



Trade Facilitation
Agreement Facility



Unlocking Digital Trade: Interoperability and Data Exchange Lessons from Latin America

BRIEFING NOTE



STANDARDS and TRADE
DEVELOPMENT FACILITY

TRADE FACILITATION AND DIGITALIZATION

Trade facilitation accelerates the movement, release and clearance of goods including goods in transit and it works to reduce the administrative burden of trade procedures and formalities. This includes procedures applied by customs, as well as food safety, veterinary and plant health authorities and other bodies involved in the control of goods.

WORLD TRADE ORGANIZATION (WTO) TRADE FACILITATION AGREEMENT (TFA)

The TFA – adopted by WTO Members in 2017 – is rooted in the principles of simplification, harmonization and standardization of procedures and formalities related to the import, export and transit of goods. The Agreement contains more than 39 reform measures to advance trade facilitation and customs cooperation. The WTO Committee on Trade Facilitation oversees implementation, while Members are requested to set up bodies, such as National Trade Facilitation Committees, to coordinate implementation of the Agreement. [Find out more](#)

“*Trade facilitation is a global public good as it helps to improve trade efficiency... the future of trade is digital, and the TFA is a powerful instrument to help seize the opportunities of digital trade... it is an important part of our wider efforts to bring people and countries from the margins to the mainstream of the global economy.*

Ngozi Okonjo-Iweala, Director-General WTO [WTO News](#)

Digitalization is a vital aspect of trade facilitation. Initially, the focus has been on customs, with use of digital declaration systems to more easily file data as well as for faster processing times, cutting trade transaction costs. With greater internet access and the reduced cost of infrastructure and new technologies, digitalization has rapidly expanded, which has also enabled sanitary and

phytosanitary (SPS) and other government authorities to improve operations and performance.

The TFA allows WTO Members to use digitalization and new technologies. It is also driving digitalization for SPS documents and processes, modernizing SPS practices in line with the WTO SPS Agreement. In the WTO Committees on Trade Facilitation and SPS Measures, Members have shared experiences on digitalization and innovation, including in the context of the ‘SPS Declaration’ adopted at the 12th WTO Ministerial Conference in June 2022. To date, discussions have spanned: cross-border customs transit systems; smart seals and geo tracking; AI and Big data to enhance control measures; risk management and pre-arrival processing; electronic and digital trade documents, plus Single Windows. These initiatives are deepening trade facilitation and safe trade, while responding to security needs. [Find out more](#) and [here](#)

