Executive Summary

This background document is prepared to facilitate discussion of Standing Committee agenda item 2a on towards a template and guidelines for development of national policy framework for paperless trade.

Article 6 of Framework Agreement on Facilitation of Cross-Border Paperless Trade in Asia and the Pacific (CPTA) states “the Parties shall endeavour to establish a national policy framework for paperless trade, which may define targets and implementation strategies and allocate resources, and a legislative framework.”, a template for national policy framework for paperless trade is to be developed. National policy framework, ideally, should ensure that trade-related data and documents in electronic form to have same requirements for use in domestic or international trade, as well as create an enabling domestic legal environment fully aligned with the international ones.

The template for national policy framework for paperless trade is to be designed as flexible, to accommodate different approaches that countries have taken and is considering. Many countries already have various policy frameworks, action plans and laws related to paperless trade in place. This study attempts to understand how they, together, amount to an effective national policy framework for paperless trade – although it may not be referred to as such.

In this regard, this study looks at national-level policies and legal environments, as well as reviews the key elements that could be considered as part of national policy framework for paperless trade. In the section 2 and the relevant annex B, this study provides country level examples of specific legislative and regulatory policies that have been pursued by countries. These are looked through several aspects.

First, this study categorizes national policy developments across these four key dimensions, with detailed country examples in the annex B: a) Policies and regulations on governmental institutional infrastructure, ICT and e-government, and laws supporting paperless trade; b) Policies and regulations on paperless trade and single window systems including Customs, logistics and information and cybersecurity laws to regulate service providers; c) Policies and regulations on cross-border systems; and d) Other considerations for legal and regulatory issues.

Second, in the formulation and implementation of policies, this study highlights differing approaches that governments have pursued, due to differences in policy goals, legal systems, and the resources available. This study categorizes these approaches with some country examples as: 1) approaches directed at trade facilitation (“paperless trade” approach); 2) e-government or ICT oriented approach; or 3) approaches driven by regional/sub-regional initiatives and agreements.

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1 The current document is derived from the previous work Deborah Elms (https://bit.ly/43dcYPb). The document is issued without formal editing.

Third, this study captures examples of various legal instruments, categorized as: legislation to support paperless trade; regulating service providers through laws and service agreements; bilateral and regional agreements and initiatives.

Based on the country examples looked through several aspects and compositions, then the study presents a possible template for national policy framework for (cross-border) paperless trade. It is suggested for the template to include scope of coverage, formulating policy plan, governance structure, action plan, and (cross-border) paperless trade legislations.

The proposed template is followed by step-by-step guidelines on developing national policy framework. The proposed step includes: initial assessment of the status of (cross-border) paperless trade; formulating policy plans and building strong policy commitments; assess available resources and financial requirements; action plan and mode of implementation; establishing (cross-border) paperless trade facilitation institutional structure; capacity building and technical support; and monitoring and assessment.

This study attempted to examine a wide range of policies and legal and regulatory support, and with the proposed template with components that are relevant to paperless trade for all countries. As the Framework Agreement moves towards entry into force, it is important that countries take up the challenge of aligning national policies compatible and relevant for cross-border trade. A period of highly disrupted trade makes it more urgent than ever that countries work together for common objectives.
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<th>Description</th>
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<tbody>
<tr>
<td>ADB</td>
<td>Asian Development Bank</td>
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<tr>
<td>APEC</td>
<td>Asia-Pacific Economic Cooperation</td>
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<tr>
<td>ASTFI</td>
<td>ASEAN Seamless Trade Facilitation Indicators</td>
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<td>ASW</td>
<td>ASEAN Single Window</td>
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<tr>
<td>CBEC</td>
<td>Cross-border E-Commerce</td>
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<tr>
<td>CBPR</td>
<td>Cross-Border Privacy Rules</td>
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<tr>
<td>EAEU</td>
<td>Eurasian Economic Union</td>
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<tr>
<td>EODES</td>
<td>Electronic Origin Data Exchange System</td>
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<tr>
<td>ESCAP</td>
<td>Economic and Social Commission for Asia and the Pacific</td>
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<td>ETA</td>
<td>Electronic Transactions Act</td>
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<tr>
<td>GovTech</td>
<td>Government Technology Agency of Singapore</td>
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<tr>
<td>ICT</td>
<td>Information and Communication Technologies</td>
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<td>KITA</td>
<td>Korea International Trade Association</td>
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<td>LLDCs</td>
<td>Landlocked Developing Countries</td>
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<td>LDCs</td>
<td>Least Developed Countries</td>
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<tr>
<td>MLEC</td>
<td>UNCITRAL Model Law on Electronic Commerce</td>
</tr>
<tr>
<td>MLES</td>
<td>UNCITRAL Model Law on Electronic Signatures</td>
</tr>
<tr>
<td>MOTIE</td>
<td>Ministry of Trade, Industry and Energy</td>
</tr>
<tr>
<td>NSW</td>
<td>National Single Window</td>
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<tr>
<td>OECD</td>
<td>Organisation for Economic Cooperation and Development</td>
</tr>
<tr>
<td>PKI</td>
<td>Public Key Infrastructure</td>
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<tr>
<td>PPP</td>
<td>Public-Private Partnership</td>
</tr>
<tr>
<td>T&amp;Cs</td>
<td>Terms and Conditions</td>
</tr>
<tr>
<td>TFA</td>
<td>Trade Facilitation Agreement</td>
</tr>
<tr>
<td>UNCITRAL</td>
<td>United Nations Commission on International Trade Law</td>
</tr>
<tr>
<td>UNCTAD</td>
<td>United Nations Conference on Trade and Development</td>
</tr>
<tr>
<td>UNECE</td>
<td>United Nations Economic Commission for Europe</td>
</tr>
<tr>
<td>VNACC</td>
<td>Viet Nam Automated Cargo and Port Consolidated System</td>
</tr>
<tr>
<td>WCO</td>
<td>World Customs Organization</td>
</tr>
<tr>
<td>WTO</td>
<td>World Trade Organization</td>
</tr>
</tbody>
</table>
1. Introduction

Article 6 of CPTA states “the Parties shall endeavour to establish a national policy framework for paperless trade, which may define targets and implementation strategies and allocate resources, and a legislative framework.” National policy framework, as specified in the explanatory note, should ensure that trade-related data and documents in electronic form are subject to the same requirements for use in domestic or international trade. It should also be aimed at creating an enabling domestic legal environment fully aligned with the international ones.³

The template for national policy framework for paperless trade is to be designed as flexible, to accommodate different approaches that countries have taken and is considering. Many countries already have various policy frameworks, action plans and laws related to paperless trade in place. This study attempts to understand how they, together, amount to an effective national policy framework for paperless trade – although it may not be referred to as such.

In this regard, this study looks at national-level policies and legal environments, as well as reviews the key elements that could be considered as part of national policy framework for paperless trade. This study refers to ways in which countries have approached the policy and legal elements that cumulate towards paperless trade. Following this introduction, section 2 and the relevant annex B provides country level examples of specific legislative and regulatory policies that have been pursued by countries. Section 3 outlines a possible template for national policy framework for paperless trade, along with the guideline on how to establish one in Section 4. Finally, the paper includes detailed case studies (Annex B) to highlight the range of policies and legislative actions taken by Australia, Azerbaijan, China, India, Kazakhstan, Republic of Korea, Singapore, Thailand, and Viet Nam. As part of this endeavour, the Interim Steering Group are working towards developing a template for national policy framework. This will support countries to implement the Article 6 of the Framework Agreement once it enters in force, that “the Parties shall endeavour to establish a national policy framework for paperless trade, which may define targets and implementation strategies and allocate resources, and a legislative framework.” National policy framework, as specified in the explanatory note, should ensure that trade-related data and documents in electronic form are subject to the same requirements for use in domestic or international trade. It should also be aimed at creating an enabling domestic legal environment fully aligned with the international ones.⁴

The template for national policy framework for paperless trade is to be designed as flexible, to accommodate different approaches that countries have and is considering. Many countries already have various policy frameworks, action plans and laws related to paperless trade in place. This study attempts to understand how they, together, amount to an effective national policy framework for paperless trade – although it may not be referred to as such.

In this regard, this study looks at national-level policies and legal environments, as well as reviews the key elements that could be considered as part of national policy framework for paperless trade. This study refers to ways in which countries have approached the policy and legal elements that cumulate towards paperless trade. Following this introduction, section 2 and the relevant annex B provides country level examples of specific legislative and regulatory policies that have been pursued by countries. Section 3 outlines a possible template for national policy framework for paperless trade, along with the guideline on how to establish one in Section 4. Finally, the paper includes detailed case studies (Annex B) to highlight the range of policies and legislative actions taken by Australia, Azerbaijan, China, India, Kazakhstan, Republic of Korea, Singapore, Thailand, and Viet Nam.

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⁴ For more details on the Framework Agreement, see the e-book at: https://www.unescap.org/sites/default/files/UNESCAP%20Framework%20Agreement%20e-book.pdf
2. Good practices of national policy framework for (cross-border) paperless trade

Countries in the Asia-Pacific region are already developing a range of legislative and regulatory policies towards national policy framework for paperless trade. Because there are different approaches that have already been deployed by countries, it can be difficult to identify a single “best practice.” In this regard, this section looks at a range of countries to highlight different practices that may be usefully employed by countries at varying degree of development in implementing (cross-border) paperless trade.

2.1 Country Selection Methodology

This study does not look into the practices and policies of all countries in the region, but instead examines a range of countries with diverse practices. Most countries examined have adopted frameworks and policies that build on effective Information, Communication Technologies (ICT) practices and include a supportive legal infrastructure as well as an organisational structure that can effectively implement national plans and strategies, contributing to a well-functioning (cross-border) paperless trade system.

The range of countries under this study includes countries with varying degree of implementation rates for (cross-border) paperless trade. Although countries with high implementation rates are most likely to have a more comprehensive national framework, the policies, strategies and initiatives taken by other countries and their challenges faced in the implementation of paperless trade systems can also serve as learning points for other developing nations.

The implementation of national policy framework also needs to be flexible to account for variations in the methods that countries might use. ESCAP includes countries with different legal structures—from common to civil law systems—as well as alternative styles of governance more broadly.

To help narrow the possible set of members under examination in this study, locations and overall trade facilitation implementation rates were considered, starting with referring to the UN Global Survey on Digital and Sustainable Trade Facilitation (untfsurvey.org). These implementation rate, shown in Table 1 below, helped ensure that the study captured countries at the top end of the index as well as ensure adequate variation by region and by placement on the Survey scores.

<table>
<thead>
<tr>
<th>Sub-region</th>
<th>Country</th>
<th>Trade facilitation score</th>
<th>Cross-border paperless trade score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Southeast Asia</td>
<td>Singapore</td>
<td>93.55</td>
<td>72.22</td>
</tr>
<tr>
<td></td>
<td>Thailand</td>
<td>82.80</td>
<td>66.67</td>
</tr>
<tr>
<td></td>
<td>Viet Nam</td>
<td>61.29</td>
<td>50.00</td>
</tr>
<tr>
<td>South Asia</td>
<td>India</td>
<td>79.57</td>
<td>55.56</td>
</tr>
<tr>
<td>East Asia</td>
<td>China</td>
<td>82.80</td>
<td>72.22</td>
</tr>
<tr>
<td></td>
<td>Republic of Korea</td>
<td>94.62</td>
<td>77.78</td>
</tr>
<tr>
<td>Central Asia</td>
<td>Kazakhstan</td>
<td>66.67</td>
<td>33.33</td>
</tr>
<tr>
<td></td>
<td>Azerbaijan</td>
<td>81.72</td>
<td>50.00</td>
</tr>
<tr>
<td>Oceania</td>
<td>Australia</td>
<td>94.62</td>
<td>83.33</td>
</tr>
</tbody>
</table>

The top scorers amongst countries in the Asia-Pacific region are Australia and the Republic of Korea. The selected countries also ensured a good sub-regional coverage of the Asia-Pacific region. Special considerations were also made to select countries of various scales including large economies such as China.

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5 The trade facilitation scores of countries were obtained from the UN Global Survey on Digital and Sustainable Trade Facilitation for the year 2019. It can be accessed at [https://untfsurvey.org/region?id=ESCAP](https://untfsurvey.org/region?id=ESCAP)
and India, small and open economies such as Singapore, and landlocked developing countries (LLDCs) such as Azerbaijan and Kazakhstan.

2.2 Composition of national policy framework for (cross-border) paperless trade

National policy framework is diverse in its composition – it could be combination of several legislation, policies, roadmaps and such. In this regard, this study analyses country examples in several aspects.

First, based on the substantive provisions of the Framework Agreement and its supporting documents, there are elements that are essential for cross-border paperless trade. These could form the building blocks in the formation of an inclusive and enabling framework for cross-border paperless trade. Also, these can be general features of national policy framework or specific to the implementation of measures to facilitate cross-border paperless trade. Therefore, practices collected and shown in the attached Annex B of this report were designed to capture national policy developments across these four key dimensions (categories are further explained in Annex A):

A. Policies and regulations on governmental institutional infrastructure, ICT and e-government, and laws supporting paperless trade
B. Policies and regulations on paperless trade and single window systems including Customs, logistics and information and cybersecurity laws to regulate service providers
C. Policies and regulations on cross-border systems
D. Other considerations for legal and regulatory issues

In some of these areas, governments have created specific pieces of legislation or regulation. In other areas, countries have developed a set of policies or implementation guidance.

This study also covers two major elements: policies and laws or specific pieces of legislation. These two elements, policies and laws, are used in conjunction to achieve the desired policy outcomes. Laws that support the use of electronic documents and signatures provide for a legislative basis for application in (cross-border) paperless trade; policies including the strategic plans and action plans, sets clear objectives and targets to drive the implementation of initiatives that support (cross-border) paperless trade.

Second, in the formulation and implementation of policies, governments have pursued differing approaches due to differences in policy goals, legal systems, and the resources available. To help understand these various approaches, it can be helpful to consider policy models and initiatives, starting with strategic policy plans and vision statements. This study categorized them as: 1) approaches directed at trade facilitation (“paperless trade” approach); 2) e-government or ICT oriented approach; or 3) approaches driven by regional/sub-regional initiatives and agreements.

Third, this study captures examples of various legal instruments, categorized as: legislation to support paperless trade; regulating service providers through laws and service agreements; bilateral and regional agreements and initiatives.

Finally, this study also addresses modalities on how paperless trade are pursued in different countries, which could also be part of the national policy framework for paperless trade. Broadly, three modalities are identified: institutional governances; implementation of frameworks and roadmaps; and policy commitments.

6 Supporting documents for the implementation of substantive provisions in the Framework Agreement developed are listed here: https://communities.unescap.org/cross-border-paperless-trade-facilitation/working-documents. Most importantly, legal, and technical readiness checklists were consulted to identify dimensions relevant and crucial for national policy framework.
2.3 Policy plans: approaches

This section highlights the differing approaches of governments in developing national level policy frameworks for paperless trade. The countries in this study have made use of several approaches to achieve a (cross-border) paperless trade system. The three approaches can be categories as (and also summarized in table 2):

1) approaches directed at trade facilitation (“paperless trade” approach);
2) e-government or ICT oriented approach; or
3) approaches driven by regional/sub-regional initiatives and agreements.

Table 2: Three Approaches to Achieve national policy framework for (cross-border) Paperless Trade

<table>
<thead>
<tr>
<th>Approach</th>
<th>Paperless Trade Approach</th>
<th>ICT and E-government Approach</th>
<th>Regional/sub-regional Approach</th>
</tr>
</thead>
</table>
| **Features**                  | Policies are focused on trade facilitation and establishing a paperless trading platform  
                               | Policies are centered on developing the ICT infrastructure and digitalizing the delivery of public services  
                               | Policies and legislations largely adhere, and supported initiatives and agreements concluded by regional and sub-regional bodies to support cross-border trade |
|                               | Legislation is enacted to support and encourage the use of paperless trade platform  
                               | Wide adoption of technologies to support electronic transactions with government departments and agencies  
                               | Support cross-border exchange of electronic trade documents and data |
| **Countries**                 | Republic of Korea        | China, Singapore, Kazakhstan, Azerbaijan | Thailand, Viet Nam |

While these three approaches are broadly distinct, it is worth noting that countries often utilize a combination of strategies due to the cross-cutting nature of establishing a (cross-border) paperless trading system that involves technical, legal, policy and institutional elements as well as a large number of stakeholders from different sectors.

2.3.1 “Paperless trade” approach

The Republic of Korea adopted a “paperless trade” approach starting in the early 1990s with the Korea Customs Service (KCS) leading the implementation of an automated customs clearance process to provide benefits to the trading community and government agencies. Due to the Republic of Korea’s pursuit of an export-led economic growth strategy since the 1960s, streamlining export procedures and paperwork from the exponential increase in import/export transactions became a key policy concern. Paperless trading thus became an important policy tool to facilitate trade and improve efficiency.

In the process to establish an automated customs system, business process reengineering and standardization of trade documents were conducted. Interoperability in the design of the national single

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window platform, uTradeHub, was ensured through the adoption of international standards of UN/CEFACT and guidelines from WCO.

Legislative measures and regulatory changes were introduced to support a paperless trading system. Legislative measures, such as the replacement of the Act on Promotion of Trade Business Automation with the Electronic Trade Facilitation Act (ETFA) by the National Assembly in 2005, were key legislative changes that supported the development of paperless trading by providing a legal basis for the use of e-Trade documents and mandating the use of the national paperless trade platform for the exchange of trade documents including the certificate of origin.9 The ETFA provided regulatory clarity to foster the growth of e-trade service providers, institutionalized the National e-Trade Committee, and required trade-related institutions to submit 10 kinds of documents to the u-Trade Document Repository.10 KTNET, as the service provider, was obligated to keep all document data sent and received through the repository for at least 3 years under the ETFA.

Article 4 of the ETFA designated the Ministry of Trade, Industry and Energy (MOTIE) as the agency responsible for developing and implementing measures to facilitate electronic trade, covering areas such as: directing trade facilitation measures; building and operating electronic trade infrastructure; creating an electronic-trade friendly environment; international collaboration regarding electronic trade; collection, analysis and utilization of statistical data; settlement of disputes between parties; and securement and allotment of funds to facilitate electronic trade.11

Republic of Korea’s key legislative elements to support paperless trade is summarized in table 3 below.

<table>
<thead>
<tr>
<th>Act</th>
<th>Description and Purpose of the Act</th>
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</table>
| Electronic Trade Facilitation Act        | • Main legal framework that supports paperless trading  
• Legalized the submission of electronic trade documents via electronic trade infrastructure (paperless trade platform)  
• Provided for validity and recordkeeping of electronic trade documents that are kept by an electronic trade infrastructure business entity |
| Framework Act on Electronic Transactions | • Addressed the legal validity of electronic documents and electronic signatures  
• Ensured security and reliability of electronic transactions and the protection of personal information of users in the policies formulated |
| Digital Signature Act                    | • Established a framework for electronic signature  
• Provided guidelines for the role of a certification authority and criteria for an authorized certificate |
| Act on Promotion of Information and Communications Network Utilization and Information Protection (“Network Act”) | • Facilitated the use of information and communication networks  
• Provided guidelines for the management and protection of personal information |
| Commercial Act                           | • Provided for legal validity of a Bill of Lading  
• Regulated commercial registration and activities |
| Telecommunications Business Act          | • Regulated electronic trade infrastructure service provider |

9 UNNExT. Brief No. 03 “Case of Korea’s National Paperless Trade Platform - uTradeHub.”

10 Electronic Trade Facilitation Act, Article 12.

http://law.go.kr/LSW/eng/engLSSc.do?menuId=2&section=lawNm&query=foreign+trade+act&x=0&y=0#liBgcolo r18 [Accessed July 10, 2020]
2.3.2. E-government/ ICT approach
Not every country has a “paperless trade” approach from the beginning. Another approach adopts an e-government or ICT based pathway towards achieving (cross-border) paperless trading system. Several countries, including Azerbaijan, China, Kazakhstan and Singapore, have followed this approach. Through building and improving internet connectivity and providing public services digitally, this approach has contributed to paperless transactions with government agencies—including Customs—leveraging technological applications. This approach builds on familiarity and comfort in interacting in a digital format with government agencies and then expands the platform to include measures relevant to cross-border trade applications.

The formulation of national policy and plans on ICT and e-government has supported the development ICT infrastructure and networks to allow for the provision of digital services by government agencies, replacing transactions that were conducted by paper documents. China’s introduction of “Internet + government services” in its 13th five-year plan (adopted in March 2016) and the Guiding Opinion on the Accelerated Promotion of the “Internet + Government Services” (issued in September 2016) helped to guide the development of a one-stop, nationwide “Internet+ Government Services” system. These e-government centric plans also contributed to the construction of local “Internet + Customs” platforms, allowing traders to conduct transactions with their local Customs offices.

In 2019, China's national integrated online government service platform was put into trial operation. The platform is currently integrated with 31 provinces and cities to allow users to access services provided by provincial departments and local governments through a single-entry point.12

Several digital schemes have been introduced by other countries that complements ICT and e-government plans to allow digital transactions to be conducted with government agencies in an efficient and secure manner. This includes the introduction of national digital identity and the provision of data repository for data storage and use.

Under Singapore’s Smart Nation Initiative introduced in 2014,13 SingPass under the management of the Government Technology Agency (GovTech) has undergone improvements in security and user experience to allow SingPass to serve as the national digital identity to conduct transactions with the government and private sector.14 Singapore’s SingPass was introduced in 2003 and served as the digital identity for individuals to conduct transactions with government agencies securely. Security enhancements were made for SingPass through the addition of 2-Step Verification (2FA) where users need to enter their SingPass ID and password followed by a one-time password (OTP) sent via SMS or generated through a token15 for digital transactions involving sensitive data.16 A new SingPass Mobile app was launched in 2018 to provide for another option of login via mobile through biometrics, facial recognition or password. For business and corporate entities, CorpPass was made the standardized method for online government transactions from September 2018.17 The provision of services like SingPass and CorpPass allowed the government to build digital or paperless connectivity that could be more easily transferred to trade applications. (Figure 1)

13 The Smart Nation and Digital Government Group (SNDGG) that comprises the Smart Nation and Digital Government Office (SNDGO) and the Government Technology Agency (GovTech) is responsible for Smart Nation projects.
15 The use of a physical token will be phased out from April 2021.
The Electronic residency (e-Residency) and Mobile Residency (m-Residency) program in Azerbaijan allows entrepreneurs around the world to set up and run a location-independent business in Azerbaijan. These programs also support the Digital Trade Hub of Azerbaijan to allow users to access the cross-border e-services of the Digital Trade Hub through government issued digital identities.\(^\text{18}\) Authentication under e-Residency relies on a token and electronic signature, while a mobile SIM card serves as the method for authentication in m-Residency. Azerbaijan is the first country to offer m-Residency, where m-Residents received a government issued Digital Identity – Asan Imza (Mobile-ID) SIM card which works as the identity tool.\(^\text{19}\) This is a PKI based technology for online authentication via mobile and could be applied in public and private sector electronic services.\(^\text{20}\)

MylInfo is a service introduced by the Singapore government in 2016 to allow citizens to manage the use of their personal information. Users can consent to data sharing, and this eliminates the need for users to fill up information such as personal particulars that has been stored in the system and provides for more efficient transaction with government agencies and private sector participants such as banks and financial institutions. Similar applications have been adopted in paperless trading platforms or single windows where stored information from previous electronic applications can be reused for the next application and this increases the efficiency of transacting with government agencies and Customs. In the Networked Trade Platform (NTP) of Singapore, when traders submit permits or applications through the platform, the approved permit can be directly returned in structured data format for data reuse in other transactions in the same platform.\(^\text{21}\)

### 2.3.3 Sub-regional/regional approach

A third generic approach to achieving paperless trade can be found by leveraging commitments in regional or subregional agreements as a mechanism for starting the journey to (cross-border) paperless trade. This approach can be a strong driver for paperless trade arrangements when the sub-regional or regional institution is well-supported by member states with regular discussions and meetings on the subject. For example, ASEAN as a sub-regional intergovernmental cooperation body, supported a range of social, economic and political initiatives through ministerial meetings, senior official meetings and sectoral bodies and working groups. The relevant working group or committee, such as the ASEAN Single Window Steering Committee, is responsible for development of action plans and to coordinate activities amongst ASEAN members. The lead agency for each member country (usually Customs) will be represented in the meetings to ensure that member countries will be able to follow the timelines set to implement the ASW.

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\(^{19}\) Digital Trade Hub of Azerbaijan. “Become an e- or m-Resident.” [https://dth.az/become-resident](https://dth.az/become-resident) [Accessed September 10, 2020]


A key ASEAN-driven trade initiative has been the construction of an ASEAN Single Window (ASW) that was officially initiated through the signing of the Agreement to Establish and Implement the ASEAN Single Window in 2005 and the Protocol on building and deploying the ASEAN Single Window (2006). The Protocol on the Legal Framework to Implement the ASEAN Single Window was signed in 2015 to permit the cross-border exchange of trade and customs-related data and information between NSWs of ASEAN member states (Article 6) and provide for information security and confidentiality (Article 9). Based on the agreements signed, ASEAN members have to adopt or maintain legislation and policies to promote cross-border exchange of trade data between member states.

Thailand, for example, developed its NSW in accordance with the agreement and further developed domestic policies and laws that support the construction and operation of NSWS. It formed a National Logistics Committee in 2007 that was chaired by the Prime Minister and included representation from the ministries and private sector to develop strategies to drive logistics development and support Thailand’s vision of creating a world class logistics hub. The first Thailand’s Logistics Development Strategy (2007 – 2011) had the objectives to enhance trade facilitation and add value to the logistics and supporting industry. A key strategy in trade facilitation has been to develop e-Logistics and Single Window Entry into a central system to reduce processing time and move towards paperless trade. The Logistics Development Strategy also targeted expediting the enactment of relevant Decrees under the Electronic Transaction Act, B.E 2544, including the Royal Decree on exemptions to the implementation of the law governing electronic transactions, the Royal Decree on safety procedures in conducting electronic transactions, the Royal Decree on service businesses involved in electronic transactions and the Royal Decree on electronic transactions by the public sector. In accordance with the ASEAN Single Window Agreement, Thailand enacted legislation on information security and data confidentiality and on data sharing and use by the public and government agencies. This offered greater security and protection for users to carry out transactions via a Single Window or any online platform of government agencies.

