from a relatively modest approach built around process improvements to a much more aspirational—potentially expensive—cross-border interoperable single window application that incorporates all domestic import/export data needs and also incorporates integrated risk assessment. The choice of options should explicitly incorporate funding models, and any model chosen must be sustainable for the long term and incorporate measures to adequately address inevitable ongoing regulatory and technological change.
- Any decision to implement a national single window should take account of the existing IT landscape across those agencies with border responsibilities, and, to the extent possible, incorporate and build upon effective solutions and processes which currently exist in an evolutionary manner.
- Should a decision to implement a national single window be made, the initial proposals on scope, timeline, budget and system architecture should be made public at an early stage, and industry input should be sought through a forum such as the NCTF in a manner that enables industry opinion to influence the way forward.
- Any decision to implement a national single window should incorporate international best practice, and be in conformity with relevant international standards to enable interoperability and comply with the TFA requirements on border agency cooperation.

It is not the intent of this paper to discuss the findings of the Australian study as they relate to the national regulatory environment.¹⁴ However, the feedback from the private sector demonstrated that Australian industry already, in a very real sense, views trade in the way the TFA views trade: not agency by agency, but from a whole-of-government perspective, and not broken down into discrete processes governed by various uncoordinated pieces of legislation, but rather from the perspective of an end-to-

end facilitated supply chain. The level of familiarity of these businesses with single window concepts like interoperability and coordinated border management may not have been high, but what they wish to see in terms of international trade facilitation appears to be very compatible with a single window implementation, especially one which incorporates a trade informational portal and provides a path to interoperability with the systems of Australia's trading partners.

In relation to the current state of the Australian government's IT landscape and its readiness for a national single window, the private sector highlighted significant challenges that would need to be addressed should a decision be made to go forward.¹⁵ For example, at the time of our review the Australian government had yet to engage with the private sector on single window. Meanwhile, the feedback from the private sector confirmed that, while trade stakeholders report frustrations and irritations with duplicative and inefficient trade processes at a granular level, some of these issues involve either requirements from the country to which they are exporting, or problems related to service providers, which may not be alleviated by a single window. Perhaps not surprisingly, given the lack of a government private-sector engagement strategy, many industry stakeholders were ill- or under-informed about the concept or potential features of a single window in general.

Our findings in the Australian context also indicated the possibility that fine-tuning existing systems and inter-agency processes (in line with the mandatory requirements of the TFA) might deliver the improved efficiency and intra-agency coordination desired by industry more quickly and cost-effectively than building a single window. Keeping that in mind, however, in light of the single window related deliberations of the Australian government, a clear message from the private sector was that there needed to be a disclosure of the government agenda for the single window and meaningful engagement with industry at a stage that is early enough to enable industry opinion to influence the way forward.

While private sector support and engagement has proved to be an essential factor in successful single window implementation, the impetus for any national single window needs to come from government, as do the initial proposals on scope, timeline, budget, and system architecture. Once these have been formulated, they should be made public at an early stage and—again in line with TFA requirements—private sector stakeholders should be brought into the discussion, with the expectation that any single window should be able to demonstrate a positive effect on the national economy by facilitating cross-border trade in goods.

Where a country has established an NCTF¹⁶ and, like Australia, involves trade stakeholders directly in the discussions, the Committee can provide an ideal forum for government/private sector dialogue on a single window project, with involvement in planning, monitoring, and decision-making from project inception through implementation and post-implementation stages to ensure that the single window remains aligned with TFA objectives and acts in the collective best interests of the national economy, balancing the priorities of government and industry stakeholders.

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Notes

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- 2 Note in this context that UNECE recently published a guidance document; see UNECE (2017d).
- 3 For an overview of single window related activities of the World Bank Group and the Inter-American Development Bank see Sections 4.6 and 4.7 of Widdowson, et al. (2018).
- 4 There are many documents on the UNCITRAL website that discuss the legal implications of single window. See, e.g. Rajput (2016).
- 5 There are many references to single window on the UN/CEFACT website. The following link is for a conference on the subject in October 2017, but it has within it links to various other core concepts such as the various single window recommendations; see UNECE (2017b).
- 6 For an extensive introduction to the existing conceptual frameworks for agency collaboration, see Standing Committee for Economic and Commercial Cooperation of the Organization of Islamic Cooperation (2016), pp.10–22.
- 7 For example, see Widdowson (2012); Widdowson & Holloway (2010, p. 95).
- 8 WCO has developed a comprehensive study on C2C exchanges called ‘Globally networked Customs’; see WCO, n.d.b.
- 9 For discussion in the context of the Pacific Alliance see Marczak & George (2016).
- 10 Although this project has ambitious goals, progress has been slower than anticipated; see ASEAN (2013).
- 11 Article 5.9 of Commercial Protocol of Pacific Alliance. Spanish version available at: <https://alianzapacifico.net/en/>
- 12 For Official Statement by Minister of Foreign Trade of Perú (member of Pacific Alliance) see Ministry of Foreign Trade and Tourism of Peru, n.d.
- 13 See Pugliatti (2012).
- 14 These can be found in Section 7 et seq in Widdowson, et al. (2018).
- 15 See Section 7 et seq in Widdowson, et al. (2018).
- 16 For a detailed discussion on NCTFs see Widdowson, D., Short, G., Blegen, B., & Kashubsky, M. (2018).

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