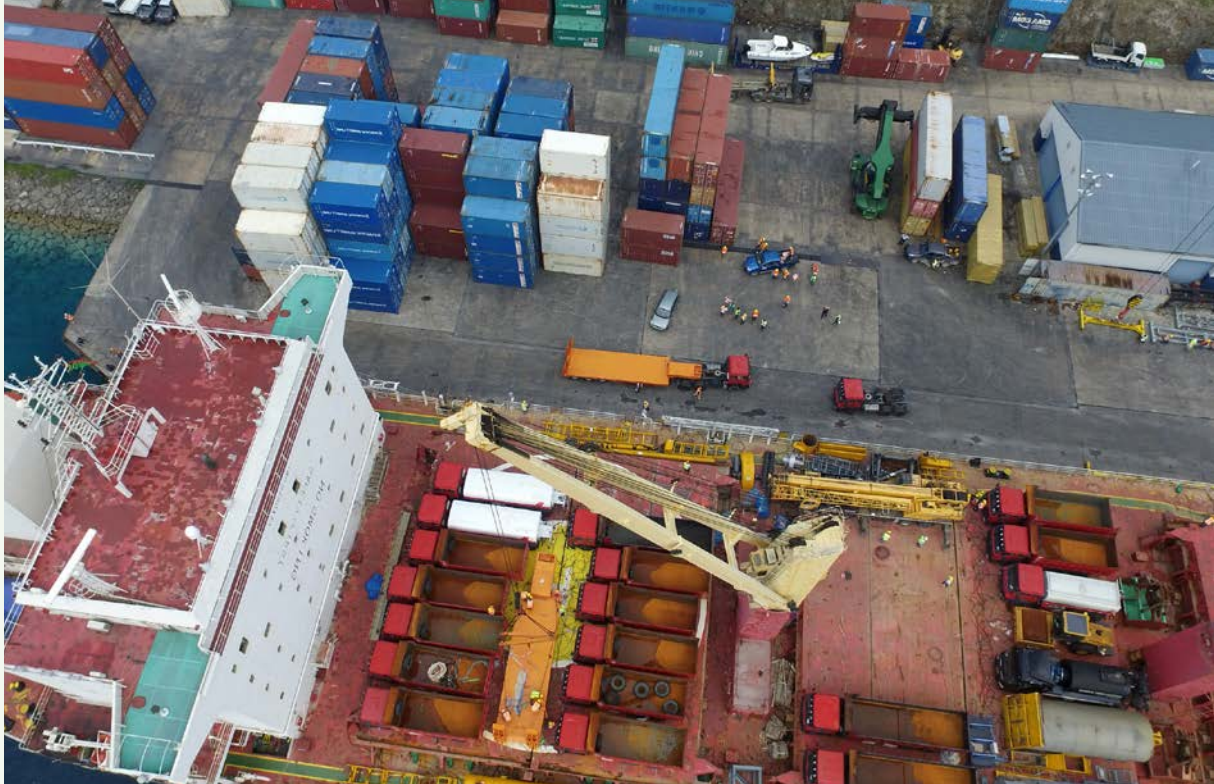
DIGITAL TRADE DOCUMENTS: THE JOURNEY

In the last 10 years, digital trade documents have gained traction but were at first limited to the domestic environment, and they were being used alongside paper copies. During Covid-19, the reliance on paper documents and in-person contact was brought to the fore. Since then, the trading community’s transition to digital documents and seamless data exchange along cross-border logistics chains has accelerated. From customs and regulatory documents, this has widened to also include commercial, financial, insurance and transport documents.

WHY DIGITALIZATION OF TRADE DOCUMENTS MATTERS

Cross-border trade procedures depend on information being shared among the private and public sector, with traders completing documentation for the relevant authorities. Digitalization makes the process easier for all of the parties involved including micro, small and medium-sized enterprises and small-scale traders in developing economies. This is critical given that a cross-border transaction requires the exchange of 36 documents and 240 copies on average. Yet, according to the WTO and International Chamber of Commerce (ICC), fewer than 1% of trade documents are fully digitized. [Source: WTO/ICC]

Digitalizing trade documents, including those that facilitate safe trade, makes it simpler for operators, reducing costs for submission as well as handling. At the same time, digitalization leads to automated processing, modern control measures and data-informed decision-making. It also builds collaboration across services, units and organizations within and across borders. A study in the United Kingdom estimated that the adoption of electronic trade documents would reduce administrative costs to UK businesses by £1.1 billion over a decade, at the same time as reducing processing times, by some estimates, from days to seconds. [Source: TFA Database]