The Third Logistics Development Plan (2017 – 2022) of Thailand was developed under the framework of the 20-year National Strategy (2018 – 2037) and the Twelfth National Economic and Social Development Plan (2017 – 2022) to further enhance Thailand’s logistics system through three main strategies of supply chain enhancement, development of infrastructure and facilities and development of logistics supporting factors. The Covid-19 situation has delayed the implementation of some of the items in these plans, although work is ongoing. The development of the NSW system and making logistics procedures paperless falls under the strategy of developing infrastructure and facilities where the strategic approach was to accelerate the establishment of a central agency to oversee the NSW system and ensure that data could be linked between government to government (G2G) and government to businesses (G2B). This would also allow the ASW to be fully connected with the NSW. The various port systems (Lamchabang Port, Bangkok Port and Suvarnabhumi Airport) will also be linked to the NSW. The Subcommittee on the National Single Window Administration and Development under National Logistics

25 The Office of the National Economic and Social Development Council which is secretariat to the National Logistics Committee collaborated with the relevant government agencies, private sector, and academics to draft the Third Thailand Logistics Development Plan.
Development Committee was appointed in May 2017 to conduct the function. The Sub-committee later appointed a working group comprising of representatives from the Office of the Public Sector Development Commission, the Ministry of Digital Economy and Society, Office of the Council of State to drive data linkages between G2G and G3B and to allow the ASW to be fully connected with the NSW. To achieve a paperless policy in the WCO Single Window guidelines for the licensing and certification procedures by government agencies, Thailand has included strategic goods such as sugar, rice and rubber to undergo pilot testing where all import/export procedures for these goods will be made available electronically.

To fulfil obligations under the ASEAN Single Window agreement, Viet Nam established the National Steering Committee for the ASEAN Single Window and the National Single Window under Prime Minister’s Decision No. 2120 / QD-TTg of November 29, 2011. The Committee consisted of the Deputy Prime Minister, relevant ministries and leaders of Chamber of Commerce and Industry of Vietnam to direct, coordinate, guide, inspect and implement the NSW/ASW.

In 2016, the Committee was replaced by the National Steering Committee on ASEAN Single Window, National Single Window and Trade Facilitation under Decision 1899 / QD-TTg in 2016 to review legislation on the implementation of the ASW and to address administrative reforms to conform to international standards.

Many of Viet Nam’s legislative pieces and action plans were also developed to meet its obligations under the ASEAN agreement and Protocol on the development and implementation of the Single Window as well as the WTO TFA. The 2007 Decree on Information Technology Application in State Agencies’ Operations (No. 64/2007/ND-CP) promoted the use of IT in state agencies and laid the foundation to support the construction of the NSW through building of databases, development of e-forms, and established the legal validity of e-documents sent to state agencies. This agenda was updated with the Master Plan of Implementing National Single Window and ASEAN Single Window in the Period Of 2016 – 2020 under the Prime Minister Decision No. 2185/QL-TTg. The main activities under the masterplan included reforming the legal basis and administrative procedures; building IT systems; providing training, propagation and support; and ensuring finance for NSW/ASW implementation.

The Action Plan to promote the National Single Window, ASEAN Single Window (2018-2020) under the Prime Minister Decision No. 1254 / QD-TTg details the specific actions to be taken to meet the goal of fully implementing the ASW according to the commitments and implementation roadmap of ASEAN countries and to ensure technical readiness for exchanging of information electronically with other trading partners under international agreements.

Adoption of a sub-regional/regional approach can be critical for establishing a cross-border paperless trading system which is built on mutual legal recognition of electronic signatures and trade documents

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29 The WCO Single Window guidelines and standards is a recommended best practice under the Protocol on the Legal Framework to Implement the ASEAN Single Window (2015).
exchanged across systems of Customs that are interoperable and secure. Countries have adopted strategies, including adoption of frameworks and standards that have been agreed upon in the agreements concluded, establishing specialized committees to drive the initiatives for cross-border paperless trading and aligning domestic legislation and action plans to meet obligations under agreements and international treaties.

2.4. Legal environments

To achieve a national level policy on (cross-border) paperless trade, commitments need to be enshrined in legal laws or regulations. Establishing paperless trade systems requires some basic commitments, like allowing electronic signatures to be legally valid. Existing legislative actions may need to be regularly reviewed to ensure they remain up-to-date and match evolving international standards and best practices. Paperless systems may need to have laws in place to provide clarity on the roles and legal responsibilities of stakeholders. Some laws require additional regulations or further legislative actions to achieve full implementation.

2.4.1. Laws to support Paperless Trade

Alignment with international standards

Laws on electronic transactions in the region largely converge towards recognition of the legal validity of electronic documents and signatures for making contracts in line with the broad adoption of the United Nations Commission on International Trade Law (UNCITRAL) Model Law on Electronic Commerce (MLEC). Azerbaijan and Singapore are contracting parties to the MLEC and the United Nations Convention on the Use of Electronic Communications in International Contracts (ECC). Australia and India have applied the MLEC to its Electronic Transaction Act and Information Technology (IT) Act respectively. China, Thailand, and Viet Nam have adopted the UNCITRAL Model Law on Electronic Signatures (MLES). The Republic of Korea has signed the ECC. Examples of recommended international legal instruments and best practices include the UNCITRAL Model Law on Electronic Commerce, the UNCITRAL Model Law on Electronic Signatures, \(^{34}\) the Guidelines on the Protection of Privacy and Transborder Flows of Personal Data of the Organisation for Economic Co-operation and Development (OECD), \(^{35}\) and the Asia-Pacific Economic Cooperation (APEC) Data Privacy Framework. \(^{36}\)

Countries with one-stop NSW integrated with third-party service providers such as the Republic of Korea, Japan, and Singapore have converged towards robust legal systems that cover various aspects of paperless trade operations (e.g., e-payments, network security, data protection, etc).

Regular revision of laws as and when necessary

Singapore has been an early adopter of international standards in laws. Singapore first enacted the Electronic Transactions Act (ETA) in 1998 and was the first country in the world to adopt the MLEC. Later on, the adoption of the ECC by Singapore led to two reviews of the 1998 ETA which resulted in the enactment of 2010 ETA. \(^{37}\) The aspect of technology neutrality was improved in the 2010 ETA where provisions based on public-key infrastructure (PKI) was moved to the Third Schedule \(^{38}\) of the ETA and this allowed for other security procedures such as biometrics to be made possible in the creation of electronic signatures. The 2010 ETA also supported e-government initiatives by indicating that public agencies could accept electronic filing and issue permits and licences electronically. It also specified that network service providers shall not be liable to civil or criminal liability for third-party materials to which the service providers are merely providing access. After the United Nations General Assembly passed the

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\(^{34}\) General Assembly resolution 56/80, annex.


\(^{37}\) The Singapore government conducted two reviews for the 1998 ETA in June 2005 and June 2009.

\(^{38}\) The Third Schedule of the 2010 ETA contains provisions on specified security procedures in the Second Schedule. Currently, this only includes provisions on digital signatures.
UNCITRAL Model Law on Electronic Transferable Records (MLETR) in 2017, Singapore’s Infocomm Media Development Authority (IMDA) incorporated views from government ministries and agencies on the policy directions of the ETA and conducted a public consultation on the review of the ETA in June 2019.

India’s Information Technology (IT) Act enacted in year 2000 was amended in 2008 to improve the technological neutrality aspect and allow the legal acceptance of new forms of electronic signatures relative to only recognising digital signatures in the IT Act 2000. New provisions to accommodate further development of IT and related security concerns were also added to the amended Act.

Sub-regional Treaties
As Kazakhstan is a member of the Eurasian Economic Union (EAEU), it must oblige to the EAEU Treaty. Instead of enacting its own Customs law, the Customs Code of Kazakhstan follows the EAEU Customs Code which permits exchange of electronic trade documents within EAEU members. This facilitated the formation of a sub-regional network with harmonized customs laws.

The ASEAN member countries shared similar experience; although not in having harmonized legislation, but through the adoption of ASEAN agreements and legal protocols to establish an ASEAN Single Window. The Protocol to Establish and Implement the ASEAN Single Window provided a legal and technical framework to guide the implementation of NSW and ASW in all member states.

2.4.2. Regulating Service Providers through Laws and Service Agreements

Using a combination of laws and service agreements
The paperless trade platform or Single Window of countries could be established by several approaches. Depending on whether services are provided and managed by government or public-private partnerships (PPP) or private could affect how countries regulate service providers.

Paperless trade systems may operate through a combination of relevant national laws and contractual service agreements signed between users and operators of the trade platform. The latter may give rise to large variations in practice of user liabilities, rights and protections, particularly when statutory user rights and protections are not clearly defined.

Services providers in the information and communications sector are often classified as critical information infrastructure and are subject to strict regulations under cybersecurity laws. Under China’s Electronic Signature Law and the Order of the Ministry of Industry and Information Technology of the People’s Republic of China for Measures for the Administration of Electronic Certification Services, electronic certification service providers may be subjected to legal liabilities for failing to adhere to rules prescribed by law. In Kazakhstan, the Penal Code and Code of Administrative Offences also prescribed penalties to offenders in the field of information security and for violation of the use of personal or protected information including government officials.

The use of Service Level Agreements, agreements on information security and the adoption of terms and conditions (T&Cs) or user agreements for the provision of services could help to address liability issues and disputes amongst parties in the agreement. As examples, Singapore’s TradeNet and the Republic of Korea’s Uni-PASS and uTradeHub have their terms and conditions (T&Cs) in their provision of services to user while the relevant national legislations on information security offer protection to users (such as personal data protection laws and cyber security laws) and penalises service providers and third parties for any violation of the laws. Usage of contractual agreements provides greater flexibility in determining the duties and responsibilities of service providers in a PPP or private arrangement whilst the simultaneous presence of laws on contractual disputes and arbitration also provided legal grounds to address disputes in a justified manner.
**Enact subordinate laws that prescribe rules and practices in detail**

Countries like Viet Nam and Thailand often have a range of subordinate laws or decrees, announcements and notifications that are written based on the primary Act or Decrees issued. National plans are often approved through Decrees signed by either the Prime Minister or President for countries such as Azerbaijan, Kazakhstan and Viet Nam.

China and Kazakhstan have detailed laws that prescribe the procedures for service providers and certifying authorities. Kazakhstan’s Law on Electronic Document and Electronic Digital Signature (2003) included articles on legal responsibilities of certifying centres and service providers. Rules and responsibilities prescribed by law could be necessary when there are no formal contracts and agreements that establish clear roles and responsibilities of service providers.

Countries, however, must be mindful that there is a fine line between having detailed and clear regulations and overly cumbersome procedures. The general objective of paperless trade is to streamline trade.

### 2.4.3. Bilateral and Regional Agreements

**Incorporate (cross-border) paperless trade measures in trade agreements**

Countries like Australia, China, and Singapore often have trade agreements that incorporate some (cross-border) paperless trade measures in e-commerce chapters or trade facilitation chapters.

In the revised protocol for China – Singapore FTA in 2019, the customs procedure and trade facilitation chapter contains several Articles that promote cross-border paperless trade including the mandatory use of IT to support customs operations and to consider standards such as the WCO Data Model and recommended best practices by the WCO (Article 5) and allow for advance lodging of documents in electronic format (Article 4). The new e-commerce chapter included Articles to support the use of interoperable electronic authentication such as digital certificates and electronic signatures (Article 4). Article 9 on paperless trading encourages trade documents to be made available to the public in electronic form and promote the acceptance of “trade administration documents submitted electronically as the legal equivalent of the paper version of those documents”.

Another type of agreement is the Digital Economy Partnership Agreement (DEPA) which was the first “digital only” agreement. DEPA was concluded between Singapore, Chile and New Zealand in June 2020 and includes modules that serve to facilitate digital trade, enable trusted cross-border data flows and provides opportunities for participation in the digital economy by individuals and businesses. The agreement serves to facilitate digital trade and at the same time create a framework for the digital economy.

Module 2 of DEPA on business and trade facilitation contain Articles that ensure Parties make electronic versions of trade administration documents publicly available and provide acceptance for electronic versions of trade administration documents as legal equivalent of paper documents. The module also includes Articles that promote interoperability in electronic invoicing and electronic payments through adoption of internationally accepted standards. Module 4 on data issues addresses issues related to protection of personal information for users of e-commerce and digital trade by mandating Parties to adopt or maintain a legal framework for the protection of personal information. Cross-border transfer of information by electronic means, including personal information, for business purposes was allowed under DEPA.

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41 The DEPA agreement followed many similar provisions in the Comprehensive and Progressive Trans-Pacific Partnership (CPTPP) which entered into force in December 2018 and are similar to provisions in the Digital Economy Agreement (DEA) between Australia and Singapore which was signed in 2020 and awaits implementation. For details on CPTPP texts, see [https://www.mfat.govt.nz/en/trade/free-trade-agreements/free-](https://www.mfat.govt.nz/en/trade/free-trade-agreements/free-).
Bilateral and regional agreements often lead to joint projects and initiatives to be conducted between signatory parties. Singapore and China established the Electronic Origin Data Exchange System (EODES) in November 2019 under the upgrade to the Singapore-China FTA. The EODES enables the electronic exchange of e-Preferential Certificate of Origin (PCO) / e-Certificate of Non-Manipulation. Traders in Singapore can send the e-documents directly to the General Administration of Customs of China through the NTP portal. Such cross-country collaboration between governments and Customs to implement paperless trade measures also serves to improve relations between parties. Under DEPA’s collaboration initiatives, Singapore and New Zealand are jointly involved in the International Connectivity System (ICS) which will allow the exchange of e-certificates for animal products such as meat and meat products between both countries.

2.5. Policy Commitment Tools

This study also addresses modalities on how paperless trade are pursued in different countries, which could also be part of national policy framework on paperless trade. Broadly, three modalities are identified: institutional governances; implementation of frameworks and roadmaps; and policy commitments.

2.5.1 Institutional Governance

The overall governance structure of the countries included in this study vary, but there are some specific elements that appear in common such as the important role of coordination with strong political will, equitable and transparent budgetary allocations for paperless trade, and effective use of developmental and capacity building assistance. A top-down approach is often employed to support interagency collaboration for large scale e-government and single window projects that involved many stakeholders.

Inter- and intra-government agency coordination

The operation of (cross-border) paperless trade systems are typically overseen by Customs authorities where the Customs are often designated as the lead agency for the implementation of a paperless trade platform or single window. The establishment and construction of paperless trade systems, however, requires much coordination between many government agencies to address issues like technical standards and IT infrastructure, laws and regulations, security and business process and data automation. All of the countries in this study, including China, Singapore and Thailand have had high-level leadership was provided through Ministerial-level steering committees. Inter- and intra-government agency coordination has been key to overcoming bureaucratic resistance. Representation from the various ministries is involved in regular meetings to discuss policy developments and this has allowed significant progress to be made to address and simplify paperless trade formalities involving various agencies, in order to adequately incentivise user adoption. The development of a roadmap and action plans at the outset, which allocates clear lines of responsibility and sets concrete targets for implementation and adoption, has been used by success cases such as the Republic of Korea.

Equitable and transparent budget allocation

Successful governments have ensured that budget resources are well utilised. Making the best use of limited budget resources can be a significant challenge for developing nations and proper planning has to be in place. For China and Thailand, this involved having the Ministry of Finance or State budget bureau as a

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supporting organisation involved in any action plan where funding was required to ensure equitable distribution of budget. Kazakhstan state programmes, such as “Digital Kazakhstan,” indicated the yearly budget available which has also increased the transparency of government spending and helps to prevent misuse of public funds.

**Leveraging technical and developmental assistance**

Developing countries such as Azerbaijan and Kazakhstan received international assistance to implement an automated Customs regime. In Kazakhstan, “e-government” has been highly emphasized in the government agenda which has led to the provision of public services electronically and issuance of (free) digital certificates to citizens to conduct transactions with public agencies. Upon becoming a WTO member in 2015, Kazakhstan received assistance to implement trade facilitation measures, and this complemented the national agenda to improve efficiency and delivery of public services. The technical and legal expertise that Kazakhstan received helped to speed up the process of implementing a Single Window and supports greater interoperability of the system through adoption of standards that conform with international best practices.

The passage of the World Trade Organization’s (WTO) Trade Facilitation Agreement (TFA) also added additional capacity building resources for member governments to utilize. Since TFA also includes provisions around paperless trading and supportive policy measures, developing countries and least developed countries (LDCs) can tap on expertise and potential funding opportunities for creating a national level policy to support cross-border paperless trade.

2.5.2. Implementation Frameworks and Roadmaps

The Framework Agreement and national level efforts to support (cross-border) paperless trade cannot happen without a plan for driving implementation. Countries that have shown success in developing national level policies have created roadmaps and frameworks. New ideas are often pilot tested. Since effectiveness of paperless trade regimes ultimately requires usage by firms, some countries have opted to provide free of charge access at the outset.

**Adopting frameworks and roadmaps for implementation**

The development of paperless trade may follow various frameworks or roadmaps developed by international organisations such as Asia-Pacific Economic Cooperation (APEC), Organisation for Economic Cooperation and Development (OECD) and the United Nations. Frameworks and roadmaps for Single Window have been developed from the early success cases of Japan’s Nippon Automated Cargo Clearance System (NACCS), the Republic of Korea’s UNIPASS and Singapore’s TradeNet (now called the Networked Trade Platform) etc. Such frameworks and roadmaps that supported cross-border paperless trading are not only limited to frameworks for Single Window but include various frameworks that support paperless trading through digital technologies, logistics and supply chain, electronic payments and so forth.

**Enforce pilot testing in action plans**

Many countries have enforced or adopted the use of pilot testing when new measures have been introduced. In China’s case, a Single Window was built for each provincial area and the data systems were linked together to create an exchange of data. China’s E-Port was designed to be operated at both central and local government levels. As support from the local government is critical for the construction of the E-Port platform, the leading agency for the implementation of E-Port, the General Administration of Customs China signed MOUs with the provincial governments on cooperation, financing and operation of the E-Port platform. For the implementation of new projects, pilot testing is often enforced in the principles of China’s policy plans where local governments that are prepared to execute national programmes could commence the “pilot test” while other provinces and municipal governments observed the progress and implementation and prepared to join at a suitable timeframe. This was also the case in China’s introduction of Cross-border e-commerce (CBEC) pilot zones (since 2015) that provided testing grounds for regulatory

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models that could provide valuable lessons to other cities that may potentially be the next to launch pilot testing or programmes supporting CBEC.45

Under the ASEAN Single Window initiative, pilot testing of trade documents such as the ASEAN Customs Declaration Document, electronic Phytosanitary Certificate (e-Phyto) and electronic Animal Health Certificate (e-AH) are conducted amongst ASEAN members who are ready to support the exchange of these electronic documents. In January 2020, the ASW Steering Committee has officially included these three documents to be exchanged via the ASW. The ASW Steering Committee has also planned to develop a roadmap to enable ASEAN dialogue partners to be included in the initiative to exchange trade documents online with the ten ASEAN countries.46

Provide complimentary services to encourage usership
To encourage the adoption and use of the Single Window, the Republic of Korea’s Single window systems, UNIPASS and uTradehub, do not have monthly charges attached except for the use of certain third-party services. Singapore’s NTP has a monthly fee model for standard accounts with value added services included, but “lite accounts” with access to government services only, are provided free of charge.

Countries in this study have adopted similar approaches in pricing models where usage of the Single Window platform for essential services pertaining to transactions with Customs are provided for free, with the exception of administrative fees for application for certification and permits and for payment of customs duties.

2.5.3. International obligations
Governments can find it easier to implement roadmaps and pilot phases when such actions are tied into larger policy commitments. In addition to alignment with the Framework Agreement, governments can attach paperless trade commitments into regional or sub-regional trade agreements or include provisions in a paperless trade roadmap that correspond to other international treaty obligations.

The ten countries involved in the Association of Southeast Asian Nations (ASEAN) have already made substantial commitments in alignment with the Framework Agreement. ASEAN members signed the Agreement to Establish and Implement the ASEAN Single Window (ASW) where countries such as Singapore and Thailand had to make their National Single Window (NSW) systems operational-ready by 2008 and less developed member countries such as Cambodia and Viet Nam were provided an extended deadline up to 2012. (In the end, the NSW project for ASEAN was delayed. The first exchange of documentation using the ASW took place at the end of 2019.)

In the cases of Viet Nam and Thailand, the electronic exchange of data under the ASW provided a key commitment device to drive the implementation and coverage of the NSW across agencies. In Viet Nam, the NSW and ASW implementation project have been overseen by a single National Steering Committee (Decision No. 2120 / QD-TTg), which ensured the use of international standards in NSW protocols and the coordination of NSW and ASW implementation timelines.

While ASEAN has the most comprehensive commitments to create NSW systems, other trade agreements in the region include similar pledges to make customs documentation exchanged electronically.

3. Template for National Policy Framework for (Cross-border) Paperless Trade

Template for national policy framework for (cross-border) paperless trade needs to be flexible, because as the section above and the Annex B details highlight, there are multiple ways to establish one. In nearly all circumstances, countries are not likely to build a policy and legal strategy completely from scratch. They will, instead, start with existing policies, legal and regulatory systems and procedures that are already in place. Some of these existing arrangements may need adjustment. Some will need to be created to fill in missing gaps.

Based on this study which examined diverse countries’ approaches, and essential attributes from the Framework Agreement, a template for national policy framework on cross-border paperless trade is proposed here, consisted of the following elements or components, to serve as guide for countries to develop their own national policy framework on cross-border paperless trade (figure 2):

Figure 2: National Framework Template for (Cross-border) Paperless Trade

Each of these sections of the Roadmap is considered in turn below.

3.1. Scope of Coverage

Countries should set the scope of a national policy framework to cover the outcomes and objectives to be achieved for national level paperless trade actions that will support cross-border paperless trade, legislative frameworks, institutional structure and implementation strategies. As the implementation of a cross-border paperless trade system is multifaceted, a national framework on paperless trade should incorporate all relevant policies and legal frameworks as well as the stakeholders involved in planning, coordination, and implementation wherever possible. The more clearly the scope is defined at the outset, the easier it appears to be—based on existing experience by countries with paperless trade systems in place—to achieve a tangible outcome.
**Definition of Terms**
Countries are urged to define terms in their policy framework based on internationally recognised definitions. As an example, the definition of a Single Window could follow the United Nations Economic Commission for Europe Recommendation on Establishing a Single Window (Recommendation 33, ECE/TRADE/352).\(^{47}\)

Note that the Framework Agreement (Article 3) includes definitions of relevant terms. Many of these terms can be lifted straight from the Agreement if no equivalent domestic term exists.

**Objectives**
Governments may wish to refer to the objectives of the Framework Agreement and then adapt, as necessary, to fit existing local conditions. As an example, ASEAN member states may want to refer specifically to existing ASEAN-level commitments, as an addition to regional or sub-regional single windows.

The relevant text of the Agreement reads: “The objective of the present Framework Agreement is to promote cross-border paperless trade by enabling the exchange and mutual recognition of trade-related data and documents in electronic form and facilitating interoperability among national and sub-regional single windows and/or other paperless trade systems, for the purpose of making international trade transactions more efficient and transparent while improving regulatory compliance.”

**Principles**
As with the Objectives statement, member governments need to include principles to better ensure alignment within the various public and private stakeholders that will be tasked with reaching the common objective.

Countries may also adapt principles relevant to facilitate cross-border paperless trade from existing national trade facilitation strategy documents or other bilateral and international treaties that promote paperless and cross-border paperless trade.

The Framework Agreement on Facilitation of Cross-border Paperless Trade in Asia and the Pacific noted the following principles (Article 5) that should be included in any National Framework to maintain consistency in approach:

(a) Functional equivalence;
(b) Non-discrimination of the use of electronic communications;
(c) Technological neutrality;
(d) Promotion of interoperability;
(e) Improved trade facilitation and regulatory compliance;
(f) Cooperation between the public and private sectors;
(g) Improving transboundary trust environment.

The principles of (a) Functional equivalence, (b) Non-discrimination of the use of electronic communications, and (c) Technological neutrality, are embodied in several United Nations Treaties and Model Laws such as the UNCITRAL Model Law on Electronic Commerce (1996), the UNCITRAL Model Law on Electronic Signatures (2001) and the UNCITRAL Model Law on Electronic Transferable Records (2017). These principles could be adopted in legislative framework to regulate the use of electronic transactions, electronic documents, and electronic signatures in (cross-border) paperless trade applications.

\(^{47}\) UNECE Recommendation on Establishing a Single Window (Recommendation 33, ECE/TRADE/352).  
http://ftig.unece.org/contents/recommendation-33.htm
3.2. Formulating policy plan

Countries usually have their own national development plans that often stretch three to five years and long-term plans and vision documents that may take 10-15 years to fulfil. Such national development plans could be cross-cutting across important economic and social development issues or sector specific e.g., ICT, digital strategies, e-government policy, e-payment masterplan, and logistics development strategies which could be further developed by the relevant ministry or national committee in charge.

Approaches

To craft a strategic policy plan on (cross-border) paperless trade, countries can identify areas and strategies relevant to the context from existing national plans and build on these suggested initiatives instead of developing a new plan from scratch. Doing so would also ensure that the strategic plan in the framework for cross-border paperless trade will also align with national vision and strategies.

Drawing from the experience of countries in our study, there are three main approaches that countries have primarily adopted to achieve (cross-border) paperless trade (table 2 in Section 2.3). Countries reserve the flexibility to adopt a combination of approach and strategies, adjusting their approach to meet current and future needs. For example, although the Republic of Korea has adopted a paperless trade approach where policies and legislations are developed to support the construction and use of a national paperless trade platform lead by the Korean Customs, the government noted the importance of integrating the IT systems of government agencies through cloud and hyper connected networks. These e-government initiatives were facilitated by the Framework Act on National Informatization (2009), and the Act on Shared Utilization of Public Administration Information (2010), as well as the National ICT Master Plan (2008). The more recent priorities of the government of the Republic of Korea also shifts towards e-government through the adoption of the 2020 e-Government Masterplan which emphasises intelligent information-based administrative innovation; creating a digital ecosystem; expansion of trust-based infrastructure; promoting e-government globally.48 The Republic of Korea is strengthening cooperation in partner countries by establishing a new ‘e-Government Cooperation Center (EGCC)’ in partner developing countries to share the Korean experience and collaborate on joint projects.49

Policy Commitment Tools

An important feature for a policy framework is to ensure political commitment to achieve the stipulated objectives. Often, objectives in a national policy framework can only be realised in the mid to long term and will require significant commitment and investment in resources. To ensure that that policy initiatives are implemented in a timely manner and remain congruent with policy plans and statutes, political commitment could be expressed through strong leadership or legal statutes and agreements that are binding.

Strong leadership, such as the presence of high-level ministers to chair the national committee to drive (cross-border) paperless trade initiatives, can send signals that the initiatives included in various paperless trade activities will be prioritised and to encourage greater cooperation between members of the committee. The presence of key figures helps reinforce the level of political will be seen to be engaged in the exercise.