DIGITAL TRADE DOCUMENTS IN LATIN AMERICA

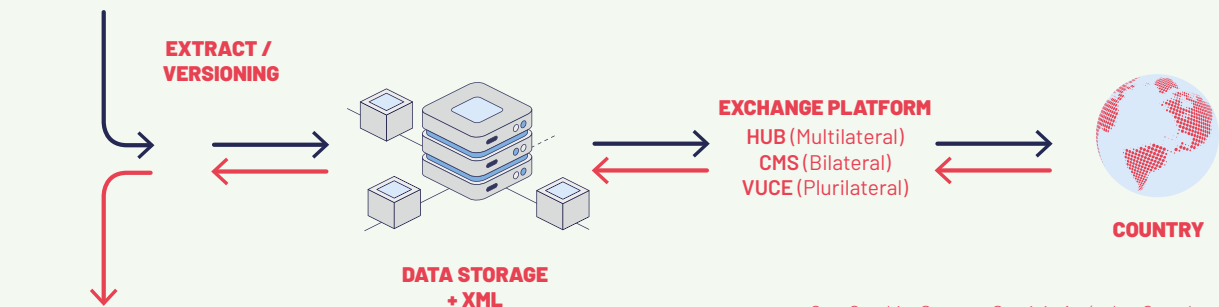
ELECTRONIC CERTIFICATION IN ACTION

Electronic certification is the secure, authentic transmission of data that leads to the issue of a certificate exchanged between competent authorities in origin, destination and transit markets. It transforms paper-based certificates for international trade into an electronic equivalent, with select examples including the International Plant Protection Committee (IPPC)'s ePhyto, electronic Certificates of Origin (eCO), and eCITES. In Latin America advances have been made in digitalizing trade documents and cross-border data exchange in particular on electronic certification by SPS authorities to drive safe trade.

Chile has 10 years of experience in going paperless and manages three platforms for eCert, - the ePhyto Hub, Government-to-Government (G2G) and the eCommerce Single Window - depending on the requirements of partner countries. Ultimately, it's not just about data exchange, but a public good, with a view to an exchange of data intelligence to facilitate safe trade.

Alvaro Diaz Gallmetzer, eCert Coordinator, Servicio Agrícola y Ganadero (Agricultural and Livestock Service), Chile

EMISSION SYSTEM



eCert Graphic: Source - Servicio Agrícola y Ganadero (Agricultural and Livestock Service), Chile

ePHYTO

The IPPC ePhyto Solution, developed through a pilot project funded by the Standards and Trade Development Facility (STDF) in 2017, is enabling the global electronic exchange of phytosanitary certificates through a centralized hub. It has connected close to 140 countries, with over 90 actively involved in the exchange, including the majority of all countries in Latin America. [Source: IPPC]

- In Argentina, ePhyto exchange is live with 41 countries on exports and 24 countries on imports. (*figures as of end Nov. 2024)

- In Chile, ePhyto exchange is live with 42 countries on exports, with eCert reaching 73% of the total number of certificates exchanged. (*figures as of end Nov. 2024)

Given the nature of SPS systems, it can be a challenge to estimate the savings from switching to electronic certification, as noted by the Organisation for Economic Co-operation and Development (OECD). Yet, at the same time, recent reports show there is a potential for significant benefits. [Source: OECD]. For example, in Ecuador, the transition to ePhyto is expected to save exporters approximately 1.9 million hours and over US\$6 million annually, according to a study by the Global Alliance for Trade Facilitation (GATF). [Source: GATF]

eVET

The STDF eVet project builds on the work of the World Organisation for Animal Health (WOAH) in the area of electronic certification. It was launched in 2024 and is being led by the Inter-American Institute for Cooperation on Agriculture (IICA) to pilot a regional approach in Latin America and the Caribbean to harmonize and promote eVet certification. It will develop a generic eVet certification framework based on national single window principles and drawing on the model health certificates developed by WOAH.

[Source: STDF]

“ALADI is working closely with members to continue spearheading action on digitalizing documents and implementing eCert, championing regional interoperability. This will lead to rolling out initiatives similar to the Digital Certificate of Origin implemented with success in many members to date.

Rafael Laurentino, Head, Physical and Digital Integration, ALADI (Latin American Integration Association)

DIGITAL CERTIFICATE OF ORIGIN (DCO): A REGIONAL APPROACH

In the last decade, ALADI has supported the move from paper certificates – that confirm the origin of a product to meet customs and trade requirements – through to a digital certificate. Preferential trade between Mercosur members – Argentina, Brazil, Paraguay and Uruguay – is now fully based on the DCO, with more members moving ahead. The initiative forms part of a region-wide modernization and harmonization of customs procedures, allowing operators and those at the border to reduce costs and delays, while offering greater security. [Source: ALADI]

- In Uruguay, DCO exchanges across Mercosur include: 182,000+ with Argentina; 313,000+ with Brazil; 11,000+ with Paraguay (*figures as of end Nov. 2024)

SINGLE WINDOWS: CROSSING BORDERS

Single Windows are a critical tool for trade facilitation. They reduce time and costs for cross-border trade, digitalizing trader-to-government and government-to-government interactions. The WTO TFA Article 10.4. encourages Members to establish a Single Window for traders to submit documentation and data requirements for import, export or transit of goods through a single-entry point. Single Windows are also increasingly integrated with customs processing.

Many ALADI members, including Argentina, Brazil, Chile, Colombia, Ecuador, Mexico, Peru and Uruguay, use Single Windows for trade, which have their own set-ups tailored to the country context. For instance, in Peru, the Single Window is integrating 15 government institutions and their respective processes, while in Ecuador, 19 public agencies are involved in the Single Window, with SPS authorities plugged in and issuing export and import certificates.

Single Windows are increasingly used in data exchange across borders. In Uruguay, the Ministry of Livestock, Agriculture and Fisheries exchanges animal health certificates with three trade partners through the Single Window and is working on establishing linkages with the EU TRACES online platform for animal and plant health certification. Since November 2023, realizing import processes for animal products via the Single Window cut processing times from 14 to 3.9 days and reduced border transit times.



UNPACKING DIGITALIZATION CHALLENGES

Trade facilitation depends on digitalization to improve both efficiency and effectiveness. It reduces the costs of trade procedures, improves processing and opens up opportunities for simplification. Yet, digitalization comes with a set of challenges, from managing fragmented technologies and multiple systems to resource and skills constraints. This fragmentation risks derailing the path to seamless data exchange as shared in experiences from Latin America. By first understanding and unpacking the key challenges, it is possible to work to overcome them.

“*In Latin America we're no longer filling up with paper, but with multiple platforms, not all of them necessarily compatible. This is a reality of the technology. Each country or regional bloc is migrating digitally to make exchange easier, but if we want to work together these platforms need to be compatible where possible.* **Jorge Salas, Director of Latin America, the Caribbean and Regional Integration, Ministry of Foreign Trade and Tourism, Peru**

1. SPAGHETTI BOWL OF PLATFORMS AND SYSTEMS

Economies in Latin America (as well as on a global scale) operate multiple systems, platforms and exchange hubs. This fragmented approach adds to the complexity of cross-border trade and absorbs unnecessary resources to build and maintain systems and establish connections.

2. LACK OF RESOURCES/CAPACITY (HR AND INFRASTRUCTURE)

Government entities in developing economies have tight budgets and may have limited expertise on digitalization and IT platforms. This may be especially the case for SPS agencies who can learn from their customs counterparts in the area of paperless trade. A lack of resources also leads to a high dependence on external experts and third-party funding, which raises challenges around sustaining interoperability and digital trade facilitation going forward.

3. LIMITED COORDINATION (AGENCY-SPECIFIC) AND LIMITED EFFORTS

Currently, different agencies often work in isolation when developing digitalization initiatives for trade facilitation. Governments may not sufficiently leverage existing cross-government coordination mechanisms, such as the National Trade Facilitation Committee. In addition to increasing costs, a disconnected approach reduces gains for data exchange and joint workflows, leading to a lack of interoperability between IT systems.

4. LACK OF INTERNATIONAL STANDARDS

The multitude of certificate models makes standardization across borders difficult. The complexity and fragmentation of the standards landscape, as well as an actual absence of data standards, hinders the seamless data flow from one end of the supply chain to the other. At domestic level, few members adopt a national data model to underpin digitalization efforts.

5. PROGRESS TOO SLOW FOR CROSS-BORDER EXCHANGES

Digitalization efforts, particularly at the regional level, are time-consuming. Data sharing negotiations are complex, while mobilizing funds for exchange platforms – such as centralized hubs or interoperability platforms – is challenging and often relies on third-party funding. This leads to persistent gaps that slow down and stall a timely flow of cross-border data exchange.