Regional and sub-regional agreements and international treaties can also be used as tools to express policy commitments to establish a cross-border paperless trade system. Provisions on cross-border paperless trade can be included in trade agreements to encourage interoperability and mutual recognition of trade documents and electronic data. Signing and ratifying international treaties such as the United Nations Convention on the Use of Electronic Communications in International Contracts, the Revised Kyoto Convention, and adopting the World Trade Organization’s Trade Facilitation Agreement can also indicate


intention to abide by articles in the treaty and to incorporate any deliverables that are legally binding into national policy plans.

3.3. Governance Structure

The specific governance structure adopted by various members will vary, as the Annex B case studies clearly note. The implementation of a paperless trading platform or Single Window is often led by the Customs, but a national committee is often involved in the policy development process for the formulation of policies and legislations to support the implementation work of Customs. The relevant ministries, especially ministries in charge of information and communication as well as the ministry of trade, are also responsible for formulating policy plans to support a national strategic roadmap which incorporate strategies to promote paperless trade. Governments have made use of the expertise of different ministries by designating initiatives to the relevant responsible ministry. Policies related to information security could be assigned to the ministry of communication and information and technical matters could be addressed by working groups established under the ministry. Where cross-cutting issues are involved, creation of a department or committee made up of subject matter experts from different fields could provide greater synergy to drive the initiatives. The Framework Agreement urges members to determine a governance structure, perhaps a national oversight committee, to ensure that the objectives and principles are met and that effective action plans to achieve these goals are clearly defined with a realistic pathway to implementation.

Absent a defined structure, it may prove impossible for member government to effectively manage the coordination of policies and laws that may be needed to implement the Framework Agreement.

For reference, the Framework Agreement (Article 6.3) states that: “The Parties may establish a national committee, comprising relevant representatives of government and private sector parties, in accordance with their domestic environment. The committee will promote a legally enabling domestic environment for exchange of trade-related data and documents in electronic form as well as facilitate interoperability of cross-border paperless trade. The Parties may alternatively rely on a similar body already functioning domestically in lieu of establishing a separate committee and may designate that body, or an appropriate organizational unit or working group within it, as the national committee for the purpose of the present Framework Agreement.”

Countries may already have a suitable national body or committee on logistics and trade facilitation that could uptake the role to be the leading body for the development of strategies and policies on (cross-border) paperless trade and hence, do not need to establish another specialized committee to conduct similar functions. Countries, however, may consider establishing sub-committees to drive more specialized initiatives e.g., legal aspect of policy development and the technical specifications and considerations.

3.4. Action Plan

The governance structure—in whatever format it takes in the national level setting—is meant to deliver results. Hence it is also important to empower the governance group which is defined as the national committee with the tools and resources needed to ensure effective implementation.

Action Plans developed by countries with paperless trade systems already in place highlight the importance of clearly articulated action items, each assigned to a particular responsible body within domestic level agencies, ministries, departments and/or private sector to manage specific points in the action plan. Individual action items, and the plan as a whole, should include measurable indicators (i.e., legislation or regulations passed or implemented, or number of procedures minimized or eliminated through the use of paperless systems).
Action items may be rolled out in pilot or testing phases, such as the introduction of specific paperless processes at one or more ports or customs facilities, before widespread application. Such pilot phases need to have clearly defined scope, outcomes, timelines and assessment mechanisms included.

Finally, Action Plans need to come with dedicated funding and budget allocations to ensure that steps are taken in the timely and effective manner outlined in the Action Plan. No paperless trading system has ever been achieved without resources allocated to implementation. Many developing countries may be eligible for donor funding or international organization financing for tasks such as a readiness assessment at the outset, potential stocktaking exercises, legal and regulatory guidance, and necessary capacity building.

To recap the specific elements in the Framework Agreement that are needed: to endeavour to create single-window systems to facilitate paperless trade (Article 7), to provide for mutual recognition of trade-related data and documents in electronic form (Article 8), to endeavour to apply international standards to the required data and documents (Article 9), and to ensure that such requirements are consistent with international standards (Article 10). Members should, of course, refer to the Framework Agreement document, with careful attention to the descriptions embedded within the document for terms and definitions.50

3.5. (Cross-border) Paperless Trade Legislation and Agreements

(Cross-border) paperless trade legislations exist to regulate parties in an electronic transaction and helps to facilitate the mutual legal recognition of electronic transmissions in business-to-government (B2G), business-to-business (B2B) and government-to-government (G2G) transactions. Such laws can be applied to regulate the private sector or public sector or both.

Building a legislative basis for (cross-border) paperless trade should be emphasized in the national policy framework and can be incorporated into action plans or be part of legislative development that can be tasked to a legal working group on paperless trade.

Legislation to support (cross-border) paperless trade might include: (1) laws on electronic transactions, electronic documents and contracts; (2) laws on authenticating electronic signatures; (3) laws to regulate service providers and provide data protection; and (4) cybersecurity or cybercrime laws.

In enacting and revising laws, countries should ensure that the laws do not hinder the development of (cross-border) paperless trade by referencing UNCITRAL texts and other global standards. Countries may adopt or base their laws on electronic transactions and electronic signatures on Model Laws such as the UNCITRAL Model Law on Electronic Commerce (1996), the UNCITRAL Model Law on Electronic Signatures (2001) and the UNCITRAL Model Law on Electronic Transferable Records (2017) that have been adopted by most Asia Pacific nations.

Countries may also refer to APEC Cross-Border Privacy Rules (CBPR) and the OECD Guidelines Governing the Protection of Privacy and Trans-border Flows of Personal Data to craft regulations on data protection and to the Convention on Cybercrime of the Council of Europe for guidelines to develop cybersecurity legislation.

Where a comprehensive collection of these laws exists, countries can instead choose to conduct an evaluation or review of the laws to identify legal gaps and to ensure that needs and feedback from the business communities have been addressed.

The cross-border aspects of paperless trade are commonly found in trade agreements and MOUs, including the relatively newer digital agreements such as DEPA, as mutual recognition and collaboration will be required for cross-border transactions to take place. DEPA contains modules that support trade facilitation and digital trade and thus countries that are not part of the agreement could insert the DEPA modules into existing free trade agreements or choose to align domestic policies and legislations to correspond to DEPA. For example, countries may lift and insert the whole module on business and trade facilitation in the DEPA text or choose to only include articles on paperless trading (Article 2.2).


Section 4 outlined a template that might serve as a roadmap to the development of a national policy framework for paperless trade. As countries likely already have in place some aspects of the roadmap, this section provides guidelines of how countries might translate the template into action. The national policy framework for paperless trade will support the development and implementation of cross-border paperless trade outlined in the Framework Agreement.

4.1 Initial Assessment of the Status of (Cross-Border) Paperless-Trade

Prior to the development of a national policy framework for paperless trade, countries should conduct a holistic assessment of the current state of (cross-border) paperless trade implementation and ascertain whether the current ICT and legal infrastructure is adequate to support any subsequent upgrading or implementation of new technologies in government departments and Customs. A good starting point is the use of legal and technical readiness assessment developed by the Interim Steering Group and its working groups. There are readiness assessment country reports for some ESCAP LDCs and LLDCs that could provide the countries’ status of (cross-border) paperless trade implementation, as well as insights and ideas for other countries to draw upon.

To assist the National Committee (or the equivalent focal point) in managing the process, it may be important to create and maintain a database or an inventory of all existing regulations, decrees, and laws that may be relevant to the Committee’s work. Compiling the information at the outset of the process should facilitate the implementation of the Framework Agreement, as members of the Committee and related agencies and ministries can contribute documentation and prepare gap analyses. The subsequent action plan and action items can be built on the existing base of policies.

Information of importance to paperless trade may include trade and customs laws and regulations; trade documentation and related procedures; computerization and automation requirements for existing government agencies, including customs; and cybersecurity and related laws on data privacy and data control.

The Framework Agreement was designed to build on national, bilateral and subregional initiatives, and to create an integrated approach to managing cross-border paperless trade. For the approach to work well, it is important that members have a clear understanding of existing policies, regulations and legal statutes that may be relevant. This inventory of status-quo positions provides an important baseline for determining how to plug remaining gaps more efficiently and effectively with the Framework Agreement at the national level.

Given the interconnected nature of many potential member countries, it may also be important to review any existing international agreements, including free trade agreements and other trade, trade facilitation or

51 https://communities.unescap.org/cross-border-paperless-trade-facilitation/working-documents
52 https://www.unescap.org/resources/readiness-assessments-cross-border-paperless-trade
customs commitments that have been made. This includes looking at the commitments of the World Trade Organization (WTO) in the Trade Facilitation Agreement (TFA) which has a number of elements specifically related to customs procedures already in place that can support and reinforce the Framework Agreement.

As part of the effort to move from a categorization of existing arrangements to the implementation of a national policy framework, it is also important to decide whether the framework to be built will overwrite existing ones. In cases where the legal framework for cross-border paperless trade compliments existing legislation and framework initiatives, the related legislation and initiatives should be listed down to facilitate monitoring and assessment.

The inventory and assessment need not be left to only local officials. International organizations such as ESCAP, the World Customs Organization (WCO), and the World Trade Organization (WTO) have conducted a range of assessment exercises and research studies that provide important national-level information. In addition, ESCAP is available to conduct country-specific paperless trade readiness assessments, based on country requests. Eight have already been completed, namely Armenia, Bangladesh, Cambodia, Mongolia, Myanmar, Nepal, Timor-Leste and Uzbekistan. Countries making an initial assessment can refer to these pre-collected data and country reports.\(^53\) The United Nations Global Survey on Digital and Sustainable Trade Facilitation can also be used to identify implementation rates in (cross-border) paperless trade implementation, allowing countries to highlight and weaker areas or gaps that may require more interventions.\(^54\)

### Trade and customs laws and regulations

Countries may have customs laws and regulations that include paperless trade articles such as providing paper equivalence to electronic documents or rules that permit the submission of electronic documents validated with an electronic signature. The mandatory use of an online system to submit trade documents to Customs have been imposed for some countries to allow for faster clearance. Traders in Azerbaijan, as an example, must use the automated customs clearance system to submit documents for import/export clearance. It is also compulsory for traders to submit electronic documents via the uTradeHub or UNIPASS for the Republic of Korea and through the Integrated Cargo System (ICS) of Australia. For other countries such as China and Malaysia, submission of electronic trade documents through an online system is voluntary.

The use of electronic documents in customs procedures may be implicit in customs laws such as in the case for Singapore where all electronic transactions and electronic signatures are governed under the omnibus Electronic Transaction Law.

### Trade documentation and related procedures

A stocktake of trade documents and procedures should be conducted to identify unnecessary administrative processes and for rationalization of the Customs processes. References could be made to international standards such as the WCO Data Model and Revised Kyoto Convention to simplify data requirements and allow for cross-border exchange of data with foreign Customs adopting such international standards.

### Computerization and automation

To computerize and automate customs processes, countries must ensure standardization and data harmonization across government agencies involved in trade processes. Technical specifications and the type of technologies used across related government agencies and Customs should be standardized to ensure system compatibility for data exchange. An absence of a standardized data format, data requirements and operating systems across agencies could result in data mismatch or system incompatibility which hinders the exchange of trade data and documents.

\(^{53}\) Readiness Assessments for Cross-Border Paperless Trade Country Reports are available at: [https://www.unescap.org/resources/readiness-assessments-cross-border-paperless-trade](https://www.unescap.org/resources/readiness-assessments-cross-border-paperless-trade)

\(^{54}\) [https://untfsurvey.org/](https://untfsurvey.org/)
Identify (cross-border) paperless trade laws and legislative requirements that should be enacted or revised

Paperless trade legislations are foundational to the implementation of a paperless trade system and usually embodies the principles of “non-discrimination,” “technological neutrality,” and “functional equivalence” in the legislative texts. These principles provide for legal recognition of documents in electronic forms, allow the use of new and varied forms of technologies, and set the requirements for which electronic documents are given the same recognition as paper-based documents. Important paperless trade laws include electronic transaction laws, electronic document and electronic signature laws which should all be in place to provide for a legal basis to carry out electronic transactions with both public and private sectors and for civil and administrative purposes.

Regular legislative review is often necessary, especially after a country adopts any international treaties that will require legislative changes to be made to national laws. As enactment and revision of legislations will require legal drafting and, perhaps, the approval of parliament or the legislative body, it is advised that countries should initiate the process of legislative review early.

Cybersecurity and supporting laws

The presence of cybersecurity laws and other supporting laws encourage electronic transactions and promote user confidence in a paperless trade system. Having a secured information system is integral to the protection of large volumes of trade data and sensitive business information including product formulas and costings. Hence, countries should ensure that the principal legislation needed to secure networks and operating systems are in place and make revisions, when necessary, to ensure the laws stay relevant.

Contract laws, payment laws, intellectual property (IP) laws, dispute resolution and arbitration laws are some supporting laws that should also be in place to regulate service and network providers and provide protection for business IP.

4.2 Formulating Policy Plans and Building Strong Policy Commitments

To implement a paperless trade system, the policy framework should be built on strong policy commitments to implement initiatives and programmes suggested in the policy plans. Such commitments can be communicated through legal instruments, international treaties, and the establishment of specialized working groups to formulate strategies and advance action plans.

Clear communication of policy plans across ministries and agencies should be conducted to emphasize the importance of the activities. National policy plans that are communicated to all the relevant government departments helps to enforce interagency cooperation. For example, implementing electronic government and open data governance will require a whole-of-government approach where harmonization of data and administrative procedures are necessary.

Strong leadership in national committees and working groups through the presence of ministers or the vice-president as the chairperson to drive paperless trade initiatives can facilitate the implementation of policy plans. The presence of high-ranking officials shows that the agenda of having a paperless trade system is prioritised and helps to garner budget for execution of action plans.

Modelling international standards and agreements

Countries can also express commitments to the implementation of a paperless trade system by being a signatory of international treaties. Examples of such treaties include the WTO Trade Facilitation Agreement and the WCO Revised Kyoto Convention.

Trade agreements can also incorporate digital trade provisions that provide commitments to cross-border paperless trade and allow for exchange of electronic trade data. Examples of such provisions include the
recognition of foreign electronic certificates/signature or provide for legal validity of electronic trade documents exchanged between parties of the agreement. Such provisions may also be present in e-commerce chapters of trade agreements or in the chapter for customs and trade facilitation.

Trade agreements that support (cross-border) paperless trade include Thailand-Australia Free Trade Agreement (Electronic Commerce Chapter), Japan-Thailand Economic Partnership Agreement (Paperless Trade Chapter), Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP) (Article 14.6) and China-Singapore Free Trade Agreement (Chapter 15, Article 4) as well as DEPA and DEA.

4.3 Assess Available Resources and Financial Requirements

Improving ICT infrastructure and adopting an automated customs system or Single Window often entails substantial investments in both technologies and human resources to ensure that staff are prepared. Action plans and budget requirements should be as detailed as possible to consider all the possible expenditures e.g., software, IT networks, and human capital.

Ensure sufficient budget allocation
Sufficient budget allocation is necessary for projects to be carried out successfully and to prevent projects from being abandoned halfway due insufficient funding. This is especially so for projects that may require several years to be completed and those which require cooperation from multiple government agencies such as the implementation of a Single Window. Henceforth, the ministry or agency responsible for disbursing and allocating budget should be engaged in the planning process wherever possible. Budget allocation also reflects priority areas and translates to commitments in achieving the set objectives.

Financial support and technical assistance from international organizations
Least Developed Countries (LDCs) and developing nations are usually eligible to receive technical and financial assistance from international organizations such as ESCAP, the Asian Development Bank (ADB), the World Bank, and the United Nations Conference on Trade and Development (UNCTAD).

ESCAP has conducted paperless trade readiness assessments at member requests.55 UNCTAD has assisted developing nations such as Kazakhstan and Azerbaijan to install a computerised customs management system (ASYCUDA) to handle electronic transactions and documents.56

4.4 Action Plan and Mode of Implementation

In the development and execution of action plans and initiatives on (cross-border) paperless trade, countries can consider various approaches that are best suited to the needs of the nation and where efficacies can best be realized for financial and human resources invested.

Government-led approach and public-private partnership (PPP)
National action plans are often driven by the government with opportunities for public-private partnership (PPP) where expertise from the private sector can be engaged. The government and its specialized national committee are responsible for developing action plans and leading the implementation of initiatives in the action plan. Coordinated actions across government agencies may be necessary for strategies and action plans for public sector reform such as implementation of e-government and open government strategies. Although the policy making process is under the lead of the public sector, private sector representation

55 ESCAP Readiness Assessments for Cross-Border Paperless Trade Country Reports are available at: https://www.unescap.org/resources/readiness-assessments-cross-border-paperless-trade
56 See details at: https://unctad.org/en/Pages/DTL/TTL/ASYCUDA-Programme.aspx
should not be omitted. Experts from the private sector could be invited or recruited to join a national committee and participate in consultations and public dialogues.

To build a national paperless trade platform, for instance, the Republic of Korea established a National e-Trade Committee and a Private e-Trade Committee. Collaboration with the private sector through the Korea International Trade Association (KITA) offered private sector opinions for the development and implementation of policies on paperless trade and provided practical solutions to establish a paperless trade platform that could be efficiently linked with traders, logistics service providers and financial institutions.

Cases of public-private partnership and involvement of private businesses can also be seen in the provision of services that may be contracted or tendered to the private sector to increase efficiency in the delivery of services. For example, operating and servicing the IT systems of government agencies, constructing and managing Single Window platform are services that could be provided through PPP. Moreover, service providers are usually subjected to contractual arrangements and regulated by laws for the provision of critical services to ensure that service standards are maintained across the contracted period and accountability is provided. An example of PPP can be seen in the provision of Single Window services by KTNET in the Republic of Korea. KTNET was tasked to manage uTradeHub and has been the national paperless trade platform operator and customs network service provider since 1992. The Digital Trade Hub initiative of Azerbaijan is another example of PPP which involves public and private stakeholders in the provision of services. Asan Certification Services Centre (ASXM) is the public stakeholder for providing certificates for authentication and digital signing to Mobile ID (Asan Imza), B.EST Solutions is the private Mobile-ID Service Provider and private mobile operators (Azercell, Azerfon, Bakcell) are involved in the provision of digital services and mobile authentication; end-user services are provided by government agencies and the private sector.57

**Integrated and targeted approach**

An integrated approach for implementing (cross-border) paperless trade initiatives is encouraged at an early stage of planning and implementation where many areas—including ICT infrastructure, legislation, customs procedures, and technical expertise—should be developed. Building a (cross-border) paperless trade system requires the collaboration of several government ministries and departments. The relevant ministry and department in charge of each action item should be clearly indicated in all action plans. Where inter-agency cooperation is required, regular reporting of progress through inter-agency meetings can help to ensure that each department is on track and prevent delays from occurring from any party in the implementation of paperless trade initiatives.

At a later stage of implementation where the national paperless trade platform has become fully operationalized, countries may adjust their approach to target selected areas for improvements. Countries may refer to assessments conducted on implementation of paperless and cross-border paperless trade measures to identify areas where significant improvement can be made. Although developed nations such as Singapore and the Republic of Korea have a well-established national paperless trade system, cross-border paperless trade is only implemented in selected areas (e.g., exchange of electronic customs declarations and electronic certificate of origin) and under bilateral or multilateral arrangements.

As plans to facilitate cross-border trading are sometimes postponed to pursue more urgent national agenda items, nations may choose to revisit cross-border paperless trade; amend domestic legislations; and make institutional arrangements with trading partners to recognize electronic data and electronic signatures exchanged between parties through formal agreements and expand on the scope of electronic trade documents and forms that can be legally recognized and exchanged.

**Pilot testing and phased implementation**

Pilot testing and phased implementation should be enforced as necessary in action plans. Countries often adopt pilot testing and/or phased implementation when new government services and schemes are launched. Conducting pilot testing with a smaller sample size allows for feedback from the selected participants and can often address issues or challenges in operationalization before policies are implemented nationwide. This can be seen in the case when Singapore first introduced TradeNet; the Single Window system was tested with a pilot sample before the system was made available to all traders. Pilot testing can also be conducted at major ports or specific border Customs departments for larger nations with many border Customs.

A phased implementation schedule may usefully be used to allow gradual replacement of the old system with a new system such that the change will not appear abrupt to the users of a system. It is usually adopted when countries migrate to electronic submissions from paper-based documents. A phased implementation of paperless trade measures was in place for Azerbaijan. In the first phase, available customs services could be conducted in paper or electronic form. Subsequently in the second phase, customs-to-customs exchange in the country were conducted only by electronic means. After the introduction of electronic signatures nationwide, it was then mandatory for all transactions to be conducted electronically.

4.5 Establishing (Cross-border) Paperless Trade Facilitation Institutional Structure

Designating a lead (cross-border) paperless trade facilitation agency
The ministry in charge of trade could be appointed as the lead agency to facilitate (cross-border) paperless trade as the ministry also takes charge of many trade issues at national, regional, and international levels such as negotiation of trade agreements. The vast responsibilities of the Ministry of Trade, however, could render inefficiencies in the supervision and coordination of (cross-border) paperless initiatives. Specialized initiatives may come under the lead of a suitable government department or agencies. Customs is often designated as the lead agency or focal point in the implementation of a Single Window system and other trade facilitation initiatives (e.g., China, Thailand) due to its direct involvement in the process to implement (cross-border) paperless trade initiatives.

Which agency or ministry is selected to lead is perhaps less relevant than ensuring that the lead agency for (cross-border) paperless trade be able to effectively carry out its duties to develop, coordinate and implement policy plans and monitor progress? The lead agency should be supervised by a high ranking official. Accountability to a senior ministers will ensure that the functions and responsibilities of the lead agency are executed according to the mandate.

Establishing a national paperless trade facilitation body
Sectoral representation from various fields should be encouraged when forming a national paperless trade facilitation body to drive (cross-border) paperless trade initiatives. Apart from government stakeholders, representation from the business communities and service providers should also be included. (table 4)

<table>
<thead>
<tr>
<th>Table 4: Sectoral Representation in a National Paperless Trade Facilitation Body</th>
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<tbody>
<tr>
<td>Government stakeholders</td>
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<td>Business community</td>
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<tr>
<td>Service providers</td>
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</table>
Establishing national committees could be directed through legal statutes which detail the procedures, stakeholders involved, and the areas of responsibility, or through government administrative procedures that have already been put in place. Thailand’s Electronic Transaction Act, for instance, includes a chapter that mandates the establishment of a national body to govern and supervise the implementation of policies related to electronic transactions. According to the law, the Electronic Transaction Commission must include the Minister of Information and Communication Technology and 12 other qualified persons from the private sector, for which two persons each must be from the fields of finance; electronic commerce; law; computer science; science or engineering; and social science.\(^5^8\)

It should be noted that countries need not form a national paperless trade facilitation body from scratch and may instead designate and assign responsibilities to an existing national body or committee, e.g., China’s National Trade Facilitation Committee, Thailand’s National Logistics Committee and Azerbaijan’s National Working Group on transport and trade.

Countries should also ensure that there is balanced participation from the private sector and recruit private or public sector participants into the working body as necessary, referring to Table 4 for a list of stakeholders that should be included.

### 4.6 Capacity Building and Technical Support

Since the point of the Framework Agreement is to provide faster, smoother facilitation of trade, it is critical that both officials from government agencies and companies understand how the (evolving) paperless trade system will work and how it is intended to provide specific benefits for firms. Companies especially, cannot be expected to automatically understand and effectively follow new policies, procedures, laws or regulations.

A plan of outreach and capacity building to the business community should be built into action plans of the national policy framework. Each national committee (or the local equivalent) should have clearly defined enquiry points to manage questions from the wider public about the system.

**Outreach and capacity building programmes**

Capacity building should be conducted when new initiatives or new functions are introduced to customs and trade procedures. When a new customs management system is introduced, training of customs officers to use the new system should be carried out to ensure efficiency in the use of the new system to perform transactions and validate trade documents. Outreach and capacity building for the business community and traders should also be conducted by the relevant agency such as the Customs or platform service providers if the services are provided by the private sector or through a public-private partnership. These training sessions will need to be held regularly, as companies are constantly being formed and changing staff.

In 2019, when the Thai Customs first introduced electronic payments, capacity building workshops were conducted for traders to understand the available payment methods for payment of customs duties and fees. Payment service providers and banks were also invited to provide an overview of their payment services that were integrated with the Customs.

**Technical support for electronic customs submission system**

Instructions on how to use the electronic submission system and technical support should always be made available for users to access. Additional support, such as 24-hour customer service or online Frequently Asked Questions (FAQs), can also be made available but may be subject to funding availability. Countries could also make use of technology such as AI chatbots in customer service to provide fast responses to questions without the need to invest in additional manpower. Businesses and governments have made use

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of such technology to provide technical support in service delivery. As an example, the Government Technology Agency of Singapore (GovTech) has implemented a virtual assistant, “Ask Jamie,” across the websites of government agencies including the Singapore Customs’ webpage. Kazakhstan also has a chatbot function in the e-gov portal providing online public services that can assist users to search for relevant information.

4.7 Monitoring and Assessment

Monitoring and assessment of the implementation of national economic and development plans should be built into action plans and conducted by a designated ministry while more specialized projects are under the responsibility of a lead agency or committee. This will help ensure that the various stakeholder and responsible groups deliver results as well as watching that processes taking place in parallel are coordinated and effective.

As many countries with existing paperless trade models can attest, early plans may need to be adjusted or upgraded in the future. This is especially true since the evolution of technology used to manage paperless trade may require updating or modernization of past legal or regulatory frameworks.

Monitoring procedures should include regular input from both the public and private sector.

The monitoring and assessment process should also include coordination with other member countries around the region to ensure that systems remain interoperable over time. ESCAP will be establishing a paperless trade council as required by the Framework Agreement. This Council will meet at least once per year.

The Framework Agreement also includes an important provision that mandates the regular sharing of best practices. Members and potential members should pay careful attention to the lessons that are communicated during these sessions and prepare to incorporate changes in their national framework, if needed, to improve the conditions for paperless trading at the domestic level.

Countries can also make use of global and regional trade facilitation benchmarks and indicators or digital government indicators, national surveys and utilize self-assessment checklist to conduct monitoring and assessment. A list of benchmarks, indicators and measures of assessment are summarized in Table 5 below.