6. DATA PROTECTION AND CONFIDENTIALITY

Data that is considered confidential can vary between economies, as can the wider legal frameworks to align with. In this context, data sharing involves sensitivities that can lead to reservations around how far to exchange information with external parties, stalling cooperation.

INTEROPERABILITY FOR DIGITALIZATION

WHY INTEROPERABILITY COUNTS

From a technical perspective, interoperability is the “ability of two or more systems... to exchange information and to use the information... exchanged” (ISO 25964-2:2013). Building interoperability is at the heart of digital trade facilitation. It involves creating, storing, finding, sharing and re-using information. Interoperability leverages the efficient exchange of data to provide services that are simpler and faster for all users. To get there, public administrations need to collaborate in the design, monitoring and delivery of services in a cross-cutting way.

INTEROPERABILITY APPROACHES

At the 4th Regional meeting of ALADI Members’ National Trade Facilitation Committees in November 2024 – jointly organized with the Trade Facilitation Agreement Facility (TFAF), STDF and IICA – experts including competent authorities discussed digitalization and interoperability for trade facilitation. The dynamic exchange spanned the interoperability of digital solutions and platforms and raised awareness on tools and approaches including on international standards. [Source: ALADI]

INTEGRATION INTO THE SINGLE WINDOW

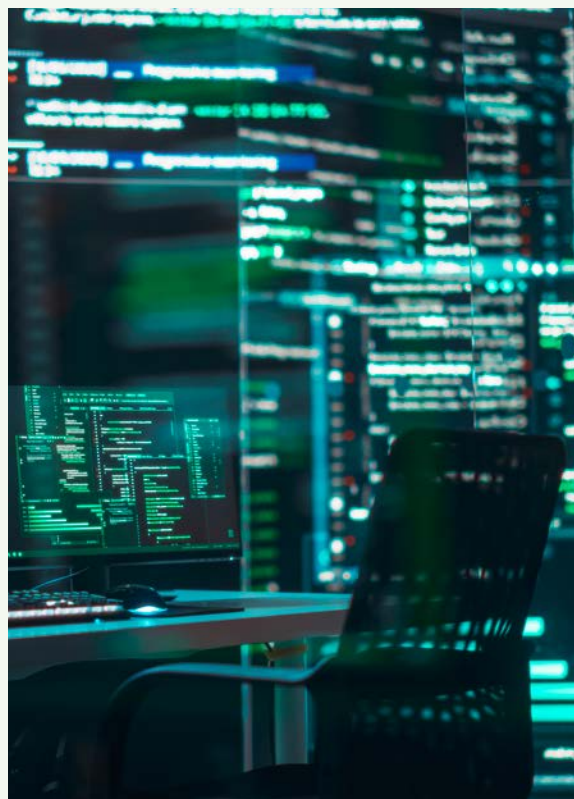
The integration of electronic certification and data exchange into existing Single Window environments increases efficiency and reduces costs. Different approaches include being: centralized – where data is centralized in one system; decentralized – where systems’ data formats are standardized, or use of intermediary services for data exchange between systems.

- **Paraguay:** Interoperability in foreign trade is being integrated effectively into the country’s Single Window environment. To date, this includes the Digital Certificate of Origin implemented with Argentina, Brazil and Uruguay (with Bolivia and Chile underway). In turn, ePhyto is being implemented with Argentina, Chile and the United States (with Bolivia and Uruguay underway); while eVet is in the process of development and implementation with Chile and Uruguay among others.