<table>
<thead>
<tr>
<th>Table 5: Global and regional benchmarks and indicators</th>
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<tbody>
<tr>
<td><strong>Trade Facilitation Indicators</strong></td>
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<tr>
<td>• Global Survey on Digital and Sustainable Trade Facilitation</td>
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<tr>
<td>• Doing Business, the World Bank</td>
</tr>
<tr>
<td>• ASEAN Seamless Trade Facilitation Indicators (ASTFI)</td>
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<tr>
<td>• Logistics Performance Index (LPI)</td>
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<td><strong>Digital Government Indicators</strong></td>
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<tr>
<td>• E-Government Development Index, the United Nations</td>
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<td>• E-Participation Index, the United Nations</td>
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<td>• Digital Adoption Index, the World Bank</td>
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</table>

**National surveys**

Surveys may also be conducted for users of the electronic management system to collect qualitative data. Business and customs trade officers can be surveyed prior to and after implementation or upgrade of the customs electronic management system to evaluate the effectiveness and benefits of an automated electronic submission system.
Business survey questions could include:

1) Cost of processing trade and customs documentation,
2) Time taken to get trade documents approved,
3) Number of forms/documents required to be submitted, and
4) Number of staff needed to process and handle trade documentation and customs procedures

Customs and trade officers surveys could include information on:

1) Number of trade officers involved in processing trade documents,
2) Time taken for import/export customs clearance,
3) Rate of traders’ compliance with the documentation requirements,
4) Accuracy in classification of trade data, and
5) Timeliness and correct payment of duties

The use of analytics and automated data collection in customs management system or Single Window to be used in monitoring and evaluation of progress to replace survey questions could also be conducted for convenient data collection and assessment.

Self-assessment Guide from International Organization

Countries can also make use of self-assessment guides developed by international organizations to assess implementation of (cross-border) paperless trade measures such as the ESCAP Legal and Technical Readiness Checklists on Cross-border Paperless Trade facilitation,\(^\text{59}\) the WCO Self-Assessment Check List\(^ \text{60}\) and the WTO Negotiations on Trade Facilitation Self-Assessment Guide.\(^ \text{61}\)

5. Conclusions

Cross-border paperless trade is expected to not only grow trade competitiveness, but also to address new challenges including the increase in small shipments associated with cross-border e-commerce and the rise of the digital economy. Framework Agreement, with its aim to “promote cross-border paperless trade by enabling the exchange and mutual recognition of trade-related data and documents in electronic form and facilitating interoperability among national and subregional single windows and/or other paperless trade systems, for the purpose of making international trade transactions more efficient and transparent while improving regulatory compliance” (Article 1), will support countries’ journeys towards achieving cross-border paperless trade.

The Framework Agreement is designed as an inclusive and enabling platform that will benefit all participating economies regardless of where they stand in terms of trade facilitation or single window/paperless trade implementation. As the Framework Agreement is nearing to enter into force, preparations for establishing a template for national policy framework on (cross-border) paperless trade is under way, among others, and this study attempted to collect good practices from countries in the Asia-Pacific region, and to set the basis for further discussions on how the template could be developed in consideration of various aspects and components.

The extensive country cases in this study shows that many countries in the Asia-Pacific region have already implemented a wide range of policies and legal and regulatory support towards establishment of national policy framework for (cross-border) paperless trade. The pathways vary, but the objectives and principles should be united, aligned with the aim of the Framework Agreement and other global, regional and

\(^59\) https://www.unescap.org/resources/readiness-assessments-cross-border-paperless-trade
\(^61\) WTO Negotiations on Trade Facilitation Self-Assessment Guide is available at: https://docs.wto.org/dol2fe/Pages/FE_Search/FE_S_S006.aspx?Query=(%20@Symbol=%20tn/tf/w/143*%20)&Language=ENGLISH&Context=FormerScriptedSearch&languageUIChanged=true
subregional initiatives to move towards paperless trading system that speeds up trade and making it more transparent, more efficient and more inclusive.

Therefore, the template for national policy framework on (cross-border) paperless trade should be as flexible as possible, to capture diverse approaches that countries have taken. This study attempted to do so by examining a wide range of policies and legal and regulatory support, and with the proposed template with components that are relevant to paperless trade for all countries. As the Framework Agreement moves towards entry into force, it is important that countries take up the challenge of aligning national policies compatible and relevant for cross-border trade. A period of highly disrupted trade makes it more urgent than ever that countries work together for common objectives.
Annex A: Overview of Categories

Four categories for collection of frameworks

The collection of policies and regulations is divided into four categories adapted from the legal and technical readiness checklists. The policies and regulations identified are in accordance with the definition of a policy framework provided in Article 6 of the Framework Agreement on Cross-border Paperless Trade in the Asia Pacific. (Table 6)

<table>
<thead>
<tr>
<th>Table 6: Four Categories for Framework Data Collection</th>
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<tbody>
<tr>
<td>A. Policies and regulations on governmental institutional infrastructure, ICT and e-government, and laws supporting paperless trade</td>
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<tr>
<td>B. Policies and regulations on paperless trade and single window systems including Customs, logistics and information and cybersecurity laws to regulate service providers</td>
</tr>
<tr>
<td>C. Policies and regulations on Cross-border systems</td>
</tr>
<tr>
<td>D. Other considerations for legal and regulatory issues</td>
</tr>
</tbody>
</table>

There are two key areas in national policy framework collection: (1) policies and action plans and (2) laws and regulations.

In the collection of national policies, we attempt to identify the purpose and key features of the policy and how it contributes to cross-border paperless trade. The governance structure and specific strategies and action plan relevant to paperless trade are highlighted. Where data is available, the implementation and evaluation strategies including budget and resource allocation, technical standards and specifications, and the monitoring and assessment mechanism will be included as details.
Laws and regulations pertaining to electronic transactions and signatures as well as regulations for paperless trade and single window systems will be identified for the selected countries. This also include laws and regulations that promote data security and privacy that encourage the use of a paperless trade system. The objectives, key features and provisions of the laws in relation to electronic transactions and paperless trade will be indicated. Good practices in the use of rules and guidelines that prescribes conduct for electronic transactions between businesses and government and between government agencies are also collected. The collection of laws can be guided by the “ESCAP Cross-border paperless trade: a legal readiness checklist” document.

National frameworks of countries that were identified in the Annex may have differing priorities and strategies for implementation of action plans and enacting laws relevant to developing a paperless trade system. A paperless trade system is a result of a mix of policy decisions, legal institutions, and the application of technology which are often constrained by resources. Depending on where countries stand in the development path and their national priorities, some countries may rely more on the use of legal frameworks to establish rules and promote the use of electronic submissions. Others may focus more on building the digital infrastructure to ensure integration of data systems for trade facilitation.
Annex B: Best Practices on (Cross-border) Paperless Trade Frameworks in the Asia-Pacific

**Australia**

<table>
<thead>
<tr>
<th>Type of best practice</th>
<th>Details</th>
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<tbody>
<tr>
<td>Policies and regulations on governmental institutional infrastructure, ICT and e-government, and laws supporting paperless trade</td>
<td>The Australian government pursued digital government since 1997, with the Investing for Growth Statement and the formation of the National Office of the Information Economy to implement and coordinate the federal government’s online and Internet policies. Since then, it has released the Strategic Framework for the Information Economy (1998); the Government Online Strategy (2000); the Better Services, Better Government Strategy (2002); the Strategic Framework for the Information Economy (2004-2006); the E-Government Strategy, Responsive Government: A New Service Agenda (2006); the National Digital Economy Strategy (2011); the Australian Public Service (APS) ICT Strategy 2012-2015; the 2013 Policy for E-Government and Digital Economy; the formation of the Digital Transformation Agency in 2016, which released the Digital Transformation Strategy (2018) and a roadmap of initiatives to improve digital government services. This complements the Tech Future Strategy (2018) that promotes the digital technologies across the economy and society. The Digital Transformation Agency is the lead agency that oversees the government’s digital and ICT agendas, including strategic and policy leadership on whole-of-government ICT and digital service delivery, including standards,</td>
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services, platforms and procurements; and program management to oversee significant ICT and digital investments. The Department of Industry, Science, Energy and Resources promotes the adoption of digital technologies to support economic growth and business competitiveness; and the Ministry of Trade and Foreign Affairs advocates for a rules-based and open global trading environment that supports the digitalisation of trade, builds trust and confidence in the online environment, and reduces barriers to digital trade. ⁶⁸

**Policy for E-Government and Digital Economy (2013)**
The Liberal/National Coalition released the Policy for E-Government and Digital Economy in 2013 which aimed to provide leadership on the digital economy, make more effective use of ICT in government, and provide accessibility to government services. It included policy measures to work with the private sector to coordinate enabling infrastructure; accelerate Government 2.0 efforts to engage online, make agencies transparent and provide expanded access to useful public sector data; create better models for achieving whole-of-government ICT goals and reducing the cost of government ICT by eliminating duplication and fragmentation. ⁶⁹

**Digital Transformation Strategy (2018)**
The Digital Transformation Strategy sets out the approach and roadmap of initiatives ⁷⁰ for the implementation of E-Government to 2025. These include the access of all government services digitally in an integrated way; secure and easy-to-use digital identities; policies and services that draw on data, analytics and advanced technologies; data-sharing across government; strong data protection and respect of data privacy; expand digital capabilities, build digital platforms and infrastructure and provide accountability and evaluation mechanisms. ⁷¹

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The Tech Future Strategy, led by the Minister for Industry, Science and Technology, aims to harness digital and emerging technologies to improve existing businesses, create new products and markets, and enhance daily life. It focuses on 4 key areas: people and digital skills; government services; data policy and infrastructure; and an enabling environment including cybersecurity and regulatory systems. It also includes initiatives to drive digital adoption in specific sectors such as manufacturing, health, education, transport and emergency services. 

**Commonwealth Electronic Transactions Act 1999 (ETA)**

The ETA came into force in March 2000 to make it easier and more reliable to use electronic communications in government, business and personal transactions. Each state and territory has its own Electronic Transactions Act, which generally mirrors the Commonwealth Electronic Transactions Act. The Act applies to all laws of the Commonwealth unless they are specifically exempted by the Electronic Transactions Regulations 2000.

**Non-Discrimination**

Article 8(1) states that a transaction is not invalid because it took place wholly or partly by means of one or more electronic communications. Article 9(1) states that if a person is required to give information in writing under law, that requirement is taken to have been met if the person gives the information by means of an electronic communication where at the time the information was given, it was reasonable to expect that the information would be readily accessible so as to be useable for subsequent reference; and if not a Commonwealth (public) entity, the person to whom the information is required to be given consents to the information being given by way of electronic communication. Additional conditions apply with respect to Commonwealth entities as provided in Article 9.

**Functional Equivalence**

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The ETA recognizes the legal validity of electronic signatures and electronic documents based on identification, reliability and consent requirements. It also sets out additional requirements for recognition by public agencies.

Article 10 provides for functional equivalence in the recognition of electronic signatures. It states that if the signature of a person is required under law, that requirement is met if:

a) A method is used to identify the person and to indicate the person’s intention in respect of the information communicated; and

b) The method used was either:
   (i) As reliable as appropriate for the purpose for which the electronic communication was generated or communicated, in the light of all the circumstances, including any relevant agreement; or
   (ii) Proven in fact to have fulfilled the functions described in (a), by itself or together with further evidence; and
   (iii) The person to whom the signature is required to be given consents to that requirement being met by way of the use of the method.

Article 11 provides for functional equivalence in the legal recognition of electronic documents. It states that if person is required to produce a document that is in the form of paper, an article or other material, that requirement is taken to have been met if the person produces an electronic form of the document, where:

a) The method of generating the electronic form of the document provided a reliable means of assuring the maintenance of the integrity of the information contained in the document; and

b) At the time the communication was sent, it was reasonable to expect that the information contained in the electronic form of the document would be readily accessible so as to be useable for subsequent reference; and

c) The person to whom the document is required to be produced consents to the production, by means of an electronic communication, of an electronic form of the document.

Technological Neutrality

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The ETA provides one of the more permissive and technologically-neutral frameworks for electronic signatures, in contrast to the two-tier or prescriptive regimes more commonly found in the Asia-Pacific. The ETA does not specify any technology requirements and leaves it up to government agencies and individuals to determine the standards and protocols for electronic transactions.\(^79\) The identification, reliability and consent requirements provide assurance that electronic signatures will be valid if they effectively comply with case law, and the consent requirement is integral in practice to technological neutrality.\(^80\)

**Guidelines for Certification Providers**

The ETA does not specify guidelines for certification providers, in line with the open, technology-neutral approach. However, the government provides standards for electronic authentication primarily for government services, such as the National e-Authentication Framework\(^81\) in 2009 and the Trusted Digital Identity Framework from 2018.\(^82\)

<table>
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<tr>
<th>Policies and regulations on paperless trade and single window systems including Customs, logistics and</th>
<th>The Australian Border Force (ABF) within the Department of Home Affairs operates the Integrated Cargo System (ICS), first implemented in 2004. The ICS provides a platform for electronic reporting, multi-agency risk assessment, payment of duties, taxes and charges, and clearance of goods crossing the Australian border.(^83) The system includes linkage with the Department of Agriculture, Water and Environment’s (DAWR) Export Documentation System</th>
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<tr>
<th>Information and Cybersecurity Laws to Regulate Service Providers</th>
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(EXDOC) for the generation of export permits, certificates and related documents required by importing countries; import and export declarations to ABF and DAWR; vessel or aircraft arrival and departure reporting; cargo reporting and management, etc. The system may receive data interactively through either an Internet web interface or United Nations/EDIFACT standard messages transmitted over the Internet.

However, the ICS does not provide a fully integrated National Single Window for trade formalities and goods clearance. For example, the Biosecurity Import Conditions (BICON) system was not integrated with ICS, and importers need to be logged into the Biosecurity Import Conditions (BICON) system for application of permits; furthermore, sector-specific approvals such as the Wine Export Approval system were not integrated with the ICS.

The government’s aim to develop the NSW was announced in 2016 by the Coalition government and the ABF Commissioner. The Department of Home Affairs is working with other government agencies to develop options for an Australian single window, while the Trade Facilitation Initiatives Working Group (TFIWG) under the National Committee on Trade Facilitation (NCTF) steers the Single Window effort. Two studies were commissioned to evaluate the requirements for a NSW.

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Australian Border Force Strategy 2020⁹²; ABF 2020⁹³ and Technology Strategy 2020⁹⁴

The ABF Strategy 2020 and ABF 2020, released in 2015 and 2016 respectively, lays out the objective, principles and priorities of the Australian Border Force, after the merger of the Australian Customs and Border Protection Service and the Department of Immigration and Border Protection into ABF in 2015. A key objective in Strategy 2020 is to enhance technology and business processes to support border operations, including the Trusted Trader Programme.

Cybersecurity Policies

The Australian Cyber Security Centre (ACSC) is the lead agency for cybersecurity matters and is based within the Australian Signals Directorate (ASD).⁹⁵ The main strategy document guiding Australia’s cybersecurity policy is the Cyber Security Strategy: Enabling Innovation, Growth & Prosperity (2017-2020). It establishes 5 themes of action for cybersecurity, including national cyber partnerships; strong cyber defences; global responsibility and influence, growth and innovation; and a cyber smart nation.⁹⁶ The ASD has released several implementation framework documents, including Strategies to Mitigate Cyber Security Incidents, and the Australian Government Information Security Manual (ISM) standards.⁹⁷

The Critical Infrastructure Centre within the Department of Home Affairs manages the national security risks to Australia’s critical infrastructure, such as ports and telecommunications. It administers the Security of Critical Infrastructure Act 2018, which includes a register of critical infrastructure assets, and provides information gathering

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and Ministerial Direction powers for risk assessment and mitigation.\(^98\) The Centre has released a CIC Compliance Strategy detailing its compliance model, principles and activities.\(^99\)

**Customs Act 1901**

The Customs Act and Customs (Prohibited Imports) Regulations 1956 govern the use and validity of electronic communications in trade formalities. Part VIA of the Law on Customs covers the responsibility of the Comptroller-General of Customs to establish and maintain electronic communication information systems (Article 126D), sets out communication standards and operation (Article 126DA), authentication (Article 126DB), record-keeping (Article 126DC), procedures when the information system is temporarily inoperative (Article 126E-126F), and the use of computer programs to make decisions (Article 126H).\(^100\)

The ETA applies to Customs formalities covered under the Customs Act and subsidiary legislation unless they are specifically exempted in Schedule 1 of the Electronic Transactions Regulations 2000.\(^101\) The use of electronic communication for each respective type of declaration is addressed in the corresponding provisions of the Customs Act. Exceptions to the application of ETA include visual examination import declarations under section 71D of the Customs Act; importation of some controlled items under the Customs (Prohibited Imports) Regulations, etc.\(^102\) Bills of exchange are generally excluded from the coverage of the ETA under the Electronic Transactions Regulations and Bill of Exchange Act 1909.\(^103\)

**Telecommunications Act 1997 and Telecommunications (Interception and Access) Act 1979**

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The Telecommunications Act governs the telecommunications industry and carriage service providers (CSP). The Telecommunications and Other Legislation Amendment Act 2017 establishes more formal and comprehensive arrangements to mitigate national security risks of espionage, sabotage and interference.\(^\text{104}\) They include Section 313(1(A)) obligations of carriers and CSPs, and Section 313(2(A)) obligations of carriage service intermediaries, to “do the carrier’s or provider’s best” to:

a) Protect networks and facilities from unauthorised access and interference;

b) Ensure the confidentiality of communications and information contained on telecommunications networks or facilities;

c) Ensure the availability and integrity of telecommunications network and facilities.\(^\text{105}\)

The Telecommunications (Interception and Access) Act\(^\text{106}\) regulates access to telecommunications content and data in Australia. Article 7 of the Act prohibits the interception of communications passing over a telecommunications system without the knowledge of those involved in that communication. Under Part 5-1A of the Act, telecommunications carriers are required to store certain metadata regarding network users’ activity for two years,\(^\text{107}\) and this information must be encrypted and can only be accessed on application by a restricted list of entities.\(^\text{108}\)

Cybercrime Act 2001


The Cybercrime Act criminalizes a range of computer-related offences through amendments to the Criminal Code Act 1995. Division 477 prohibits the unauthorised access or modification of data held in a computer, or unauthorised impairment of electronic communications. Division 478 includes other computer offences, such as unauthorised access or modification of restricted data, impairment of data, possession or control of data to commit a computer offence, and producing, supplying or obtaining data with the intention to commit a computer offence.109

Privacy Act 1988
The Privacy Act provides the federal-level regulatory framework for the handling of personal information by business entities and federal government agencies through the 13 Australian Privacy Principles (APPs).110 The APPs govern the standards, rights and obligations around the collection, use and disclosure of personal information; organization’s or agency’s data governance and accountability; the integrity and correction of personal information; and the rights of individuals to access their personal information.111 The APPs are principles-based, aiming to protect privacy while providing organizations and agencies flexibility to tailor their personal information handling practices to their business models and the diverse needs of individuals; and are technology-neutral, which allows organizations to adopt to changing technologies.112 A breach of an Australian Privacy Principle is an interference with the privacy of an individual and can lead to regulatory action and penalties under the Privacy Act.113 Part IIIA of the Act covers regulations on credit reporting, which is complemented by the Privacy (Credit Reporting) Code 2014.114

E-Payment Regulations

The Royal Bank of Australia (RBA) regulates payment systems under the Payment Systems (Regulation) Act 1998.\textsuperscript{115} The industry association Australian Payments Network Limited, develops and maintains industry rules and procedures for several key payment frameworks.\textsuperscript{116} Financial service providers and banks are regulated by Australian Securities and Investments Commission (ASIC) under the Corporations Act 2001, which requires all financial service providers to be licensed and to meet licence conditions.\textsuperscript{117} Non-cash payment providers must generally hold an Australian financial services licence and comply with the standard financial services disclosure requirements (Parts 7.7, 7.8 and 7.9), although ASIC provides relief on regulatory requirements for selected facilities with low potential risks.\textsuperscript{118,119} The ePayments Code is a widely-adopted voluntary code of practice that provides consumer protection, liability allocation, and a regime for recovering mistaken payments and complaints, etc. It is administered by ASIC.\textsuperscript{120}

### Policies and regulations on cross-border trade systems

**UNCTRALT Model Laws**

Australia has adopted the UNCTRAL Model Law on Electronic Commerce (MLEC) through application of the MLEC in the ETA.\textsuperscript{121}

### Mutual Recognition of Electronic Signatures


Australia has e-commerce chapters in 14 of its 16 concluded FTAs that endeavour to promote paperless trade, and to work towards the mutual recognition and/or interoperability of electronic signatures.122 However, it has not signed agreements that realize the mutual recognition of electronic signatures or electronic trade administration documents. Some FTAs that address electronic signatures include: AANZFTA (Ch. 10, Art. 5), CPTPP (Article 14.6), the China-Australia FTA (Article 12.6), the Republic of Korea-Australia FTA (Article 15.5), and the Australia-Chile FTA (Article 16.6).123

**Electronic Certification (eCert) for Imports**

Australia’s eCert for Imports is an electronic system that enables DAWR to receive overseas government certificates in a digital format, including phytosanitary and sanitary certificates for food and agricultural imports. Australia’s DAWR (as of July 2020) exchanges eCerts with New Zealand’s Ministry of Primary Industries and Indonesia’s Ministry of Agriculture, Agency of Agricultural Quarantine. The e-SPS certificates are received in a secure government-to-government exchange, coded using XML, and integrated into the department’s Agriculture Imports Management System (AIMS) for import clearance purposes.124

**ePhyto Hub**

Australia is a participant in the ePhyto Hub, a centralized system to facilitate exchange of electronic phytosanitary certificates (ePhytos) between National Plant Protection Organizations with a set of prescribed rules of connection and defined structure/codes/terms for the electronic data message.125

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| Other considerations on legal and regulatory issues | **State (Commonwealth) Liability**  
The Commonwealth of Australia has no general Crown immunity from liability in tort or other civil actions governed by common law, and is subject to the same procedural and substantive laws as those which govern claims by one individual against another under Section 64 of the Judiciary Act 1903. The Crown is also subject to vicarious liability for the torts of its servants and agents, and may also have a non-delegable duty, to the same extent as an individual. The Competition and Consumer Act 2010 which provides consumer guarantees and circumstances for remedy binds the Commonwealth insofar as it carries on a business under Article 2A(1), although it remains ambiguous if the functions associated with ICS can be considered a business activity.  
The Public Governance, Performance and Accountability Act 2013 governs the requirements for federal entities to establish systems of risk oversight and internal controls, including when entering into contractual arrangements, and the Commonwealth Risk Management Policies supports the entities with their risk management obligations under the PGPA Act. |

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The Customs Act 1901 specifies procedures for communication and payments to the government if the electronic system is temporarily inoperative (Article 126D, Article 126E). It does not contain provisions on Commonwealth immunities or liabilities. The ICS includes a detailed Business Continuity Plan in the event of outage, slow response times, specific issues or client/system problems, and it contains provisional anticipated service levels (Section 3.4) for responses to contingency data provided to Customs in electronic form. The T&Cs for ICS are not publicly available.

**Liability of Single Window Operators/Paperless Trade Service Providers**
The ABF operates the ICS. See above for Commonwealth liability. Commercial service providers are subject to Commonwealth and State-level civil liability laws and the Competition and Consumer Act 2010. ETA and Customs Act do not cover liabilities.

**Liability of Data Intermediaries**
Data intermediaries are responsible for network information security under the Telecommunications Act 1997 and Telecommunications (Interception and Access) Act 1979.

The Privacy Act 1988 and the corresponding obligations apply to internet service providers (ISPs) and data intermediaries to the extent that its activities relate to retained data, under Article 187LA of the Telecommunications (Interception and Access) Act 1979.

**Dispute Settlement (Choice of Law)**
The ETA is silent on the choice of law and forum in paperless trade. Australia follows the common law in choice of law. Courts will respect a choice of law clause provided contracting parties have genuinely and validly (expressly or impliedly) selected a law to govern their contract, but if no law has been selected, Australian Courts employ a two-stage test to determine the proper law of the contract. Treatment of exclusive choice of court agreements in Australia

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is currently largely governed by the common law. The Foreign Judgments Act 1991 provides for recognition and enforcement of foreign judgments under conditions of “substantial reciprocity” but are limited to courts prescribed in the regulations, and the regime for the recognition and enforcement of foreign judgments varies according to the state.

Dispute Settlement (Arbitration)
The International Arbitration Act 1974 (IAA) governs international commercial arbitrations in Australia, while domestic arbitration is governed by respective state and territory legislation. The IAA gives effect to the UNCITRAL Model Law on International Commercial Arbitration and the Convention on the Recognition and Enforcement of Foreign Arbitral Awards (the New York Convention). Under Section 21(2) of the IAA, if the UNCITRAL Model Law applies to an arbitration, state or territory arbitration laws will not apply. The Australian Centre for International Commercial Arbitration is Australia’s international dispute resolution institution and the sole default appointing authority competent to perform the arbitrator appointment functions under the IAA. Australia has signed and ratified the ICSID Convention.

Ownership and IP Protection of Data on the Cross-Border Paperless Trade System
Original databases are copyright-protected in Australia under the Copyright Act 1968 as a “literary work”, on condition that the database is “original” in the sense that its creation must involve independent intellectual effort; and

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the database must have been reduced to material form (i.e. to any form of storage of the work). Confidential databases containing information which is provided in circumstances of confidence may be protected under the law of confidential information, but the law protects the unconscionable use, or threat of use of such information, rather than the content of the information.

**Promotion of e-Payments**

The Payments System Board within the RBA is responsible for payment systems policy. Its approach to promoting the efficiency of payment systems focuses on technical, allocative and dynamic efficiency. In 2012, the Reserve Bank published the Conclusions of the Strategic Review of Innovation in the Payments System, setting out strategic objectives, including real-time payment services, for the Australian payments system. The Strategic Review also led to new industry governance arrangements through the creation of the Australian Payments Council to provide strategic public and private sector coordination for the development of the payments industry.