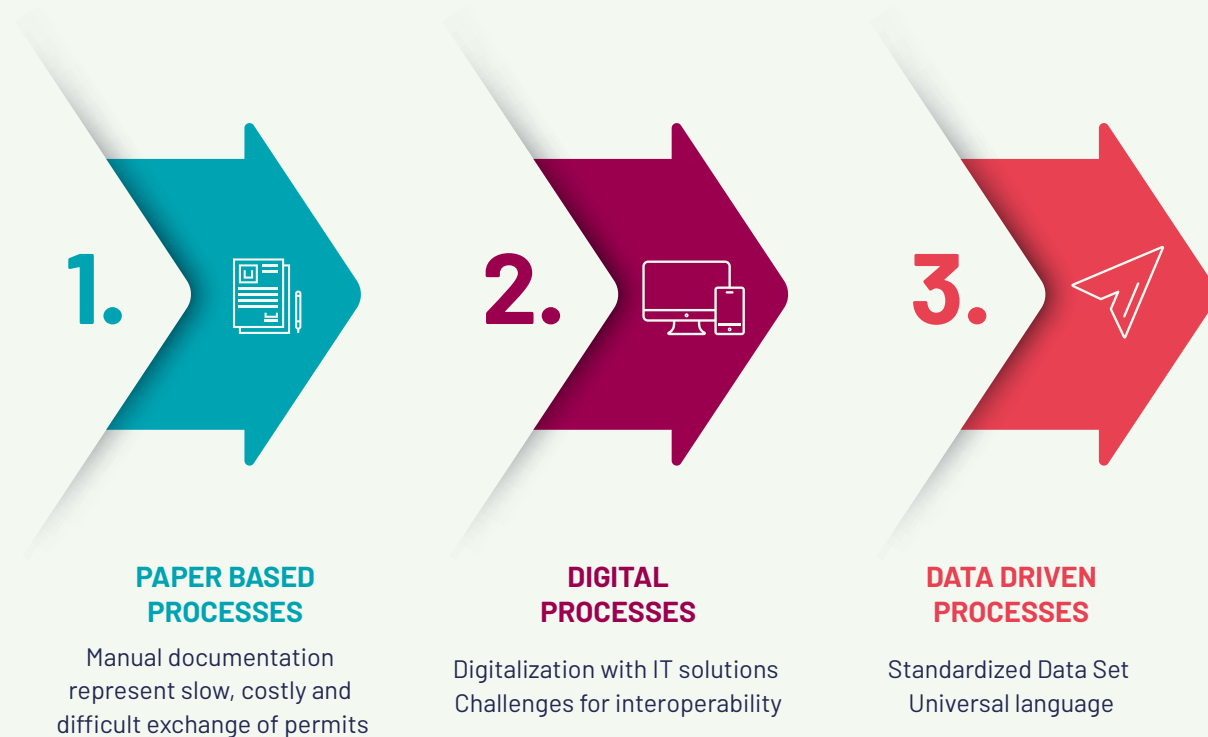
Source: up to end Nov. 2024, Ministry of Industry and Commerce, Paraguay

- **Mexico:** Interoperability of the country’s Single Window for Foreign Trade with other Single Windows and international systems has led to greater trade facilitation and trade flows. This includes Pacific Alliance countries (Chile, Colombia, Peru) on ePhytos, Certificate of Origin, and Customs Declaration (Chile). It also spans ALADI countries (Peru, Uruguay) on Certificate of Origin, IPPC countries on ePhytos, and United States on textile certifications and eVet (for select products). ePhytos, for example, are issued through the Single Window and exchanged via the IPPC Hub.

Source: up to end Nov. 2024, Service for National Health for Food Safety and Food Quality, Mexico



STREAMLINING FLOW OF GOODS AND FLOW OF INFORMATION



Source: WTO based on WCO presentation

DATA STANDARDIZATION

Data plays a pivotal role in cross-agency and cross-border digital trade facilitation. The standardization of data shared and exchanged is crucial for interoperability as it allows data from different IT systems to be merged and integrated.

“Data is becoming the oil of the future. Unlike oil, data is a limitless resource that can be continually produced. But as with oil, raw data is valuable only when refined i.e. standardized and harmonized. Data models are helping to refine data to convert it into information that can be processed.

Juan Diego Chavarria, Technical Officer, Procedures and Facilitation, World Customs Organization (WCO)

WCO DATA MODEL

The WCO Data Model provides a universal language for cross-border data exchange enabling the implementation of Single Window systems. It is a compilation of structured, harmonized, standardized, and reusable sets of data definitions and electronic messages. It is mapped to (UN/TDED) and leverages (UN/CEFACT) and (ISO) standards to ensure global interoperability.