The Strategic Review led to the development of the New Payments Platform (NPP) launched in 2018, a clearing system for fast payments which includes a payment clearing and settlement message network; payment gateways; and an addressing service (PayID) that allows customers to link their bank account to a simple identifier such as a phone number or business identification number. The NPP is currently owned and operated by nine participant banks and

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three aggregators that provide connectivity for smaller institutions, as well as the RBA, under NPP Australia Limited (NPPA).149

The RBA is conducting a review of retail payments regulation to consider potential gaps in the retail payments system and released an Issues Paper for consultation in November 2019 as the first stage of the review. The paper covers several issues such as digital wallets and tokenisation of payments; interchange fees, merchant service fees and least-cost routing of dual-network debit card transactions; surcharging rules etc.150

**Competition Policy**
The Australian Competition and Consumer Commission (ACCC) is the regulatory agency which enforces the Competition and Consumer Act 2010 and additional legislation to promote competition, fair trading, and regulation of national infrastructure.151 Part IIIA of the Competition and Consumer Act 2010 establishes a National Access Regime to facilitate third party access to certain services provided by means of significant infrastructure facilities, and sets out a number of mechanisms by which access can be sought to infrastructure services including declaration and arbitration, access undertakings and the certification of effective state access regimes.152

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## Azerbaijan

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<th>Type of best practice</th>
<th>Details</th>
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<tr>
<td>Policies and regulations on governmental institutional infrastructure, ICT and e-government, and laws supporting paperless trade</td>
<td>In the 1990s after its independence, Azerbaijan was going through a period of political and economic uncertainty. The national strategy was centred on ensuring macroeconomic stability, generating growth through its industries, and reducing poverty.(^{153}) It was until the early 2000 that the economy has enjoyed high economic growth through its economic policies where the government is then able to focus on other state programmes e.g. ICT, construction and tourism.(^{154}) Application of ICT in Customs was supported by assistance from the United Nation Development Programme starting from 1999. Similar to Kazakhstan, national plans in Azerbaijan have to be approved by the president often in the President’s Order or Decree. The development of ICT nationwide was emphasized starting from the first National ICT strategy to be implemented from 2003 to 2012. The Ministry of Communications and Information Technologies now the Ministry of Transport, Communications and High Technologies, was responsible for the coordination and implementation of national strategies related to ICT. (^{155})</td>
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The first National ICT strategy was approved by the Order of the President in February 2003. The goal of this National ICT strategy was for Azerbaijan to transit to an information society through an extensive application of ICT and this is to be realized through the strategies of developing the legal environment, strengthening human capital, implementing


\(^{155}\) Information on the history of the Ministry of Transport, Communications and High Technologies is available at: https://mincom.gov.az/en/view/pages/3/
ICT, and to protect and promote national heritage through the use of ICT. This strategy document covers a wide spectrum in the development of ICT, targeting education, social development, development of telecommunication infrastructure, electronic government, development of ICT legislative basis, electronic economy, national information resources, developing science and industrial innovation, and information security.

The management and implementation of the strategy is coordinated by the state institutions conducting the government policy in ICT usage and development. Designated ministries such as the Ministry of Foreign Affairs is in charge of coordinating activities with other countries and international organizations; the Ministry of National Security is involved in the implementation of information security activities. Regular monitoring and assessment of National ICT usage level is conducted in order to achieve the government’s policy objectives.

Section 7 of the strategy document details how the implementation of the strategies is financed. The sources of funds include: state budget allocated for ICT; various local government and non-government funds; resources of central and

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local administrations, state organizations allocated for ICT; foreign and local investments, purpose loans; financial and technical support and grants from international and foreign organizations.  

**Development Concept “Azerbaijan 2020: A Look into the Future”**

ICT is regarded as an important tool for growth and development especially for use in public administration and in business and society. The Development Concept “Azerbaijan 2020: A Look into the Future” approved by the President in November 2011, contains the nation’s development strategies up to year 2020 in many aspects such as proliferating the use of ICT and communication services, full provision of e-government services to increase competitiveness and diversify the economy.

Measures to simplify and enhance Customs and trade procedures and conducting reforms in order for Azerbaijan to join the WTO are seen as strategies to improve the country’s competitiveness and to open new opportunities for local businesses. Improving the transport infrastructure is also emphasized for Azerbaijan to become a regional trade hub. Having coordinated measures to improve logistics and transport systems as well as reduce the time of import and export procedures and the transit of goods could significantly boost trade and was the government’s strategy to attract investment and create employment opportunities.

To implement the first national strategy, the “State Program for the Development of Communications and Information Technologies in the Republic of Azerbaijan for 2005 – 2008” (Electronic Azerbaijan) and the succeeding State Program for 2010 – 2012 to develop ICT cross-sectoral were developed and approved by the President. The latter State Program on Development of Communication and Information Technologies in the Republic of Azerbaijan for 2010-2012

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(Electronic Azerbaijan) introduced key directions and an action plan that applies the principle of “one stop shop” in e-government e.g., Create a single electronic document management system in government agencies.166

**National Strategy for Information Society Development (NSISD) for 2014 to 2020**
The National Strategy for Information Society Development (NSISD) was approved by the President in 2014. The priority areas of the NSISD follows the Development Concept and covers ICT infrastructure and services; development of high-tech sector; strengthening scientific and technical potential; development of “e-government”; application of ICT in social development; training of human resources; ensuring information security; and development of national content.167

In the development of “e-government”, improvement works such as development of e-government infrastructure, providing a “one-stop shop” transfer of information resources through the e-government portal, expanding the scope of e-services, application of “mobile government” technologies, promoting the use of electronic and digital signatures are listed as the state programmes to be conducted.168 Capacity building efforts to train civil servants and employees of public institutions are also included.169

Strengthening information security was another focus area where the government planned to employ strategies to secure the nation’s information structure, improve the legal framework in information security and to strengthen cyber security.170

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State programmes and government initiatives are officiated through Decrees signed by the President. The President signed a Decree to approve the “State Program for the development of communication and information technologies in Azerbaijan in 2010-2012” and the Decree on approval of “Some measures for provision of electronic services by government agencies” in 2011.171

Law on Electronic Signature and Electronic Document (adopted in 2004)
Following the adoption of the National Information and Communication Technologies Strategy for the development of Azerbaijan in 2003, the Law on Electronic Signature and Electronic Document was enforced in March 2004. The Law permits the use of electronic signature and electronic document in all settings except in cases indicated in the legislations of Azerbaijan.172

Validity of electronic signature
According to Article 3, electronic signature cannot be deemed invalid because it is in electronic version or has no certificate or was created by signature means that are not certified.173 A certified signature (with a perfect certificate) is provided with equivalence to manual signature. The use of electronic signature in corporate information system is regulated by internal normative acts of corporate information system or contract among its participants.174

Registration and accreditation of certificate services centre

Certificate services centre must be registered, to perform perfect certificate services, the centre must also be accredited by the corresponding Ministry in charge. The duties and responsibilities of the centres are also indicated under this Law.

**Recognition of certificates issued by foreign countries**

Certificates issued by foreign countries are provided recognition in Azerbaijan provided that the foreign certificate centre “has undertaken accreditation in Azerbaijan, or the certificate issued meets the security requirements set by the law, or if the certificate is guaranteed by accredited centres in Azerbaijan or if the certificate has been granted by foreign centres stated in interstate contracts” (Article 16).

**Requirements of electronic documents**

This Law has a number of requirements on electronic documents where the electronic documents must follow a structure indicated in Article 22. Copies of electronic documents are considered as originals. The Law also contains Articles on storage and protection of electronic documents.

**Decree of the President of the Republic of Azerbaijan on additional measures for strengthening of the position of the Republic of Azerbaijan as a Digital Trade Hub and expansion of foreign trade operations (2017)**

“Article 3.1.1 and Article 9.4 from the Presidential Decree Number 1255 signed on 22 February 2017 requires recognition of national electronic signatures by foreign countries and gives the responsibility of recognition to the Ministry of Foreign Affairs and to the Cabinet of Ministers in cooperation with the Center for Economic Reforms Analysis and Communication (CAERC) under the President of the Republic of Azerbaijan.

3.1 Ministry of Foreign Affairs of the Republic of Azerbaijan shall:
| Policies and regulations on paperless trade and single window systems including Customs, logistics and information | The State Customs Committee was the lead authority to manage all customs procedures including the checking of permits and certificates. It was established on 30 January 1992, after the restoration of independence and was tasked with ensuring economic security of the borders and to implement a system of control for imports and exports. The partnership between the State Customs Committee with United Nation Development Programme on the project “Capacity Building and Data Transmission Network Implementation for the State Customs Committee of Azerbaijan.

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and cybersecurity laws to regulate service providers

Republic” introduced Customs automation in 1999. Further projects to modernize Customs services were implemented such as the “Improvement of the Customs Service of Azerbaijan” project that supports the alignment of the Customs Code of Azerbaijan with the EU Customs Code and international conventions.  

The E-government strategy introduced by the first National ICT Strategy in 2003 and the subsequent State programmes and action plans implemented, were integral to the provision of electronic services by public agencies and further contributed to the development of an automated customs system.

The State Program on development of the customs system of Azerbaijan for 2007 to 2011 contributed to the development of ICT in Customs by laying down the strategic directions for action plans to be crafted.

Decree of the President on the application of the "Single window" principle for inspection of goods and vehicles crossing the state border of Azerbaijan (2008)

An automated Customs system commenced operation on 1 January 2009 after the Decree signed by the President to apply the “Single Window” principle. This was an important milestone reached to implement the principle of a “Single Window” that was congruent with the nation’s “one-stop shop” principle. Subsequently, border customs procedures were further simplified to reduce time and facilitate import and export of goods.

The first version of an automated clearance system was the "Automated System of Customs Clearance and Control (GRNAS),” launched in 2008. Following an upgrade, a Single Automated Management System, VAIS was introduced.

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operated on the network of the State Customs Committee was created to automate customs procedures. The system can be used for declaration of goods and means of transport, submit veterinary, phytosanitary and sanitary permits, registration of intellectual property rights etc.

A phased implementation of paperless trade measures was in place. In the first phase, available customs services can be conducted in paper or electronic form. Subsequently in the second phase, customs-to-customs exchange in the country was conducted only by electronic means. After the introduction of electronic signatures nationwide, it is mandatory for all transactions to be conducted electronically.

In the legal aspect, there is a quite an extensive number of laws that addresses information security in the use of the automated customs system.

**Customs Code (1997)**
The Customs Code was first adopted in 1997. The Code was later revised to allow submission of electronic documents certified by electronic signature to the Customs. The rules for submission of the documents follows the Law on Electronic Signature and Electronic Document. The Customs Code also include Articles on protection of information where customs authorities must ensure protection of secret and confidential information. Illegal use or disclosure of information containing state or commercial secret as well as other confidential information by the customs officials could entail legal responsibility.

This Law regulates the creation, collection, processing, accumulation, storage, dissemination of

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information, and the establishment and use of information systems, technology and means to ensure protection of information. The rights and responsibilities of users and proprietor of information are stated in Articles 18, 19 and 20. Relations between owners and users of information products and services shall be formalised through agreements and disputes that arises may be brought to court (Article 20).\textsuperscript{188}

**Criminal Code of Azerbaijan (1999)**
Chapter 30 of the Criminal Code covers crimes in the field of computer information such as illegal access to computer information; the creation, use and distribution of harmful programmes for computers and infringement of service regulations on computer systems or networks.\textsuperscript{189}

**Law on Approval of the Convention on Cybercrime (2001)**
Azerbaijan approved the Convention “On Cybercrime” that was signed by member States of the Council of Europe and the other States on 23 November 2001 with certain reservations.

**Law on Telecommunication (2005)**
The Law on Telecommunication regulates telecommunication service providers. It ensures mandatory certification of the means and units; technical test may be necessary.\textsuperscript{190} The Law also regulates and prevent monopoly activities in the field of telecommunication and cover the duties and responsibilities of service providers.

**Law on “Acquiring Information” (2005)**


This Law is established to ensure free, unrestricted and equal information access. Article 2 of the Law grants freedom of access to information. Anyone is able to apply to the information owner to obtain and enquire details for missing information except for certain information types excluded in Article 4.\textsuperscript{191}

Other relevant legislative acts include:

- Law on “Personal data”, approved by the Presidential Decree (No. 998, May 11, 2010);
- Entry-exit and registration on automated information system”, approved by the Presidential Decree (No. 744, 22 April 2008).
- Presidential Decree on certain measures in organization of electronic services of state Bodies, 23 May 2011, № 429
- Presidential decree regarding the measures related to endorsement of “Regulations about “E-government” portal” and expansion of electronic services, 5 February 2013, № 813
- Decision of the Cabinet of Ministers on endorsement of “The list of information systems and resources that will be connected to the “E-government” portal” and “Technical requirements for connection of information systems and resources, electronic services to the “E-government” portal”, 1 May 2014, № 118
- Presidential Decree on «Development of electronic government and transition to digital government», 14 March 2018, № 1885
- In connection with the implementation of subparagraph 2.4.5 of the Action Plan of the Strategic Roadmap for the Development of Telecommunication and Information Technologies in the Republic of Azerbaijan, approved by Decree No.1138 of the President of the Republic of Azerbaijan dated December 6, 2016, the effective organization of the formation, storage, maintenance and integration of state information systems and reserves necessitates the creation of a centralized Government Cloud (G-Cloud).

<table>
<thead>
<tr>
<th>Policies and regulations on cross-border trade systems</th>
<th>UNCITRAL Model Laws</th>
</tr>
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</table>

**Mutual Recognition of Electronic Signatures**

Azerbaijan has signed several MOUs to advance the mutual recognition of e-signatures to support the Digital Trade Hub (DTH), although it has not signed binding agreements. It has signed MOUs for mutual recognition and validation of e-signatures with Republic of Belarus, the Turkic Council, and is holding negotiations for mutual recognition of e-signatures with Georgia, Turkey and Spain. Azerbaijan authorities have signed MOUs to promote the cross-border recognition of electronic signatures with ISESCO, EU FutureTrust, GazinformService, Asecco, Microsoft, Eastern Partnership Centre, Orientswiss and B.E.S.T Solutions.

Article 16 of the Law on Electronic Signature and Electronic Documents provides the conditions in which certificates given in foreign countries are valid in Azerbaijan, which requires the certificate service centre to have undertaken accreditation in Azerbaijan and provided for in interstate agreements.

**Digital Trade Hub**

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Azerbaijan actively promotes cross-border electronic commerce and the use of electronic signatures to support the Digital Trade Hub (DTH). Set up in 2017, the DTH provides e-Trade services and an electronic and mobile residency program (e-Residency, m-Residency) which allows foreign and local entrepreneurs to set up location-independent business in Azerbaijan, and use cross-border services which include the digital signing and verification of documents and contracts. The DTH (and Asan Imza) uses a validation scheme for e-signatures across borders which follow the EU’s eIDAS standards (Regulation (EU) No 910/2014), and Electronic signature certificates can be issued to non-residents through diplomatic missions and consulates of Azerbaijan.

**Online Single Export by the Digital Trade Hub of Azerbaijan**

“Online Single Export” was established by the Decree of the President of the Republic of Azerbaijan “on additional measures to strengthen the position of the Republic of Azerbaijan as a digital trade hub and expand foreign trade transactions” in February 2017.

“Online Single Export” is an innovative export support tool introduced by the Digital Trade Hub of Azerbaijan. This web-based resource offers an online access to export applications, certificates, declarations and subsidies. The system for completing the single export application was built on the basis of intellectual reasoning, single-window and once-only principles. That is, once the minimum required information is filled by the applicant, all other data is automatically filled by the system every time the applicant starts a new request. The system minimizes the contact between public officials and businesses for export procedures and increases convenience for business to obtain necessary permits. This

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online tool offers veterinary, phytosanitary, origin, food safety and free-sales certificates combined with electronic customs declarations and applications for export promotion subsidy.204

**Exchange of Customs Information**

The State Customs Committee of Azerbaijan (SCC) has signed protocol agreements with customs administration of various trading partners on the electronic exchange of pre-arrival information.205 These include the protocol among the customs administration Georgia, Ukraine, Republic of Moldova and Azerbaijan (GUAM); and arrangements with Iran206, the Russian Federation207, Uzbekistan208 and Turkey.209

**eTIR**

As a member of the TIR Convention, Azerbaijan is an active participant in the eTIR project. TIR streamlines border procedures in transporting goods through transit countries, and eTIR provides an electronic platform to enable multidirectional data exchanges between TIR transport operators, associations, customs’ IT systems and IRU.210

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Azerbaijan has implemented a pilot eTIR project with Iran in June 2019, and the eTIR intermodal project between Azerbaijan, Georgia, Kazakhstan, and Ukraine is under development.

### International Standards in Electronic Messaging

The VAIS (Single Automated Management System of Customs Service) utilizes United Nations/Electronic Data Interchange for Administration, Commerce and Transport, EU Customs Data Model and WCO Data Model v2.0 standards.

### Other considerations on legal and regulatory issues

#### State Liability

The State is generally subject to civil liabilities under the Constitution of the Republic of Azerbaijan (Article 68) and the Civil Code. Article 5.2 of the Civil Code states that civil legal relationships of state authorities with other persons

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and entities are also regulated by civil law unless exempted by law. Article 1100 of the Civil Code states that damage caused to a legal entity or private person in result of unlawful actions (inaction) of the state authorities shall be subject to compensation by the state authority or relevant municipality. Article 51 of the Customs Code includes the right of interested persons to appeal when the resolution, actions and failures to act of the customs authority result in the violation of rights, freedoms and legal interests, or the illegal imposition of an obligation. Regulations on customs officials are covered specifically by the Regulations on service in customs authorities. Additional terms of use can be found in the SCC e-Services page.

Liability of Single Window Operators/Paperless Trade Service Providers
Trade electronic documents are submitted via the e-government portal, which is operated by the State Agency for Public Service and Social Innovations under the President of the Republic of Azerbaijan. See above for state liabilities.

Liability of Data Intermediaries
Data intermediaries are liable for the security and confidentiality of information under Article 38.3 of the Telecommunications Law, which states that operators and providers must assure the confidentiality of information transmitted via their telecommunication nets. Article 39 requires operators and providers to implement search actions, supply telecommunication nets with extra technical devices required by regulators and solve organizational issues. Article 41 covers reimbursement for damages caused by implementation of telecommunication activity to any subject. ISPs are subject to the Civil Code and the Law on Protection of Consumers' Rights.

Dispute Settlement (Choice of Law)
Azerbaijan’s civil legislation applies to all natural persons and legal entities which carry out activities in the territory of Azerbaijan under Article 9.1 of the Civil Code, and the rules established by civil law apply to relationships with

foreign persons and entities unless otherwise provided by law.\textsuperscript{222} If the transaction has an “external element”, it is covered under the Law on Private International Law, and the parties can choose foreign law to govern their contract (Article 24).\textsuperscript{223} \textsuperscript{224} Article 25 of the Law on Private International Law governs the applicable law of contract where the parties do not make a choice of law.

\textbf{Dispute Settlement (Arbitration)}

The Civil Procedure Code and the Law on International Commercial Arbitration governs international arbitration in Azerbaijan. Domestic arbitration is not specifically regulated or enforced under Azerbaijan law, and domestic arbitration is not practiced in Azerbaijan.\textsuperscript{225} The Supreme Court deals with recognition and enforcement issues.\textsuperscript{226} Under Article 29 of the Civil Procedure Code, a dispute may be submitted to arbitration by agreement of the parties.\textsuperscript{227} Foreign arbitral awards are recognized and enforceable in Azerbaijan based on the reciprocity principle.\textsuperscript{228} Azerbaijan is a party to the New York Convention, the International Convention for the Settlement of Investment Disputes between

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States and Nationals of Other States (ICSID Convention), and European Convention on International Commercial Arbitration. 229 The International Commercial Arbitration Court of Azerbaijan is the sole arbitral institution in Azerbaijan.230

Ownership and IP Protection of Data on the Cross-Border Paperless Trade System
The copyright protection of data compilations is covered under the Law on Legal Protection of Compilations of Data, and the Law on Copyright and Related Rights.231 Article 3.1 of the Law on Legal Protection of Compilations of Data state that compilations of data resulting from creativity by means of selecting and assembling materials are copyright-protected and rights shall be exercised under the Law on Copyright and Related Rights.232 Additional protections are provided to compilations of data prepared, verified and compiled with essential investments to contribute to their quantity or quality under Article 6 and 7, involving the right to claim against extraction, copies, or repeated use of such compilations of data or their essential part.233

Legal entities may protect their data by classifying them as commercial secrets under the Law on Commercial Secrets, and the principal method of protecting information is to enter into a confidentiality agreement as a provision in a contractual agreement. If there is a confidentiality agreement in place, the data must be used in accordance with that agreement.  

**Promotion of e-Payments**  
Despite the availability of electronic payment and authentication systems, Azerbaijan remained a cash-based society until recently, although non-cash payments has been growing since 2012, driven by government initiatives to improve financial inclusion and the launch of the online payments for e-government. The National Bank of Azerbaijan oversees the development of the financial and payment systems, including National Payment System, comprising the Azerbaijan Interbank Payment System and the Bulk Clearing Settlement System, and it prepared the State Program for Development of the National Payments System in Azerbaijan for 2005-2007 that aimed to create a single nationwide electronic payment area and ensure broader usage of electronic payment systems. However, a number of factors such as low levels of institutional trust and financial literacy, tax evasion of enterprises, and insufficient and costly banking services hindered the growth of e-payments.

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The Azerbaijan government accelerated its efforts to develop e-payments with the release of the 2018 State Program on Expansion of Digital Payments for 2018-2020. It identifies 4 strategic pillars, 17 priorities and more than 60 measures, including improving the institutional environment of digital payments, revitalisation of the banking sector, establishing the digital ecosystem and improving financial literacy and awareness.\(^\text{239}\) The 2016 Law on Cashless Payments provides for forms of digital payments, types of payments to be made only in cashless form, and maximum limits for cash payments that can be made within a month.\(^\text{240}\) The complementary Strategic Roadmap for Development of Financial Services in 2018 includes 5 strategic targets and 16 priorities relating to strengthening financial institutions, improving regulations and financial infrastructure, developing financial markets and raising financial literacy.\(^\text{241}\) Of note, an Instant Payment System incorporating a draft standard QR Code is under development, which will be integrated into the National Payment System.\(^\text{242}\)

**Competition Policy**

Competition policy is overseen by the State Service for Antimonopoly Policy and Protection of Consumers’ Rights (AMSAR), and the Law on Antimonopoly Activity (“Anti-Monopoly Law”), Law on Unfair Competition, and Law on Natural Monopolies are the main sources of competition law.\(^\text{243}\) Competition law does not prohibit or restrict a dominant position of market power per se, only the abuse of dominant position.\(^\text{244}\) The e-government portal that hosts paperless trade services is covered under Article 5 of the Anti-Monopoly Law, which prevents activities that restrict or eliminate...
competition by central executive authorities that lead to the violation of interests of economic entities and consumers.\textsuperscript{245} The regulation of natural monopolies, including those operated by administrative bodies, is covered under the Law on Natural Monopolies. The law covers services on electric and post communications in public use (Article 5 (1.8))\textsuperscript{246}, and prevents the abuse of power and authority as the only monopolist to cause damage to the interests of the country or the rights of economic subjects.\textsuperscript{247}

### China

<table>
<thead>
<tr>
<th>Type of best practice</th>
<th>Details</th>
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<tbody>
<tr>
<td>Policies and regulations on governmental institutional infrastructure, ICT and e-government, and laws supporting paperless trade</td>
<td>Formulation of sectoral plans and strategies follows the Five-Year Plan on National Economic and Social Development of China. It is one of the most important policy blueprints that has been drawn since 1953 focusing on economic reforms and industrial structuring in the earlier years. Promoting informatization began in the 10\textsuperscript{th} Five-Year Plan (FYP) 2001 – 2005 where an informatization process in government administration, finance, foreign trade, media and telecommunications, education, science and technology, medical and health, social security, and public utilities have been emphasized. The State also aims to accelerate the construction of electronic authentication system, modern payment system and widely develop e-commerce in the nation.\textsuperscript{248} Accelerating the pace of informatization was enforced in the 11\textsuperscript{th} FYP (2006 – 2010) where informatization in industrial production and manufacturing, developing information resources and promote data sharing as well as “tri-networks integration” of telecommunications networks, cable TV networks and the Internet was included in the development plan. Strengthening information protection, monitoring, emergency response, management of</td>
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cryptographic keys was also enforced to ensure the safety of network infrastructure and national critical infrastructure.  

The structure and focus of the 12th FYP 2011- 2015 was rather similar to the 11th FYP but also introduced logistics and transportation as a subchapter in industry transformation which has led to the release of the “2014-2020 Logistics Mid- to Long-Term Development Plan”. Logistics was also an important sector to the Chinese economy. In 2004, the State Council published an “Opinion on modern logistics development of the Nation” and an “Adjustment and Revitalization Plan for the Logistics Industry”. The Plan puts emphasis on key projects such as accelerating the implementation of industry and regional logistics public information platform projects to promote data sharing and accelerate the construction of electronic ports and integrated transportation information platforms. The inter-ministerial joint meeting of modern logistics work led by the National Development and Reform Commission and participated by relevant departments was responsible to research and coordinate policies on modern logistics.

Improving informatization has been reinforced in the 12th FYP. Building of new-generation information infrastructure, improving online payments and logistics distribution and their infrastructure as well as promoting e-government and strengthening network and information security were stressed in the 12th FYP.

The 13th FYP (2016 – 2020) introduced “cyber economy” where plans to build high-speed broadband networks and research on 5G technologies, develop modern internet industries through the implementation of an “Internet +” action

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[https://policy.asiapacificenergy.org/sites/default/files/%E4%B8%AD%E5%8D%8E%E4%BA%BA%E6%B0%91%E5%85%B1%E5%92%8C%E5%9B%BD%E5%9B%BD%E6%B0%91%E7%BB%8F%E6%B5%8E%E5%92%8C%E7%A4%BE%E4%BC%9A%E5%8F%91%E5%B1%95%E7%AC%AC%E5%8D%81%E4%B8%80%E4%B8%AA%E4%BA%94%E5%B9%B4.pdf](https://policy.asiapacificenergy.org/sites/default/files/%E4%B8%AD%E5%8D%8E%E4%BA%BA%E6%B0%91%E5%85%B1%E5%92%8C%E5%9B%BD%E5%9B%BD%E6%B0%91%E7%BB%8F%E6%B5%8E%E5%92%8C%E7%A4%BE%E4%BC%9A%E5%8F%91%E5%B1%95%E7%AC%AC%E5%8D%81%E4%B8%80%E4%B8%AA%E4%BA%94%E5%B9%B4.pdf) [Accessed July 17, 2020]

250 The “2014-2020 Logistics Mid- to Long-Term Development Plan” is available at: [http://www.gov.cn/zhengce/content/2014-10/04/content_9120.htm](http://www.gov.cn/zhengce/content/2014-10/04/content_9120.htm)


252 The “Adjustment and Revitalization plan for the Logistics Industry” is available: [http://www.gov.cn/gongbao/content/2009/content_1265983.htm](http://www.gov.cn/gongbao/content/2009/content_1265983.htm)


plan, implementing a national big data strategy for opening and sharing of data and strengthening information security are placed under this umbrella term.255


The National Informatization Development Strategy issued by the General Office of the Communist Party of China and the Central Committee and General Office of the State Council was China’s long-term ICT development plan that stretches 15 years. The objectives of the strategy plan were to accelerate informatization of the economy; establish an e-government public service system, improve public cultural information services; accelerate the pace of informatization in areas such as education, research and healthcare; build network infrastructure; increase the use and management of information resource; raise the competitiveness of the information industry; strengthen the construction of a national information security protection system and enhance citizen’s capabilities to use information technology.256

The “National Information Development Strategy Outline” was later issued in July 2016. It was adjusted to reflect current situation and developments to guide the next 10 years of ICT development with a strong emphasis to develop core information technologies; groom talents in web-based technologies; create a knowledge-based economy; strengthen information legal infrastructure and enhance organization leadership and co-operation.257

Important agencies to drive China’s ICT agenda are the National Development and Reform Commission (NDRC), the Ministry of Industry and Information Technology (MIIT), and the Ministry of Science and Technology (MOST).

The Regulation concerning Telecommunications of China (2000) is the central law affecting the telecommunications market.

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China follows the civil law legal system where liability rests on the party that inflicts the harm and damages to another party. Although the electronic signature law provides legal validity for the use of electronic signature or data message, electronic signature is often less recognised than countries following a common law system.

**Electronic Signature Law of China (2005), amended 2015**

Prior to the enactment of the new Electronic Signature Law (ESL) in 2005, e-commerce parties relied on the general Contract Law of 1999 that recognizes that contracts may be concluded in "written, oral or other forms" which may indicate the possibility of using electronic form. China’s electronic signature law is now the main law that governs electronic signature and provides legal validity for the use of electronic signature or data message. The ESL, however, did not specifically state if it is applicable to all electronic communications but provide for circumstances where electronic signature or data message may not be recognised. Using electronic signatures and data messages in contracts and documents may also require mutual agreement between parties.

**Legal validity**

Article 3 states that “The legal effect of a document, with regard to which the parties concerned have agreed to use electronic signature or data message, shall not be denied only because the form of electronic signature or data message is adopted”. 258

There are certain documents where electronic signature or data message may be denied legal effect. Such documents include (1) documents relating to such personal relations as marriage, adoption and succession; (2) documents relating to the transfer of the rights and interests residing in such real estate as land and houses; (3) documents relating to termination of such public utility services as water supply, heat supply, gas supply and power supply; and (4) other circumstances where electronic documentation is not applicable, as provided for by laws and administrative regulations. 259

**Functional equivalence**


Article 4 provides that “a data message, which can give visible expression to the contents carried and can readily be picked up for reference,” shall be equivalent to the written form. 260

**Technological neutrality**
The 2005 Electronic Signature Law provides for technological neutrality of data messages as it does not specify any technological requirements for data messages to be equivalent as original copies and document preservation as required by laws and regulations.

**Requirements for original copies and preservation**
Article 5 and 6 respectively, provided the conditions for data message that has to be satisfied in order for it to be considered as original copies and meet document preservation requirements.

**Conditions for electronic verification service**
The Law listed the following conditions for an electronic verification service. “(1) having the professional technicians and managerial personnel suited for provision of electronic verification services; (2) having the funds and business places suited for provision of electronic verification services; (3) having the technology and equipment complying with the safety standards of the State; (4) having the certificates for the use of the codes approved by the code control institution of the State; and (5) other conditions prescribed by laws and administrative regulations” 261

**Use of electronic data as evidence**
Article 7 allows the use of electronic data as evidence but there are conditions specified in Article 8 to determine the truthfulness of data messages to be used as evidence and this include “the reliability of the methods used for

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generating, storing and transmitting the data messages; the reliability of the methods used for keeping the completeness of the contents; and the reliability of the methods for distinguishing the addressers”.262

**Legal validity of electronic signature**
Article 14 provides a reliable electronic signature with legal validity that is equivalent to the electronic signature or the seal.263

**Responsibilities of electronic signatory**
Article 15 of the Electronic Signature Law also sets the responsibilities of the electronic signatory to have his electronic signature well preserved and must terminate the use of the electronic data and let all parties know when he learns that the data for his electronic signature is lost.264

**Establishing electronic verification service**
Article 18 of the Law stipulates that “a person that intends to engage in electronic verification service shall make an application to the department in charge of the information industry under the State Council and submits the materials proving fulfilment of the conditions as specified by Article 17”.265 Approval must be made by the relevant department in charge of the information industry under the State Council. Where such services may be terminated, the electronic verification service provider must also notify affected parties 90 days prior to the suspension or termination.
of service. The service provider must also report to the department in charge of the information industry under the State Council 60 days prior to the suspension or termination of service. Therefore, the requirements set, and the procedures of checks increases the credibility of electronic verification service providers.

Requirements in the certificate of an electronic signature
Article 21 states the requirements in the certificate of an electronic signature such that it must include: (1) the name of the electronic verification service; (2) the name of the certificate holder; (3) the serial number of the certificate; (4) the term of validity for the certificate; (5) the validation data of the electronic signature of the certificate holder; (6) the electronic signature of the electronic verification service; and (7) other items as prescribed by the department in charge of the information industry under the State Council.

Preservation of information by electronic verification service provider
Article 24 of the law mandates that an electronic verification service shall keep information relating to verification for at least five years after the electronic signature loses validity.

Reciprocity in recognition of the certificates of electronic signatures issued by overseas electronic verification services
Article 26 allows “the certificates of electronic signatures issued by overseas electronic verification services outside of the territory of China to have equal legal force with the ones issued by the electronic verification services

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established in accordance with this Law, upon examination and approval by the department in charge of the information industry under the State Council on the basis of relevant agreements or the principle of reciprocity.”

Legal responsibility
The Electronic Signature Law also includes a chapter on legal responsibility for electronic signatory, electronic verification service provider and persons that counterfeits, copies or usurps the electronic signature of another person. Such legal responsibilities may discourage the use of electronic signature although it provides for legal responsibility of persons involved in the creation and use of electronic signature and offered greater protection for parties involved in an electronic transaction.

Another law, the Measures for the Administration of Electronic Verification Services was also implemented on 1 April 2005 to regulate the certification authorities. It was made in accordance to the ESL and complements the stringent criteria for electronic verification services that was in the ESL. Electronic verification services in this law refer to public services that inspect the authenticity and reliability of electronic signatures.

Measures for the Administration of Electronic Verification Services (2005)
Article 4 of the law provides that the Ministry of Information Industry (MII) which is currently the Ministry of Industry and Information Technology of China, will be the lead agency designated to oversee the implementation and administration of electronic verification service agencies and electronic verification services.

The law specifies in detail the conditions that must be satisfied by a qualified electronic verification service agency. Some of which include:

- There shall be no less than 30 technical staff persons, operation managers, security managers, and customer service representatives for the electronic verification services;
- The registered capital shall be no less than 30,000,000 yuan;
- The agency shall have a fixed business location and a physical environment that satisfies the requirements for electronic verification services;

The agency shall have technologies and facilities that are in accordance with the relevant national safety standards;
- The agency shall have documentary proof from the State Encryption Management Committee with authorization to use passwords

Business that satisfy the conditions must apply for a permit with the supporting documents for the criteria indicated in order to operate an electronic verification service agency in China. Applications are subjected to approval from MII.

The electronic verification service agency “shall formulate its Rules of Electronic Verification Activities in accordance with the requirements of the "Regulations and Principles of Electronic Verification Activities" promulgated by the Ministry of Information Industry.” This document called a Certification Practice Statement (CPS) will need to be submitted to MII and released to the public prior to provision of services.

The law also provides MII with enforcement power to take actions against electronic verification service agencies. Penalties imposed could include a warning or a fine or both.

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<table>
<thead>
<tr>
<th>Policies and regulations on paperless trade and single window systems including Customs, logistics and information and cybersecurity laws to regulate service providers</th>
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<tbody>
<tr>
<td><strong>The State Council of China decided to construct China E-port as the national single window of China in the mid-1990s. The General Administration of Customs of China (GACC) and relevant departments of the State Council were responsible to implement the Single Window. For a large country like China, implementation of the Single Window took a subnational approach where local trade community, ports and regulatory agencies can be grouped together at city or provincial level to establish a local “Single Window” system. The E-port project is implemented at both central and local levels. Several plans and guidelines at a national level have been introduced to enforce the building of China’s E-port as an important national agenda.</strong></td>
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**Notice of the State Council on the Construction of E-Port (2006)**

The 2006 Notice of the State Council sets the development goal in the next 5 years where the electronic port will be built into a unified customs information platform delivering a “one-stop” service that is integrated with logistics

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services. It also covers the coordination mechanism and the responsibilities of relevant stakeholders in the construction of the E-Port. The construction of the electronic port must follow the laws and regulations of the “Electronic Signature Law” and relevant departments should step up on resource sharing. The local governments will provide the main source of funding for the initial construction of local electronic ports.

To strengthen coordination and cooperation among state departments, the “Port Electronic Law Enforcement System Coordination Steering Committee” was renamed to “National Steering Committee on Electronic Port Construction Coordination” (Electronic Port Committee), headed by the Deputy-Secretary General of the State Council and the General Administration of Customs as the Deputy Chairman and other relevant ministries and departments as members.

Notice of the State Council on E-Port Development in the 12th Five-year plan (2012)
Following the 2006 Notice of the State Council that helps to promote the construction of electronic ports at both the central and local level, this 2012 Notice summarize the achievements made during the timeframe of the 11th five-year plan and included key projects to be implemented in the 12th Five-year plan period. The central level projects and local level projects are listed along with their responsible departments. Such central level projects include: Import tariff quota certificate and automatic import license online verification system which will be administered under the General Administration of Customs and the Ministry of Commerce; Certificate of Origin Network Sharing System which is under the purview of the General Administration of Quality Supervision, Inspection and Quarantine and the

275 Members include the Development and Reform Commission, the Ministry of Public Security, the Ministry of Finance, the Ministry of Railways, the Ministry of Communications, the Ministry of Information Industry, the Ministry of Commerce, the People's Bank, the State Administration of Taxation, and the State Administration of Industry and Commerce, General Administration of Quality Supervision, Inspection and Quarantine, Environmental Protection Administration, Civil Aviation Administration, Foreign Exchange Administration and other departments.
Ministry of Commerce. Local level projects include: implementing a manifest declaration system and provide a one-time entry of customs declaration and inspection information. Such projects are under the supervision of the relevant departments of the Customs.

**Framework opinion on the establishment of a Single Window (2016)**

The Framework opinion on the establishment of a Single Window was issued in 2016 for all parts of the country to accelerate the construction of the Single Window and ensure completion of the Single Window by 2017 – a goal tasked to the State Council. The construction goal of the Single Window was to achieve a single entry through the electronic port platforms to submit standardised documents and electronic information that meet the requirements of port management and international trade departments and allow related departments to share information. The eventual goal was to achieve Single Window interconnectedness with major countries along the “Belt and Road” and for the Single Window to function as a key trade infrastructure for China’s participation in the new pattern of international economic governance.

At the central level, each of China’s electronic port platform connects with the port management and international trade department to exchange and share data. At the local level, the provinces are taken as a single unit and rely on the local electronic port to establish a Single Window where the provincial Single Window can be interconnected with each other. Work was carried out at both central and local level to build the basic functions of the Single Window. Data simplification and harmonization follows international and national standards in trade facilitation. Having a unified portal and the unification of data interface standards, data management specifications and a unified information security regulations is emphasised in the framework document to build a standard version of Single Window that ensures that the provincial Single Windows constructed will be able to interlink with each other to exchange information.


Although major sources of funds to construct the Single Window were guaranteed by the central and local governments, the options were kept open for the different provinces to explore a sustainable model such as expanding services in logistics through partnerships. The GACC had signed MOUs with the provincial governments on cooperation, financing and operation of the E-Port platform to facilitate the process.\textsuperscript{282}

The framework opinion document also has a component to promote the improvement of relevant legal systems, clarify the legal status and operating procedure of the Single Window.

**Guiding Opinions on Accelerating the Construction of a Nationally Integrated Online Government Service Platform (2018)**

To promote “Internet + government services”,\textsuperscript{283} and speed up the construction of local government service platforms, the State Council issued the “Guiding Opinions on Accelerating the Construction of a Nationally Integrated Online Government Service Platform” that follows the principles of adhering to the overall national plan, enhance collaborative sharing, focus on optimizing processes, prioritise pilot testing and ensure safety and controllability.\textsuperscript{284}

This document also specifies the objectives where the government service platforms of all provinces (autonomous regions and municipalities directly under the Central Government) and the State Council shall be connected to the national government service platform by 2020 and that the national government service platform shall include all government affairs services in the platform by 2022.\textsuperscript{285}


\textsuperscript{283} The concept of “Internet +” was introduced in the 13\textsuperscript{th} FYP.


Government service platforms in China are built on the national e-government extranet, and provide services through government service portals deployed on the Internet. To integrate local government service platforms with that of the national government service platforms, a pilot strategy is emphasized in the implementation where provincial areas that have more established infrastructure and ready to integrate their platforms with the national system shall roll out pilot projects. Other areas may then learn from the experience in the pilot projects and improve in their implementation later on.

**Customs Law of China**

Apart from the Electronic Signature law that provides legal recognition of data message and electronic signatures, Article 25 of the Customs Law supports the use of electronic data specifically in the declaration for import and export of goods by stating that “declaration for import and export goods shall be made in paper form and by electronic means”.

To ensure protection of information transmitted electronically, there are laws and regulation in place on cybersecurity and information disclosure.

**Cybersecurity Law of China (2017)**

The Cybersecurity Law that went into effect in June 2017 is applied to the construction, operation, maintenance, and use of networks, as well as cybersecurity supervision and management in mainland China. The Law is applied to network operators and businesses in critical sectors where these network operators shall (1) Formulate internal security management systems and operating rules, determine persons who are responsible for cybersecurity, and implement cybersecurity protection responsibility; (2) Adopt technical measures to prevent computer viruses, cyber-attacks, network intrusions, and other actions endangering cybersecurity; (3) Adopt technical measures for monitoring and control, and reports on computer virus and cyber-attack; (4) Ensure network and information security by taking technical and management measures; (5) Comply with reports on cybersecurity incidents; (6) take technical and management measures to enhance the monitoring and control of network security incidents.

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and recording network operational statuses and cybersecurity incidents, and follow provisions to store network logs for at least six months; (4) Adopt measures such as data classification, backup of important data, and encryption; (5) Other obligations provided by law or administrative regulations.289

Article 23 helps to enhance security standards of network equipment by providing that “critical network equipment and specialized cybersecurity products shall follow national standards and mandatory requirements and be security certified by a qualified establishment or meet the requirements of a security inspection, before being sold or provided”.290 Network providers shall also “formulate emergency response plans for cybersecurity incidents”.291

For key sectors such as public communication and information services, public service and e-government, the State will implement enhanced protection measures.292

Chapter 4 of the Cybersecurity Law also contains provisions that protects the collection and use of personal information. E.g., Network or service provider collecting personal information shall clearly indicate the purpose and means of information collection and obtain consent from the user; network operators must not gather personal information unrelated to the services they provide.293 Such provisions on personal data protection is similar to the EU GDPR.

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Under the Law, legal responsibilities shall be taken by network operators or critical information infrastructure operators who do not perform cybersecurity protection duties provided in the Articles. Directly responsible personnel who failed in delivering the responsibilities in the Articles shall also be fined.294


The measures are formulated in accordance with the provisions of the Customs Law of China, the Regulation of the China on the Disclosure of Government Information295 and other laws and administrative regulations and it serves to enhance the transparency and credibility of the Customs. The General Office of the General Administration of Customs of China (GACC) is the department in charge of the work on the disclosure of customs government information across the country, and shall be responsible for promoting, directing, coordinating and supervising the work on the disclosure of customs government information across the country.296

This statute also guides the publication of information and regulations of the Customs Government. E.g., Customs regulations promulgated in the form of an order issued by the General Administration of Customs and other customs regulatory documents issued in the form of announcements issued by the General Administration of Customs shall also be published in the General Administration of Customs Notice.297 It also contains a list of procedures to be taken by citizens when applying for the disclosure of customs government information. Certain information shall not be disclosed. These include information: (1) Involving state secrets, business secrets, and personal privacy; (2) Belonging to the internal management information produced or obtained by the customs in daily work and the process

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information under discussion, research or review; (3) Other customs and government information that is not explicitly disclosed by laws and administrative regulations.298 Such measures and guidelines helped to protect the privacy of users and businesses communicating sensitive information with the Customs department whether in paper or electronic formats.

**Interim Measures for the Administration of Government Information Resources Sharing (2016)**

Recognising the obstacles faced in interagency sharing of information,299 this was China’s first regulation that manages sharing of government information resources. The Measures adopt “sharing as the principle, not sharing as the exception”, clarifying the rights of sharing information to take precedence.300 Article 6 of the Measure stipulate that “all government departments shall strengthen business process reengineering and optimization based on information sharing, innovate social management and service models, and improve social governance capabilities and public service levels under the conditions of informatization”. 301 Article 7 allocates responsibility for formulating “Guidelines for Compiling Government Affairs Information Resources Catalogue” to the National Development and Reform Commission. The Guidelines for Compiling Government Affairs Information Resources Catalogue (trial) that details the classification of data, data format, responsible parties, sharing method and usage requirement etc. was later published in 2017 to guide government departments in compiling and managing their data.302

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302 The Guidelines for Compiling Government Affairs Information Resources Catalogue (Trial) is available at: [http://www.gov.cn/xinwen/2017-07/13/content_5210203.htm](http://www.gov.cn/xinwen/2017-07/13/content_5210203.htm)
This document also includes the responsibilities of the stakeholders involved. Article 16 states that the Inter-ministerial Joint Meeting to Promote Big Data Development is responsible for the overall coordination of government information resource sharing, establishing an information sharing work evaluation mechanism, and supervising the implementation of government information resource sharing. The State Cyberspace Administration is responsible for establishment of a network security management system for the sharing of government information resources. The Ministry of Finance is responsible for the assessment of the budget allocation and operation and maintenance funding arrangements of the national government informatization construction projects (Article 21).

The importance of data sharing was also emphasized in the 13th Five-year Plan 2016-2020 where the Chinese government endeavours to “implement a National Big Data Strategy” to ensure an interconnected and open exchange of government data and for public sharing.

**E-commerce Law (2019)**
China’s new E-commerce Law which took effect on January 1, 2019, provides a regulatory framework for e-commerce, mandating all online businesses to be registered. The Law also covers e-contracts and e-payments.

Under Article 53, payment services providers should provide accounting reconciliation services and transaction records from the recent three years. Where the payment services provider not meeting the State’s payments risk management standards has caused damages to users, the payment services providers will be liable to compensate for the losses (Article 54).

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| Policies and regulations on cross-border trade systems | There were no domestic laws that provide legal recognition for electronic trade documents issued by foreign countries. Article 26 of the Electronic Signature Law, however, provides reciprocity in the recognition of the certificates of electronic signatures issued by overseas electronic verification services but there was no mention about recognising electronic documents issued. This Law could also indicate that the legal recognition of data message is attached to having an electronic signature that is reliable and valid rather than the data message itself.  

China’s Electronic Signature Law was influenced by the UNCITRAL Model Law on Electronic Commerce (1996) and the United Nations Convention on the Use of Electronic Communications in International Contracts (2005). China also accepted the WTO Trade Facilitation Agreement in 2015 and was a contracting party to the Revised Kyoto Convention (but entered with reservations).  

China has multiple bilateral trade agreements that contains paperless trade provisions. Such FTAs include Australia-China, China-Chile, China-Singapore, China-Peru, ASEAN-China, China-Republic of Korea, China-New Zealand, China-Iceland.  

The revised protocol for China – Singapore FTA in 2019 has largely enhanced cross-border paperless trade between the two countries, providing many legally binding commitments to be adhered to. A revised chapter 5 of the customs procedure and trade facilitation chapter in 2019 contains several Articles that promote (cross-border) paperless trade measure. Article 5 on the use of automated systems mandate the use of IT to support customs operations. Parties shall “take into account the relevant standards such as the WCO Data Model and best practices recommended by the WCO,” in the use of IT in customs administration. According to Article 6, each Party “shall 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”. Advance lodging of documents can be provided in electronic formats according to Article 14. For express shipments, it was encouraged |

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that each Party shall minimize the documentation required and if possible, allow the submission of a single document by electronic means (Article 16). A Committee on Customs Procedures and Trade Facilitation under the FTA Joint Committee that consists of representatives from customs administration of both Parties has also been established (Article 21).

Furthermore, the new e-commerce chapter helps to support trade via electronic means by having Articles that provide legal recognition of electronic signatures and support the use of electronic trade documents. Article 3 states that “each Party shall maintain domestic legal frameworks governing electronic transactions based on the UNCITRAL Model Law on Electronic Commerce 1996 and taking into account, as appropriate, other relevant international standards.” Article 9 on paperless trading encourages each Party “to make trade administration documents available to the public in electronic form” and “to accept trade administration documents submitted electronically as the legal equivalent of the paper version of those documents.” Although it was not mandatory to submit electronic trade documents, the Articles encouraged the use of electronic submissions by giving electronic documents equivalence to that of paper documents.

The 2011 version of chapter 5 on Customs procedure allows record to be maintained according to domestic laws of each Party and this include electronic records (Article 31).

The China – Republic of Korea FTA that enters into force in 2015, allows Certificate of Origin to be in a printed format that is either manually or electronically signed and stamped by the authorized body and retain such trade
documentation in any medium that allows for retrieval including digital and electronic format. Both Parties also “endeavor to develop an Electronic Origin Data Exchange System before the implementation of this Agreement”. Each Party “shall endeavor to provide a focal point” that could be electronic or otherwise to allow submission of all required information. Parties shall also “adopt or maintain procedures that: (a) provide for advance electronic submission and processing of information before the physical arrival of goods subject to the satisfaction of certain conditions or requirements, to enable the release of goods on arrival to the extent possible”. Under Article 4.15 on express shipments, Parties shall maintain procedures that “allow submission of a single manifest covering all goods contained in an express shipment, though, if possible, electronic means”.

The electronic commerce chapter 13 prevents Parties from having legislations that deny an electronic signature legal validity and commits each Party to “work towards the mutual recognition of digital certificates and electronic signatures” (Article 13.4). Article 13.6 on paperless trading states that “each Party shall endeavour to make trade administration documents available to the public in electronic form” and that “each Party shall explore the possibility of accepting trade administration documents submitted electronically as the legal equivalent of the paper version of those documents”.

Such trade agreements China had with other nations often contains a trade facilitation and e-commerce chapter that covers certain aspects of paperless trade. Comparatively, The China – Singapore FTA that is upgraded in 2019 contains provisions that are more extensive and confer greater commitment. China and Singapore are also working

towards linking China’s National Single Window and Singapore’s Networked Trade Platform where currently, PCO can be exchanged electronically.  

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<th>Other considerations on legal and regulatory issues</th>
<th>Legal liability</th>
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<td>According to Article 53 of the “Regulations on the Disclosure of Government Information of China”, the administrative departments that violates the provisions of these regulations and if there are serious repercussions, the responsible leaders and directly responsible personnel shall be punished according to law. Under the Cybersecurity Law, network operators and service providers are liable if they failed to adhere to the Articles provides and which results in a breach of security. Certification authorities are may also be subjected to legal liabilities under the Electronic Signature Law and the Measures for the Administration of Electronic Verification Services. Criminal liabilities may follow the Criminal Law of China (if not provided in other laws).</td>
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<tr>
<td>Protection of intellectual property</td>
<td>Protection of intellectual property by Customs authorities follow the Regulations of China on Customs Protection of Intellectual Property Rights. The holder of the intellectual property right (IPR) shall submit an application to the Customs to take protect measures (Article 4). Each approved application for recordation of IPR is valid for 10 years and may be renewed. The Anti-Unfair Competition Law enacted 1993 and last updated in 2019, strengthened the protection of trade secrets. There are also the Copyright Law, Trademark Law and Patent Law that protects different forms of intellectual property and IP Courts established in China to improve judicial protection of IP.</td>
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e-Payments
China has achieved remarkable progress in e-payments where non-cash payment tools were widely used nationwide. National plans on e-payments have been emphasized in the Eleventh Five-Year Plan and Twelfth Five-Year Plan for National Economic and Social Development to improve e-commerce infrastructure and payment service platforms and promote the use of online payment. China Customs has also applied a new-generation online payment system where users or businesses can use the “Single Window” platform or the “Internet + Customs” platform to pay duties and fees including import/export duties, anti-dumping duties, anti-subsidy duties, import VAT and excise, costs for disposing waste electric/electronic products, deferred duty interests and fines etc.324

The Guiding Opinions on the Development of China's Payment System (2011-2015) issued by the People’s Bank of China in 2012 made clear the policy directions on China’s payment system and guide the behaviour of the payment service market. A key task in this document is to formulate "Regulations on Payment System Supervision" and "Regulations on the Management of Payment Services of Non-financial Institutions" and revise existing laws.325

Dispute settlement
Where written contracts are involved, the Contract Law of China (1999) states that the method of dispute resolution shall follow the agreements in the contract or relevant laws.326 If foreign parties are involved, the parties to a foreign-related contract may choose the law applicable to the handling of contract disputes.327 The laws of China shall apply to contracts of Sino-foreign joint ventures, contracts of Chinese-foreign cooperative ventures, and contracts of Chinese-foreign cooperative exploration and development of natural resources that are performed within China’s

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Contract dispute could be settled through settlement of mediation (Article 128). If the parties are unwilling to settle or have mediation, or if the settlement or mediation fails, parties may apply to the arbitration institution for arbitration in accordance with the arbitration agreement. The parties to a foreign-related contract may apply for arbitration to a Chinese arbitration institution or other arbitration institution in accordance with the arbitration agreement. If the parties have not concluded an arbitration agreement or the arbitration agreement is invalid, they may file a suit in a people's court.

Competition law
China has an Anti-Unfair Competition Law enacted but does not have competition laws specific to single window operators or other paperless trade services providers. However certain Articles that prevent electronic intrusion and disclosure of business secrets may apply to paperless trade services providers. The law provided relevant supervision and inspection department under the Ministry of Commerce with the authority to investigate suspected acts of unfair competition. Article 15 also stipulates that the supervision and inspection department and its staff shall have the obligation to keep confidential the commercial secrets learned during the investigation.