[Source: WCO]

ELECTRONIC SPS CERTIFICATE (eCERT) STANDARD

e-Cert is a UN/CEFACT standard – made up of data elements, structure, exchange protocols and business process – for the issue and exchange of SPS Certificates.

[Source: UN/CEFACT]

IPPC ePHYTO SOLUTION

The IPPC ePhyto Solution is a tool that transforms a paper phytosanitary certificate into an “ePhyto” or digital certificate. ePhytos, which are in line with the International Standards for Phytosanitary Measures (ISPM) 12, are exchanged globally via the IPPC ePhyto Hub. They can be exchanged between any exporting and destination markets connected to the ePhyto Hub.

[Source: IPPC ePhyto]

WOAH DATA MODEL

In line with its international agreements, the WOAHA has adopted an electronic certification data model to assist competent authorities in implementing paperless veterinary certificates. The WOAHA data models have been developed based on the UN/CEFACT eCert standard and are aligned to the WCO data model in relation to the use of domestic Single Windows.

[Source: WOAHA]

CODEX GUIDELINES FOR eCERT

Codex has developed guidelines and frameworks for electronic certification to enhance food safety and trade efficiency based on the UN/CEFACT eCert standard. The guidelines provide a standardized approach to paperless electronic certification, helping countries implement robust food safety controls and facilitate the smooth exchange of food products across borders.

[Source: Codex]



DIGITALIZATION LESSONS EXCHANGE

In today's world, accelerating a transformation from paper to digital data exchange is essential as more trade procedures are digitalized across agencies and borders. Interoperability reduces the costs and breaks down data exchange barriers to unlock the benefits of trade facilitation.

LOOKING AHEAD: RECOMMENDATIONS FOR ACHIEVING INTEROPERABILITY

1. COLLABORATE GOVERNMENT-WIDE
Don't design or implement digital services in silo - work via cross-government collaboration. Many government and public agencies are involved in cross-border trade and initiate digitalization efforts. Interoperability requirements that guide the design of digital services are needed, while interoperability can be strengthened via centralization or standardization. National Trade Facilitation Committees offer a platform for cross-government collaboration.

2. USE EXISTING INFRASTRUCTURE
Integrate certification exchange and processes into a Single Window environment. As digital services for cross-border trade increase, re-useable IT infrastructure reduces the costs and enhances data security. Digital Single Windows offer IT infrastructure that hosts agencies' services, manages data clearance and realizes cross-border data exchange. Digital services embedded in an interoperable Single Window limit the platforms operators interact with.



3. LEVERAGE EXISTING STANDARDS

Leverage existing standards to ensure seamless data exchange across borders and agencies. The volume and complexity of data in cross-border trade is increasing. The use of semantic and syntactic standards is key for interoperability. Standardization allows for common data requirements and data models that can be exchanged seamlessly across different IT systems. Engaging in standards development is also critical, as highlighted in Article 10.3 of the TFA.

4. RE-THINK BUSINESS PROCESSES

Don't just digitize a document, instead, for greater efficiency and effectiveness, optimize the entire business process of data exchange. Digitalization often starts with a focus on individual trade documents, such as a Customs Declaration or a Phytosanitary Certificate. Trade facilitation is about making processes user-friendly and consistent across organizations and borders. The value

of digitalization lies in replacing processes, resulting in simplicity rather than duplication.

5. PUT INTEROPERABILITY FIRST

Interoperability is often an afterthought in digitalization initiatives, as IT projects are developed in agency or organizational silos. It is crucial to embed interoperability into the development of domestic and cross-border digital services. To start with, this can involve the development of scalable IT systems that can evolve with modifiable functions. Public agencies need to evaluate how a design, system and solution impact interoperability, and work on a joined-up strategy.

 Visit the [TFAF](#) and [STDF](#) websites and [STDF Briefing on SPS e-Certification](#) to find out more.



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