India

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<td>Policies and regulations on governmental institutional</td>
<td>Governance structure:</td>
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| infrastructure, ICT and e-government, and laws supporting paperless trade | Multi layered governance structure for national paperless trade programme, entitled “e-TRADE”, was created at national level. This programme started in 1990s and has seen many updates and upgraded with time depending on government policies on national electronic governance programme. The broad structure is described below.  
I. Political will: A Paperless Trade environment in a country calls for strong political will. It may be seen that Prime Minister Office (PMO) and the Minister of State (Commerce) had participated in taking this movement forward.  
II. Administrative arrangements: A strong administrative arrangement with participation by all stakeholders including public and private sector participation was made to facilitate this move. The steps so taken were like  
a. Monitoring by Export Promotion Board headed by the chief Bureaucrat of the country  
b. Facilitation as Chair by Commerce Secretary and membership from stakeholders of public and private sector. This committee performed as NTFC.  
III. Subordinate committees: Agency level facilitation committee having participation of relevant stakeholders were created to take the project forward. However, national level committees of stakeholders were created for specific tasks like Interagency BPR, data harmonisation, adoption of international standards.  
IV. Paperless Trade as MMP: This project of Paperless Trade was declared as Mission Mode Project (MMP) under the e-Governance programme of the country by Government of India to put it on fast track. The important part of this initiative was to involve all stakeholders of Foreign Trade supply chain including private sector.  
Budget/Financial support:  
Every department has relevant head for this activity.  
National ICT plan for infrastructure and connectivity:  
The country has National ICT policy 2018, which enables access at affordable price. The government initiated National Electronic Governance plan, now expanded to Digital India initiative333. The e-TRADE project was made as MMP of this initiative. Since the project aimed at electronic delivery of services by all trade regulatory organisation, |

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<td>it was decided to involve a neutral agency to handle majority of the infrastructure and related support functions including system development and management, Data Centre, DR centre and business continuity plan. A pan India institution called National Informatics Centre\textsuperscript{334} (NIC) and National Informatics Centre Services Inc.\textsuperscript{335} (NICSI) under Ministry of Communications and Information Technology (now known as Ministry of Electronics and Information Technology) has handled majority of the functions. These institutions support technical manpower to execute ICT projects, run secure data centres, DR sites and also a trusted third-party service like Certifying authority infrastructure for electronic signature, eSign and time stamping services. This institution provides ICT support to the federal government, state governments and district administration in every department.</td>
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**Legal framework for Paperless Trade:**

India’s step by step journey towards adoption of legal framework for paperless trade is describes below -

1. **Interchange Agreement**: Draft of Interchange agreement, based on UNCITRAL model, was adopted during pre- e-Commerce legislation period.

2. In the **pre e-Commerce legislation** period a model concept was introduced to receive the documents electronically and process electronically so as to reduce transaction time and cost. A document in paper form was asked during final phase of interaction.

3. **Information Technology (IT) Act 2000**\textsuperscript{336}, based on UNCITRAL model law on electronic commerce, was enacted in the year 2000 to give legal recognition to electronic transactions. This act contained the following broad items: (i) Technology driven Digital Signature regime based on Public Key Infrastructure (PKI), (ii) Promote IT industry (iii) Regulate eCommerce (iv) Facilitate e-Governance (v) Prevent Cyber- crime etc.

4. **Amendments to IT Act 2000** in the year 2008: Over a period of time, it was observed that the IT Act 2000 was not technology neutral and needs provisions for moving with the technological innovations from time to time. Moreover, some more features were required to be added. Therefore the amendment, in addition to other

\textsuperscript{334} Website for National Informatics Centre - https://www.nic.in
\textsuperscript{335} Website for National Informatics Centre Services Inc. - https://nicsi.com
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<td>aspects, addressed the following broader aspects: (i) Electronic Signature was made acceptable (ii) Provisions for accepting new form of signatures were added (iii) Provisions to accommodate further development of IT and related security concerns (iv) Making owner of given IP address responsible for content accessed and distributed through it (v) making corporate responsible for implementing effective data security practices and liable for breaches.</td>
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5. **One Time Password (OTP):** OTP is accepted as a method of authentication. As a result, majority of the transactions, especially those of financial sector and tax return filing rely on this. However, the high value financial transactions of the corporate sector and other sectors have options for more robust authentication mechanism.

6. **Establishing Digital Identity in Paperless Trade:** It is recognized that establishing electronic identity in a Paperless Trade environment is a big challenge. A unique method of administering identity of individuals in the country in on-line environment, in the form of Aadhaar\(^{337}\), was introduced in the country to cover the entire population. The features of Aadhaar is as follows: (i) Aadhaar is a 12 digit unique identity for every resident of India (ii) Uniquely identifies the resident through a combination of Aadhaar Number along with a modality (demographics, biometric (Fingerprint, Iris, Face), OTP) (iii) System designed to provide a Yes/No response or e-KYC or limited e-KYC response for the Aadhaar Number authenticated successfully, (iv) Initially envisaged as a means for authenticating individuals for the purpose of financial inclusion, it has also found its application in e-Sign, banking, insurance etc., (viii) This digital ID in India is regulated through the Aadhaar (Targeted Delivery of Financial and Other Subsidies, Benefits and Services) Act, 2016 and its regulations and governed by the nodal body Unique Identification Authority of India (UIDAI), (ix) **The Aadhaar Act and its regulations lay special emphasis on privacy and data protection with specific regulations released on data security and sharing of information.** Also, the most recent amendment in the Aadhaar Act restricts the usage of Aadhaar to Centre and State funded schemes and other limited applications which are duly approved and notified by the central government through an official gazette, (x) **As on 17 August 2020, 1.26 billion people are enrolled** under Aadhaar\(^{338}\).

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\(^{337}\) Website of Unique Identification Authority of India - https://uidai.gov.in

\(^{338}\) Aadhaar Dashboard - https://uidai.gov.in/aadhaar_dashboard/
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<td><strong>7. Simple on-line process of Digital/Electronic Signature</strong>: The introduction of Public Key Infrastructure (PKI) driven Digital Signature could not get good response from users because of cumbersome processes attached to it. In order to address this, amendments in the IT Act rules were undertaken to introduce a simple process in the form of e-SIGN\textsuperscript{339}. The e-SIGN is an integrated service that facilitates issuing a Signature Certificate for one time use and performing signing of requested data by authenticating AADHAAR holder. Based on assurance level, e-SIGN can be applied using (i) One Time Password (OTP) or (ii) Biometric scan.</td>
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<td><strong>8. Electronic Signature Infrastructure</strong>\textsuperscript{340}: A pan India electronic signature infrastructure is created to facilitate digital/electronic signature throughout the country. A regulator under IT Act 2000, named Controller of Certifying Authorities, is responsible for administering the facility.</td>
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<td><strong>9. Trusted Third Party Services</strong>: Trusted third parties are licensed under the IT Act 2000 to run this infrastructure which supports Digital/electronic signatures services, eSign6 services, Time stamping services and Digital locker services.</td>
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<td><strong>10. Digital Locker services</strong>: A pan India facility of secure digital locker is created for public at large to maintain and use their documents on-line in digital form in secure environment. For example - degree, birth certificate, driving licence, insurance documents can be maintained and used in on-line environment to be used for filing on-line applications throughout the country.</td>
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India is midst of finalising the Personal Data Protection Bill (PDP), 2019. The PDP Bill seeks to institutionalise a Data Protection Authority and will define provisions for processing of personal data/ sensitive data, rights of data principals, provisions for transfer of data outside India among other things.

Competition is governed in India through the Competition Act, 2002 (amended in 2007 & 2009). The act enforces lays down provisions to prevent and punish anti-competitive business practices and unnecessary Government interference.

\textsuperscript{339} Website of Controller of Certifying Authority - http://cca.gov.in/eSign.html
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<td><strong>The Information Technology (IT) Act, 2000 (amended in 2008)</strong> deals with electronic commerce and cybercrime. Additionally India has enacted the <strong>National Cyber Security Policy 2013</strong> which focuses on creating a secure cyber ecosystem, an assurance framework encouraging open standards, strengthening regulatory framework, creating mechanism for security threats early warning, vulnerability management and response to security threats, securing e-Governance services, protection and resilience of critical information infrastructure, creating cyber security awareness, information sharing and cooperation among other things.</td>
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**Policies and regulations on paperless trade and single window systems including Customs, logistics and information and cybersecurity laws to regulate service providers**

**Paperless trade including single window systems:**

The IT Act 2000, with its amendments in 2008, provides legal backing for facilitation of paperless trade and single window. The details can be seen at section 1.3 above. Some of the initiatives on this subject can be seen below-

1. **The first single window initiative** of this project, about two decades ago, in the government sector was undertaken in the office of Directorate General of Foreign Trade (DGFT)\(^{341}\), who has the responsibility to administer the Foreign Trade policy of the country. This is able to facilitate Trade and Industry and customs electronic interaction with the offices of DGFT in a single window environment. The project has ability to receive, process and issue documents/data electronically integrating e-Payment and electronic signature.

2. The second initiative was that of Customs\(^{342}\) single window having electronic interface with most of the stakeholders like ports, airports, airlines, custodian of import and export, Customs house agents, freight forwarders, exporters, importers, and banks. The customs single window system is currently being considered for overhaul.

3. The third major initiative was undertaken in the Port Sector in a PPP environment under the umbrella of Indian Ports Association (IPA) which has the membership of government and private ports. This single window known as Port Community System (PCS)\(^{343}\) is fully functional. This system is able to integrate all major stakeholders in the port sector and also integrates international standards and best practices.

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\(^{341}\) Website for DGFT - [http://dgft.gov.in](http://dgft.gov.in)

\(^{342}\) Website for Customs Single Window - [https://www.icegate.gov.in](https://www.icegate.gov.in)

\(^{343}\) Website for PCS - [https://indianpcs.gov.in/IPA_PCS/](https://indianpcs.gov.in/IPA_PCS/)
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<td>4.</td>
<td>Similar initiative exists with Container handling institution called Container corporation of India(^{344}) which facilitates trace and track of containers within the country with electronic interfaces with Indian railways and other stakeholders including banks.</td>
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<td>5.</td>
<td>The other initiatives of single window in air sector are limited to all major airports which provides single window environment at every major airport with electronic connectivity with stakeholders including banks at every major airport. An air community system integrating all the airports in the country is being firmed up.</td>
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**Electronic regulatory systems including Customs and ports with governance structure:**

The details about the systems are available at sl.no. 2.1 above. The main point to emphasise here is the governance structure like NTFC described at sl.no. 1.1 above which ensures that (a) inter-departmental issues are resolved under the umbrella of this apex committee (NTFC) participated by all stakeholders, (b) decision of adoption of international standards by all stakeholders are taken and enforced. As a result, the following few major steps were taken from time to time-

1. Aligned documentation system based on **UN Layout key** was adopted in the year 1988
2. Software for Pre-shipment export documents based on UN Layout key was indigenously developed and adopted in the year 1991
3. EAN India (now known as GS1 India) was formed in the year 1995 to induce efficiency including Trace and Track of the Cargo in the supply chain
4. **UN/EDIFACT** (United Nations/ Electronic Data Interchange for Administration Commerce and Transport) was adopted as national standard in the year 1996. In order to implement this standard in the country few major steps were taken. One such step was to form Message Development Group (MDG) in the area of Customs, Ports, Airports, Banking and Private Sector. These initiatives translated into adoption of UN/EDIFACT in the Foreign Trade supply chain.

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\(^{344}\) Website for Container Corporation of India - https://concorindia.co.in
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<td>5. Sub-committee on <strong>UN/LOCODE</strong> was formed in the year 1998 to integrate and manage standard location code. The United Nations (UN) code list was also adopted.</td>
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<td>6. Formation of committees at agency level and National levels to facilitate BPR, Data harmonisation and standardisation. The recommendations and standards prescribed by UN/CEFACT and WCO were largely adopted.</td>
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**Banking/payment law for electronic payment supporting secure nation-wide e-Payments:**
As part of formulation of IT ACT 2000, the Federal Reserve Bank of India (RBI) act was amended to give legitimacy to electronic records in banking sector. As a result, Electronic Payment (e-Payment) using internet was launched especially for the first time in government payments. The simple method of One Time Password (OTP) supporting two factor authentication for low level payments, in addition to other robust methods of Authentication, was adopted and prescribed by RBI, who happens to be regulator of banking sector in India.

**Ability of the regulatory systems to receive, process and issue documents electronically:**
The IT Act 2000 provided the support to regulatory organisations including Customs to receive, process and issue documents electronically, which is a reality. The step by step approach to achieve this in India is provided at serial number 1.4 above.

**Ability to authenticate user electronically and ensure electronic data/document security:**
The IT ACT provides the framework for user authentication as well as electronic data/document security. The details at sl.no. 1.4.6, 1.4.7 and 1.4.9 above may be referred.

**Neutral operator for operations of regulatory systems:**
Any electronic service delivery by regulatory agencies need to induce **confidence in the mind of trade and industry that the confidentiality is maintained.** In order to address this, it was decided to involve a **neutral agency** to handle the infrastructure and related support functions including system development and management, Data Centre, DR centre and business continuity plan. A pan India institution called National Informatics Centre³⁴⁵ (NIC) and National

³⁴⁵ Website for National Informatics Centre - https://www.nic.in
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<td>Informatics Centre Services Inc. (NICS) under Ministry of Communications and Information Technology (now known as Ministry of Electronics and Information Technology) has handled majority of the functions. These institutions provide technical manpower to facilitate paperless trade project, run secure data centres, DR sites and also trusted third-party services like Certifying authority infrastructure for electronic signature, eSign and time stamping services. This institution has mandate to provide ICT support to the federal government, state governments and district administration in every department.</td>
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**Adoption of policy for agency level and national level BPR, data harmonisation and standardisation base on international standards:**

The NTFC, described at sl. No. 1.1 above, exercising the powers conferred to it, has formed committees at agency level and National levels to facilitate BPR, Data harmonisation and standardisation. The recommendations and standards prescribed by UN/CEFACT and WCO were largely adopted. In many cases proprietary standards were permitted in domestic leg so long as international leg is supported with prescribed international standards.

**Adoption of policy for Information security standards and data confidentiality:**

Section 72, 72 A of the Information Technology (IT) Act, 2000 (amended in 2008) recognises breach of confidentiality and privacy and disclosure of information in breach of lawful contract as a punishable offence.

**Adoption of policy on data accuracy and integrity:**

The IT Act, 2000 (amended in 2008) recognises cyber security as a key area in the realm of electronic governance. Section 43 of the IT Act, 2000 recognises computer related offences including but not limited to introducing computer contaminant into any computer, computer system or computer network, where “computer contaminant” means any set of computer instructions that are designed to modify, destroy, record, transmit data or programme residing within a computer, computer system or computer network. Such computer offences under section 43 of IT Act attract both civil and criminal liabilities under section 66 of the IT Act.

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346 Website for National Informatics Centre Services Inc. - https://nicsi.com
<table>
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<tr>
<th>Type of best practice</th>
<th>Details</th>
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</table>
| **Adoption of policy on accessing and sharing information including SLA and MOU:**  
Section 72 and 72A of the IT Act, 2000 (amended in 2008), lays down the civil and criminal liabilities for unauthorized disclosure information without the consent of the individual.  
Also, the Personal Data Protection (PDP) Bill, 2019 (under finalization) lays down following key provisions for accessing and sharing of information:  
1. Chapter III - Grounds for processing of personal data  
2. Chapter IV - Grounds for processing of sensitive personal data  
3. Chapter VIII - Transfer of personal data outside India |
| **Policies and regulations on cross-border trade systems** | **Harmonisation of legal system through adoption of uniform laws:** No input for best practices.  
**National laws relevant to paperless trade be based on international model so that mutual recognition becomes easy:**  
Indian legal framework is based on UNCITRAL model law on electronic commerce, thus complies with the recommendation.  
**Adoption of bilateral, multilateral, or regional agreement for Cross-border paperless trade data exchange:**  
The India IT Act 2000 empowers Controller of Certifying Authorities under Ministry of Electronics and Information Technology to enter into an agreement with other government to mutually recognise the electronic signature mechanism thus paving the way for mutual recognition. It is expected that the article 8 of UN/ESCAP Framework agreement on cross border paperless trade will facilitate this process.  
**Mutual legal recognition of trade-related data and document with trading partner(s):**  
India is currently pursuing few bilateral and multilateral trade projects with other member states for mutual recognition of trade related data and document. The one deals with blockchain based certificate of origin sharing between few countries and the other deals with data sharing between Mumbai and Amsterdam corridor in air sector.  
**Recognition of foreign electronic signature or certificate:** |
Type of best practice | Details
--- | ---
The IT Act 2000 provided for government level recognition of foreign electronic signature or digital certificate or Certifying authorities depending on the level of reliability. As a result, an MoU was signed between India and Korea to facilitate this process.

Other considerations on legal and regulatory issues | Liability issues
--- | ---
The Information Technology (IT) Act, 2000 (amended in 2008) lays down the liabilities/ offences under Chapter XI. While Section 43 defines computer related offences under the IT Act, Section 66, 71 and 72 lay down some of the key liabilities such as punishment/ penalty for identity theft, violation of privacy, impersonation, dishonestly receiving stolen computer resource or communication device, breach of confidentiality and privacy, disclosure of information in breach of lawful contract etc.

Dispute settlement

Dispute settlements are governed in India through the Arbitration and Conciliation Act, 1996 (ACA). The Act comprises of 2 parts. Part 1 of the ACA deals with Indian arbitral awards, while Part 2 of the ACA deals with Foreign arbitral awards.

With regards to IPR, India is a member of the World Trade Organization (WTO) and World Intellectual Property Organization (WIPO). India is also a member of the following key WIPO administered international treaties/ conventions:

1. The Paris Convention
2. The Berne Convention
3. The Madrid Protocol
4. The Patent Cooperation Treaty

India also has its own laws around Intellectual Property. These are:

3. Trademark - Trade Marks Act, 1999 administered by the Department of Industrial Policy and Promotion, Ministry of Commerce & Industry.

Kazakhstan

<table>
<thead>
<tr>
<th>Type of best practice</th>
<th>Details</th>
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<tbody>
<tr>
<td>Policies and regulations on governmental institutional infrastructure, ICT and e-government, and laws supporting paperless trade</td>
<td>Important policy directions are covered by the President’s Address to the nation and key programmes are officially listed as State programmes. Approval of State programmes in Kazakhstan are conducted officially through Decrees or resolutions issued by the Government of Kazakhstan. Prioritization of ICT in government agenda only began after 2010 with the proliferated use of the internet and more businesses adopting the use of ICT. However, e-government was introduced much earlier in 2005 and in 2006, the eGov portal was launched and progressive improvements to provide more services on the portal was made. In the 90s, the state also launched programmes to encourage industrial innovations. The President’s address in 2012 sets out a “Kazakhstan – 2050” policy directions that encourage the adoption of information technologies in sectors such as government administration, health and to encourage foreign investments that brings technology transfer. The previous long-term plan was “Kazakhstan 2030” introduced by then President Nazarbayev.</td>
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</table>

347 The Addresses of the President of Kazakhstan is available at: http://www.akorda.kz/en/addresses/addresses_of_president
of Kazakhstan in October 1997. It sets seven priorities to be achieved over the period of 30 years and was implemented through several 10-year plans.\(^{349}\)

**Information Kazakhstan – 2020 (2013)**

The State programme “Information Kazakhstan – 2020” was the first programme emphasizing the use of information and communication technologies in both public and private sector. It was approved by the Decree of the President of Kazakhstan in 2012.\(^ {350}\) Implementation of the programme was divided into two stages; stage 1 from 2013 – 2017 and stage 2 from 2018 – 2020. Funding for the programme was provided through the State budget and funds raised from enterprises and organizations.

The key objectives of the programme are to ensure the effectiveness of public administration, ensure ICT infrastructure is in place, create an information environment in socioeconomic and cultural aspects and develop the domestic information space.\(^ {351}\) Targets to reach by 2020 have been set in “Information Kazakhstan – 2020”. Some examples of the targets include: achieve a ranking among the top 25 countries in the e-government index; increase the share of public services provided in electronic format to 50%; increase the level of computer literacy to 80%.

The establishment of an e-government infrastructure is driving many administrative reforms in government agencies. An architectural approach was adopted for the automation of government agencies where detailed plans and blueprints have been developed prior to implementation.\(^ {352}\) To support the development and implementation of the architecture of the government agency, government agencies can create a working group to support the integration of

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\(^{352}\) The architecture of a public body is a set of documents, samples, matrices and diagrams containing a detailed description of the current and planned state of the public body, as well as functions, business processes, data, information systems and technical infrastructure to ensure the implementation of strategic goals and objectives.
The central executive bodies and state bodies responsible for supervision of the e-government are directly accountable to the President.

By 2012, the basic infrastructure for e-licensing, electronic payment of taxes and fines, e-notary, e-customs, and other e-government services have been created. “Information Kazakhstan – 2020” introduced a new model where a cloud platform will be adopted for informatization of government agencies. The first stage of the programme also incorporates plans to improve the legislations for ICT and mass media.

Encouraging the use of ICT by industry and develop human capital trained in ICT; applying ICT in healthcare; encourage the development of e-commerce are also important areas of focus of the programme.

Coordination of programme management is carried out by the Interdepartmental Commission for Coordination of Work in the field of informatization and information security of Kazakhstan.

An Action Plan for the implementation of the state programme "Information Kazakhstan - 2020" for 2013 - 2017 (first stage) was developed in February 2013 detailing the objectives, target indicator, the specific actions, datelines, budget and the responsible agencies and ministries.

However, there does not seem to be a stage two plan that has been announced. Implementation of the programmes in stage two may be assumed to follow the first stage’s plan to realize the targets set. In late 2017, a new five-year state program “Digital Kazakhstan” was launched. The program will be implemented in the period 2018-2022.

“Digital Kazakhstan” (2017)

The Decree No. 827 to approve “Digital Kazakhstan” was promulgated in December 12, 2017. The Ministry of Digital Development, Innovation and the Aerospace Industry of Kazakhstan were responsible to develop this programme. The goals of the state program "Digital Kazakhstan" which was to be implemented from 2018 – 2022, were to accelerate the development of the economy of Kazakhstan in the medium term and improve the quality of life through the use of digital technologies and assist to transform Kazakhstan’s economy. The yearly budget allocated for the programme was clearly indicated and an action plan with the target indicator, timeframe of implementation and responsible agencies was included. 109 billion tenge was allocated from the national budget for the implementation of the program.

This program established ambitious goals for the digitization of government agencies and aims to ensure information security in the field of ICT. The main priority for the improvement of all processes (G2C, G2B, G2G) was the implementation of the "paperless" format and transit to a single application for services. Initiatives launched to improve information security include the establishment of information security operational centres and information security incident response services, as well as the establishment of research laboratories and a data processing centre. Relevant legislations and cybersecurity standards were also introduced to provide institutional support.

Implementation of the "Digital Kazakhstan" program follows five key principles – digitization of flagship industries, adopting the most advanced technologies, being agile, forge partnership with businesses and adapt regulations that is

progressive.\(^{361}\) A Commission on Digitization will also be established under the President of Kazakhstan to monitor, evaluate and adjust measures to achieve the objectives of the programme.\(^{362}\) At the government level, the Chief Digital Officer will establish digitization offices in government agencies to conduct the activities for digitization.\(^{363}\)

The legal system of Kazakhstan is based on civil law and founded based on constitution. International treaties ratified by Kazakhstan takes precedence over other laws except for the constitution. Criminal acts and the penalties and conviction are provided in the Criminal Code. The new version of the Criminal Code, which has been in force since 2014, contains a separate chapter for crimes in the field of information and communication. ICT laws in Kazakhstan are often broadly termed as laws on informatization, information security; use of the terms “cyber” in cybersecurity and cybercrimes is less frequent in legal and regulatory terms until 2017 where the “Concept of Cyber Security” was introduced.

**Law on Electronic Document and Electronic Digital Signature (2003)**

The Law on Electronic Document and Electronic Digital Signature was enacted in 2003 to regulate the use of electronic documents certified by electronic signatures but laws and measures regulating ICT and ensuring protection of ICT infrastructure has yet to take shape until 2015. An electronic document is defined as a document in which the information is presented in electronic digital form and certified by means of electronic digital signature.\(^{364}\) An electronic digital signature is defined as a set of electronic digital symbols created by means of electronic digital

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signature than can confirm the reliability of an electronic document, its belonging and that its content remains unchanged.\footnote{365}

Competent authorities
Article 5 approved authorised bodies or competent authorities in the field of informatization to carry out duties that include developing legal acts for electronic document and electronic digital signature; issues an order in case of violation of the requirements of the legislation of Kazakhstan on electronic document and electronic digital signature; approving the rules of registration and termination of interaction of certification centres, trusted third parties of foreign states with a trusted third party of Kazakhstan etc.\footnote{366}

Functional equivalence of electronic digital signature
Article 10 provides electronic digital signature with equivalence to an autograph signature of person and entail the same legal consequences if: 1) the authenticity of electronic digital signature using the public key, having the registration certificate was certified; 2) a person signed the electronic document, lawfully in possession of private key of electronic digital signature; 3) electronic digital signature is used in accordance with details, specified in the registration certificate; 4) the electronic digital signature is created and the registration certificate is issued by the accredited certifying centre of Kazakhstan or foreign certifying centre registered in the trusted third party of the Kazakhstan.\footnote{367}

Technological neutrality

The Law is rather ambiguous on whether it is technological neutral as Article 11 states that means of electronic digital signature shall be subject to confirmation of conformity (indicating that it must be approved by the state certifying/regulating authority) and laws in technical regulation. 368

Recognition of foreign electronic digital signature/ foreign registration certificates
Article 13 recognises a foreign electronic digital signature holding a foreign registration certificate if: 1) in accordance with international treaties ratified by Kazakhstan; 2) after registration of foreign certification centres in the trusted third party of Kazakhstan; 3) after the registration of trusted third parties of foreign states in the trusted third party of Kazakhstan. 369 Similar requirements are stated in Article 19 for foreign registration certificates.

Accreditation of certification centres
According to Article 20-2, certification centres must be accredited prior to provision of services. 370

Legal responsibility of certifying centres
Article 21 listed the functions and responsibilities of a certifying centre. Certifying centres shall bear legal responsibility for loss, modification, and forgery of public keys of electronic digital signature, in their storage. 371

Personal data protection by certifying centres
According to Article 23, certifying centres shall ensure protection of details on the owners of registration certificates and only disclose them in cases mandated by law. 372

Dispute
Article 25 states that disputes in the use of electronic document and electronic digital signature shall be subjected to consideration in the judicial procedure according to Kazakhstan’s legislations.373

This Law was implemented on 1 Jan 2016 and covers regulation in the ICT field applicable to state bodies, individuals and legal entities in the creation, development, maintenance, operation of informatization facilities (Article 4).374

The Law listed the roles of the public sector in informatization and enforced the role of authorised bodies in implementing state policies and regulatory activities. It also contains many minute details on the use, distribution, ownership, and access to electronic documents.

This law has provided the roles and responsibilities of the government agencies375 in charge of monitoring and responding to information security incidents and how network and infrastructure service providers for “e-government” shall inform the National Coordination Centre for Information Security of any security incidents in a specified timeframe. Mandatory checks and testing must be conducted for service providers to the State (Article 49).

Chapter 3 on the rights and obligations of information subjects, imposed obligations on the owner of the object of information and communication infrastructure to be responsible for the safety and security of the information systems

375 Such government agencies include the “Information security incident response service” and the “National Coordination Centre for Information Security”.
maintained under his or her control. The owner and (or) operator of the information system or database containing personal data, as well as third parties shall also take measures to protect the data.

The Law also clarifies the use and ownership of electronic information resources in Article 33. E.g., Electronic information resources processed in the order of provision of services or in the joint use of information systems and Internet resources shall belong to the owner or possessor of electronic information resources. Ownership of any derivative product shall follow the agreement entered.

Chapter 7 on service models of informatization for “e-government” allows the provision of information and communication services through a public-private partnership agreement or a contract between the operator and the public authority in accordance with the legislation of Kazakhstan on public procurement.

There are also criteria indicated for processing, storage, and backup of electronic information resources in the objects of information and communication infrastructure of "e-Government".

| Policies and regulations on paperless trade and single window systems including Customs, logistics and information and | E-services are provided in the eGov portal prior to the establishment of an electronic customs declaration based on ASYCUDA in 2018. Services such as electronic payment of Customs duties to the State Budget is also available on the eGov portal. Kazakhstan’s WTO membership commencing June 2015 has improved market access and trade facilitation in the country. Following Kazakhstan’s WTO accession, the project to build an electronic customs declaration commenced |

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380 The list of Customs services on eGov portal is available at: [https://egov.kz/cms/en/categories/customs](https://egov.kz/cms/en/categories/customs)
cybersecurity laws to regulate service providers  
in December 2015 after the Ministry of Finance’s State Revenue Committee signed the relevant agreement with the United Nations Conference on Trade and Development (UNCTAD) contributing to the new presidential strategy, called "One Hundred Concrete Steps" introduced in May 2015. This was also part of Kazakhstan’s digitalization strategy to provide government services electronically. The National Trade Facilitation Committee chaired by the Vice Prime Minister has been established to ensure commitments to the WTO Trade Facilitation Agreement that was taken by Kazakhstan as a developing country.

UNCTAD has assisted Kazakhstan to automate its customs procedures through the installation of its integrated customs management system, ASYCUDA World and trained Kazakhstan’s Customs officer and IT experts on using the ASYCUDA system.

Through assistance from international organizations, Kazakhstan has made a remarkable progress to implement the Single Window in 2019. Implementation of the Single Window is based the provisions of the Agreement on Trade Facilitation and WCO standards. The new Single Window portal can be accessed at [http://kaz-sw.com/](http://kaz-sw.com/). It links the e-license and e-customs and various services available in systems that has been previously established and introduced new Customs services that can be accessed in the Single Window portal to eliminate the need for application of permits from different government agencies and allows for monitoring of the status of the documents/applications submitted.

Concept of Cyber Security ("Cyber Shield of Kazakhstan"), 2017

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381 English translation of “One Hundred Concrete Steps” is available at: [http://www.jp-kz.org/data/100%20steps.pdf](http://www.jp-kz.org/data/100%20steps.pdf)
This “Concept of Cyber Security” was developed from the Address of the President, “Third Modernization of Kazakhstan: Global Competitiveness” and it considered the strategies in “Kazakhstan-2050” to achieve the goal of protecting electronic information resources, information systems and information and communication infrastructure from external and internal threats and ensuring that Kazakhstan can remain internationally competitive. The implementation of the Concept was divided into two stages. The first stage from 2017-2018 and the second stage from 2019-2022.

The first stage involves establishing compliance with security in the ICT field where amendments may be made to the legislations and a revision of the educational programmes and professional standards to increase the number of trained information security professionals.

The list of 30 laws and regulations that would assist the implementation of this Concept are listed in part 6 of the document.

**Customs Regulation, amended 2017**

The 2003 version of the Customs Regulation has already introduced the acceptance of electronic documents verified with electronic signatures in many of the Customs processes. As a member of the Eurasian Economic Union (EAEU), Kazakhstan’s Customs regulations follows the Customs Code of the EAEU based on the treaty on the Eurasian Economic Union of May 29, 2014.

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Use of electronic documents
According to Article 9 of the Customs Regulation, the structure and format of customs documents in the form of electronic documents needs to be approved by the authorized body. Various Articles in the law approve the use of electronic documents in different cases. Article 31 supports submission of preliminary information to the Customs in the form of an electronic document. Application for classification of goods (Article 45) and determining origin of the goods (Article 61) can also be made in electronic document. Article 146 also states that documents required for fulfilment of customs operations shall be submitted in the form of electronic documents or documents on paper.

Cross-border exchange of data in the EEU
Article 25 permits exchange of documents or information in the cases provided for by the customs legislation of the Eurasian Economic Union and (or) Kazakhstan in electronic form or paper.

In recent years, various interrelated laws pertaining to information security in the field of ICT are reflected in the Criminal Code, the Code “On Administrative Offenses,” “On State Secrets”, “On Personal Data and Their Protection”, “Electronic Document and Electronic Signature”, “On communication” and the Law “On Informatization”.

Penal Code of Kazakhstan (amended 2014)
The amended Penal Code added a new chapter for crimes in informatization and communication. Illegal access to information in the information system or telecommunications network; intentional illegal destruction or modification of information; intentional actions to cause disfunction of the information system or telecommunications networks; misappropriation of information; coercion to transmission of information; illegal distribution of electronic

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information resources of restricted access; illegal provision of information and internet services etc. are crimes subjected to penalties stipulated in the Penal Code.397

Administrative offences are covered under the Code “On Administrative Offenses.”

**Code on Administrative Offenses (amended 2014)** 398

The Code on Administrative Offenses impose penalties on acts that have no evidence of criminal liability or does not constitute a criminal action as indicated in the Penal Code. The Code also include administrative offenses for officials who do not fulfil their responsibilities to ensure information security.

In the context of paperless trade, such administrative offences include violations of the legislation on electronic document and digital signature and violations of the legislation on information.

Actions such as improperly obtaining a private key and (or) the use of digital signature of another person results in a warning of a fine for individuals. Officials, businesses, and organizations are given a fine of a larger amount. Failure to comply with the certification centre duties under the legislation on electronic documents and digital signatures would entail a fine. Use of information resources that contain sensitive information about individuals and entities with a view to causing them material and moral damage leads to a warning or a fine.399

**Law on “access to information” (2015)**

This Law on access to information allows for the right to access information in any methods that are not prohibited by Law. This Law is applicable to the public sector, public institutions and quasi-public sector entities facilitates the dissemination of data to the public and encourages the move towards open data. Illegal restriction to information and such actions of officials could be appealed under this Law.400

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398 The Code on Administrative Offenses is last updated on July 3, 2020.
<table>
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<tr>
<th>Policies and regulations on cross-border trade systems</th>
<th>The Law on Electronic Document and Electronic Signature in 2003 provided recognition of foreign electronic digital signature/ foreign registration certificates under certain criteria. Kazakhstan adopted the WTO Trade Facilitation Agreement in May 2016 and was a contracting party to the Revised Kyoto Convention (2006) in June 2009. Most of Kazakhstan’s trade agreements are signed with neighbouring countries. Kazakhstan is a member of the Eurasian Economic Union (EAEU) and under the EAEU Treaty, members are required to work towards integration of information systems which includes tasks such as establishing informational structure for interstate exchange of data and electronic documents within the EAEU and establish and maintain infrastructure of documenting of information in electronic form. The Treaty also recognised that electronic documents are equivalent to paper and are provided legal recognition similar to document on paper, certified by signature or signature and a seal. The Treaty also provided for non-discrimination of electronic documents such that “document shall not be invalidated merely on the ground that it is executed in the form of electronic document.”[401] The EAEU members have to implement the Customs Code of EEAU which recognises the submission of electronic documents in various customs procedures. Kazakhstan has several bilateral agreements with neighbouring countries that are in force Kyrgyz-Kazakhstan, Azerbaijan-Kazakhstan, Kazakhstan-Ukraine, Georgia-Kazakhstan but it does not seem that there are any chapters or provisions on paperless trade.</th>
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<tbody>
<tr>
<td>Other considerations on legal and regulatory issues</td>
<td><strong>Legal liability</strong> Members of governing bodies or government officials could be subjected to civil and administrative liability in the laws of Kazakhstan except for members of the Parliament.[402] The Penal Code and Code of Administrative Offences also prescribed penalties to offenders in the field of information security and for violation of the use of personal or protected information. The President signed the Law on “Ratification of the United Nations Convention on the</td>
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[402] According to Kazakhstan’s Constitution, “a deputy of Parliament during the term of his office may not be arrested, subject to detention, measures of administrative punishment imposed judicially, charged with criminal liability without the consent of a respective Chamber except for cases of being detained at the scene of a crime or the commission of serious crimes”.
Jurisdictional Immunities of States and Their Property” in October 2009 which provides immunity of a State and its property under the jurisdiction of courts.  

Dispute settlement
Dispute that arises may be addressed through legal methods or settled through arbitration if an arbitration agreement was concluded between parties. The Law on Arbitration (2016) amended in 2017 and 2019 reduced the conditions of an arbitration agreement that makes it a valid arbitration agreement and reduces the risk of a foreign award not being recognised where the arbitration agreement is determined to be invalid in Kazakhstan’s law.

E-payment
In Kazakhstan, the regulation and supervision of payment service providers is conducted by the National Bank of the Republic of Kazakhstan. The Law on “Payment and Payment Systems” stipulates the rules payment service providers have to follow. Under this Law, payment service providers are classified into three categories: 1) systemically significant payment service provider; 2) significant payment service provider; 3) other payment service provider (Article 6). The Law further listed the requirements for the operators in each category. The Law also contains a chapter on electronic money which could be used to carry out civil transactions. Any administrative penalties for failing to abide by this Law is subjected to the liabilities prescribed in the Code on administrative offenses.

Republic of Korea (ROK)

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<tr>
<th>Type of best practice</th>
<th>Details</th>
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<tbody>
<tr>
<td>Policies and regulations on governmental institutional infrastructure, ICT and e-government, and laws</td>
<td>The Republic of Korea (ROK) has enjoyed strong leadership and support for the development of e-government and paperless trade across several presidencies in the 1990s and 2000s. The ROK government accelerated the development of e-government and the digital economy during the “full promotion” period from 1996-2002, with the formulation of the First and Second National Informatization Promotion Master Plan (1996-1998, 1999-2000), the First E-Government Plan and implementation of 11 e-government projects (2001–02), and the establishment of a nationwide broadband</td>
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network by 2000 under the Master Plan of Korea Information Infrastructure.\textsuperscript{404, 405} The legal framework that provided the foundation for comprehensive nationwide electronic transactions were established at the time, including the Informatization Promotion Act (1996), the Digital Signature Act (1999), E-Government Act (2001), Act On Promotion of Information and Communications Network Utilization and Information Protection, etc. (2001), the Framework Act on Electronic Documents and Transactions (2002), and the Basic Act on Electronic Commerce (1999). In 2001, the Special Committee for e-Government (SCeG) was formed to facilitate interagency coordination and oversee implementation of e-government projects.

From 2008-2012, the focus turned towards the integration of IT systems of government agencies, the linking of e-government services using cloud computing and hyper connected networks and expanded administrative information sharing. These initiatives were facilitated by the Framework Act on National Informatization (2009), and the Act on Shared Utilization of Public Administration Information (2010), as well as the National ICT Master Plan (2008).\textsuperscript{406}

The Ministry of Science, Information and Communications Technology and Future Planning (MSIT) is the lead agency for ICT development under the Information and Communications Technology Promotion Act.\textsuperscript{407} The Ministry of the Interior and Safety (MOIS) covers government innovation, administrative efficiency, e-government, personal information protection. The Ministry of Trade, Industry and Energy (MOTIE) oversees the promotion of economic and industrial development, which includes digital economy and Industry 4.0. The Financial Services Commission is responsible for financial policy and financial supervision, including the online financial sector.

**Digital Government Innovation Promotion Plan**


\textsuperscript{407} National Law Information Center. “Information and Communications Technology Promotion Act”, 2018. \url{http://www.law.go.kr/LSW/eng/engLsSc.do?menuId=2&section=lawNm&query=INFORMATION+AND+COMMUNICATIONS+TECHNOLOGY+INDUSTRY+PROMOTION+ACT&amp;x=33&amp;y=41#AJAX} [Accessed July 10, 2020]
The 2019 Joint-Ministry Digital Government Innovation Promotion Plan specifies priority tasks and projects for digital government. The key priority tasks include proactive and integrated service innovation; revitalisation of data in the public sector; advancement of platforms for citizen participation; smart work environments supporting on-site collaboration; growing cloud and digital service use; constructing open data and service ecosystems. ⁴⁰⁸

**2020 e-Government Masterplan**

The 2020 e-Government Masterplan was released by MOIS in 2016 with 5 strategies and key tasks, including government service redesign; intelligent information-based administrative innovation; creating a digital ecosystem; expansion of trust-based infrastructure; promoting e-government globally. ⁴⁰⁹

**MOTIE Strategies to Promote Electronic Trade**

MOTIE current policy approach to promote electronic trade includes 4 key promotion thrusts: establishing a customer-oriented batch service system; creating an open trade information utilization base; realization of paperless trade between countries, and development of support system for e-trade. ⁴¹⁰ In addition, MOTIE has initiated a working group to develop the Digital Growth Promotion Act to govern the application of industrial data to the entire process of industrial activities such as product development, production and distribution, expected to be passed in late 2020. ⁴¹¹

**Framework Act on Electronic Documents and Transactions (FEDT)**

The use of electronic documents is governed under the Framework Act on Electronic Documents and Transactions (FEDT).

Non-Discrimination

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⁴⁰⁸ Joint Ministries, Government of the Republic of Korea. “Digital Government Innovation Promotion Plan”, 2019. https://www.msit.go.kr/cms/www/policyCom/report/_icsFiles/afieldfile/2019/10/30/(%EC%B0%B8%EA%B3%A0)%EB%94%94%EC%A7%80%ED%84%B8%20%EC%A0%95%EB%B6%80%ED%98%81%EC%8B%A0%20%EC%B6%94%EC%A7%84%EA%B3%84%ED%9A%8D.pdf [Accessed July 10, 2020]


Article 4(1) states that no electronic document shall be denied legal effect as a document solely because it is in an electronic form, except as otherwise expressly provided for in other Acts.

Article 4(2) states that an electronic document showing the intent of guaranty which has been drawn up by the guarantor for the purpose of his/her business or project shall, notwithstanding the proviso to Article 428-2 (1) of the Civil Act, be deemed a document under the main sentence of the same paragraph. Article 4(3) lists the Acts in which recording, reporting, storage, keeping, preparation, etc. purposes can be performed by electronic documents.\footnote{National Law Information Center. “Framework Act on Electronic Documents and Transactions”, 2016. \url{http://www.law.go.kr/lsInfop.do?lsiSeq=179518&lsiId=002000&chrClsCd=010202&urlMode=engLsInfoR&viewCls=engLsInfoR#0000} [Accessed July 10, 2020]}

**Electronic Signature Act (ESA), (1999)**
The Electronic Signature Act (ESA) introduced in 1999 (often translated as Digital Signature Act as digital and electronic is interchangeably used in this context in Korea), sets forth the basic framework for the use of electronic signatures. ROK uses a tiered model for electronic signatures.

**Functional Equivalence**
Under the DSA, there are two types of electronic signatures, an “electronic signature” and a “certified electronic signature.” An “electronic signature” is a piece of information in electronic form; affixed on, or logically combined to, an electronic message; in order to identify the signer and verify that the electronic message has been signed by that signer.\footnote{National Law Information Center. “Digital Signature Act”, 2018. \url{http://law.go.kr/LSW/eng/engLsSc.do?menuId=2&section=lawNm&query=digital+signature+act&x=0&y=0#liBgcolor0} [Accessed July 10, 2020] A "certified electronic signature"\footnote{National Law Information Center. “Digital Signature Act”, 2018. \url{http://law.go.kr/LSW/eng/engLsSc.do?menuId=2&section=lawNm&query=digital+signature+act&x=0&y=0#liBgcolor0} [Accessed July 10, 2020] means an electronic signature that satisfies the following requirements and is grounded upon an authorized certificate:

- a) That the electronic signature creating key shall be only held by and known only to the subscriber;
- b) That the subscriber controls and manages the electronic signature creating key at the time of signing;
- c) That it can be ascertained whether there has been any alteration in the electronic signature concerned since it was affixed;
d) That it can be ascertained whether there has been any alteration in the electronic message since the electronic signature was affixed.

The legal effect of certified and uncertified electronic signatures is different under the ESA, although both are considered valid under Article 3.\textsuperscript{415} Where an electronic document is signed with a certified electronic signature, the law presumes that the signature is the “Signature or Seal” of the signatory of the document, and that there has been no alteration in the contents of the document since it was signed electronically. An electronic signature is only presumed to be the signatory’s Signature or Seal as agreed between the contracting parties.\textsuperscript{416}

**Technological Neutrality**

The ESA does not mandate the use of specific technologies, following the 2001 revisions to broaden the definition of certified electronic signatures to accommodate technologies other than PKI.\textsuperscript{417}

**Guidelines for Certification Authorities**

Article 4 of the ESA provides for the designation of licensed certification authorities, an entity that is deemed to be capable of performing authorized certification work in a secure and reliable manner, by the Minister of Science, ICT and Future Planning. Chapter III and IV of the ESA addresses the functional requirements of licensed certification authorities, including identification, authorization, and authentication of applicants. A licensed certification authority must prepare its rules of authorized certification work, including the types of certification work and the methods and procedures of performing certification work, and report them to the Minister before starting to perform certification (Article 6).\textsuperscript{418}


| Policies and regulations on paperless trade and single window systems including Customs, logistics and information and cybersecurity laws to regulate service providers | ROK has two National Single Window systems, the Uni-PASS developed and administered by Korea Customs Service (KCS), and the uTradeHub developed by the Ministry of Knowledge Economy (later MOTIE) and Korea International Trade Association (KITA), with KTNET as the operator. The KCS’s implementation of Uni-PASS’s Single Window was completed in three phases from 2003-2009.419

The National e-Trade Committee was set up in 2003 to establish the basic direction and comprehensive plan for e-trade promotion, coordinate the various ministries, and address the improvement of laws and systems related to e-trade. The structure of the National e-Trade Committee is a private-public joint committee, with the Prime Minister as Chair, Ministers from 10 Ministries, and private committee members such as Chairman of the Korea International Trade Association, Chairman of the Federation of Korean Industries, President of the Korean Chamber of Commerce, Chairman of the Small and Medium Business Administration, and President of KOTRA.420 As a first step, KCS officers and business consultants undertook business process reengineering and information strategic planning to understand other trade-related agencies’ business processes and reduce the risks of stakeholder conflicts.421 The BPR/ISP project facilitated the design of the national e-Trade platform. It released the “Three-Year Plan for National e-Trade Promotion” which led to the development and launch of the uTradeHub.422

Currently, Uni-PASS and uTradeHub are providing a paperless trade environment covering all trade procedures. However, there is no strong institutional arrangement for harmonization and coordination of these two national platforms. In the past, the National e-Trade Committee played the role of coordinator, but the Committee is no longer

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active. The absence of a national trade facilitation body may lead to the conflict between the two platforms as well as waste of budget and resources through duplication of activities. For the optimised use of trade data submission and reuse, a coordination mechanism is needed by both platforms.423

The plan aimed to develop an e-Trade Platform which gives single window service to traders by linking all trade processes including customs clearance, logistics, marketing and foreign exchange.424 It conceptualized the development of a single window in three phases: building core infrastructure (2005-2006), enhancing infrastructure (2006-2007), and upgrading user environment (2007).425 The plan led to the establishment of the Korea Public-Private e-Trade Facilitation Center under the Ministry of Knowledge Economy with six working groups to oversee the development of uTradeHub.426 The Korea Paperless Trade Office of the Korea International Trade Association (KITA) was responsible for private sector consultation, and consolidated opinions for setting up and implementing policies, and configuring practical cooperating mechanisms among trading firms, banks and shipping lines, so that paperless trade could be widely implemented in B2B sectors.427

**Northeast Asian Business Hub (2003)**
ROK’s roadmap to create a Northeast Asian business hub was issued in December 2003 under President Kim Dae-Jung basic policy direction. It aimed to harness the business opportunities of neighbouring countries, and to produce high value-added goods and services by bringing world-class multinational corporations, foreign capital, and technology, as

well as specialized professionals, into ROK, with openness as the underlying principle. The plan includes a logistics hub, a regional business hub of MNCs, and a regional financial centre. These incorporated the development of hard infrastructure in logistics, IT, and living environment; soft infrastructure of proactive liberalization policies, stable labour relations and advanced systems; human resource development; and an open and inclusive culture.428

Cybersecurity Policies
The National Cyber Security Centre (NSC) under the National Intelligence Service oversees national cybersecurity policy and operations.429 The main strategy documents covering cybersecurity are the 2019 National Cybersecurity Strategy, and the 2011 National Cyber Security Masterplan.

The 2019 National Cybersecurity Strategy aims to strengthen the security and resilience of core infrastructure, strengthen security capabilities to deter and respond to cyberthreats, establish governance based on trust and cooperation, build foundations for cybersecurity industry growth, foster a cybersecurity culture, and lead international cooperation in cybersecurity.430

The 2011 National Cyber Security Masterplan played a key role in organizing the cyber response system and establishing roles within and across government departments, including a National Cyber Threat Joint Response Team. The document includes 5 key action plans: establishing a joint response system of private, public, and military sectors; strengthening the security of critical infrastructure and enhancing secrets protection; detecting and blocking cyberattacks at the national level; establish deterrence through international cooperation; and building cyber security infrastructure.431

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The Personal Information Protection Commission (PIPC) is the agency established under the Personal Information Protection Act (PIPA) to develop personal data-related policies and coordinate government agencies on the processing of personal data.

**Electronic Trade Facilitation Act**

The replacement of the Trade Automation Act with the Electronic Trade Facilitation Act (ETFA) by the National Assembly in 2005 was a key legislative change that supported the development of paperless trading. It introduced the legal basis for the use of e-Trade documents, provided regulatory clarity to foster the growth of e-trade service providers, institutionalized the National e-Trade Committee, and required trade-related institutions to submit 10 kinds of documents to the e-Trade Document Repository.

The ETFA (Article 4) designates MOTIE as the agency responsible for developing and implementing measures to facilitate electronic trade, covering areas such as: the basic direction of trade facilitation measures; building and operating electronic trade infrastructure; creation of an electronic-trade friendly environment; international collaboration regarding electronic trade; collection, analysis and utilization of statistical data; settlement of disputes between parties; securement and allotment of funds to facilitate electronic trade, etc.

**Non-Discrimination**

Article 15 of the ETFA recognizes the validity of electronic trade documents, and electronic trade documents approved by a trade-related agency via electronic trade infrastructure shall be deemed to be documents processed according to the procedures set by trade-related Acts and subordinate statutes, etc.

**Functional Equivalence**

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Traders using electronic trade infrastructure are required to use standardized electronic documents developed by MOTIE under Article 12 of the ETFA.\(^{435}\)

**Customs Act**

The Customs Act provides for KCS oversight over the construction and operation of customs management and information network systems (i.e., Uni-PASS) and the submission of electronic declarations (Article 327), the designation and regulation of electronic business entities and document brokerages (Article 327-2, 327-3), and the security and standards for electronic declarations (Article 327-4, 327-5).\(^{436}\) The Customs Act provides for the Commissioner of the KCS to determine standards for electronic documents for electronic declarations for the efficient exchanges of the customs information among countries.\(^{437}\)

The Customs Act do not prescribe different requirements between paper and electronic submissions relating to specific trade declaration documents (e.g., export declarations). However, Article 254 provides for the Commissioner of the KCS to separately prescribe matters necessary for the customs clearance of goods traded through digital documents. Under Article 258 of the Enforcement Decree\(^ {438}\), these matters include:

a) Goods or companies subject to special customs clearance;

b) Methods of and procedures for filing export declarations;

c) Methods of paying customs duties, etc.;

d) Methods of inspecting goods;

e) Other matters deemed necessary by the Commissioner of the KCS.

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Act on the Promotion of Information and Communications Network Utilization and Information Protection, Etc. ("Network Act")
The Network Act provides the governing framework for information and communication service providers and protects the personal information of people using information and communications services. Under Article 45, it requires every provider of information and communication services to take prescribed protective measures to secure the information and communications networks. Business entities who operate clustered information and communications facilities are required to take protective measures as prescribed by Presidential Decree to operate the information and communications facilities stably (Article 46). It prohibits cybercrimes including unauthorized intrusions on information and communications networks; acts that mutilate, destroy, alter, or forge an information and communications system, data, program, or similar, or to convey or spread malicious programs; interfere with the stable operation of the information and communications network by sending a large amount of signals or data, letting the network process an illegitimate order, or doing the similar actions.439

Electronic Financial Transactions Act
The Electronic Financial Transactions Act provides the legal framework governing e-payment transactions and service providers, including the legal recognition of electronic documents (Article 5); the rights and duties of parties (Chapter II) including rules governing electronic payment transactions (Chapter 2, Section 2) and the liability of electronic financial business entities (Article 9); the safety of transactions and protection of users (Chapter III); the permission, registration, and functions of electronic financial business (Chapter IV); supervision (Chapter V) and penalties (Chapter VII).

Personal Information Protection Act (PIPA)
PIPA is the framework for personal data protection in the public and private sector in ROK. Chapter V includes the guarantees of the rights of data subjects, and Chapter VI of the PIPA covers the responsibilities of information and communication service providers on the collection, protection, and use of personal data.

| Policies and regulations on cross-border trade systems | **UNCITRAL Model Laws**  
ROK has signed and ratified the UNCITRAL Model Law on Electronic Commerce (MLEC) and the United Nations Convention on the Use of Electronic Communications in International Contracts (ECC). The ESA and FEDT are based on these laws.  

**Mutual Recognition of Electronic Signatures**  
ROK is party to several bilateral agreements with e-commerce chapters that endeavour to promote paperless trade, and to work towards the mutual recognition and/or interoperability of electronic signatures but has not signed agreements that realize the mutual recognition of electronic signatures or electronic trade administration documents. Some of the FTAs with articles on electronic signatures include: ROK-US FTA (Article 15.4), ROK-China FTA (Article 13.4), ROK-Australia FTA (Article 15.5), and the ROK-Viet Nam FTA (Article 10.3).  

The ESA (Article 27-2) provides for the government to enter into an agreement with a foreign government on the reciprocal recognition of electronic signatures. Article 40 of the FEDT states that the FEDT shall also apply to foreigners and foreign corporations, provided that the foreign state provides protection corresponding to the FEDT to citizens or corporations of the ROK.  

**Pan-Asian E-Commerce Alliance**  
NSW service provider uTradeHub is party to the Pan-Asian E-commerce Alliance (PAA), a regional private sector alliance of government-backed paperless trade service providers. The PAA framework is a series of private contracts among paperless trade service providers, subscribers to the service, and certification authorities, to exchange and establish the mutual recognition of electronic trade documents across borders. However, as a contract between private parties across borders, it is generally not supported by domestic legislation that recognizes electronic documents across borders.  

**ROK-China EODES** |

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The China-Korea FTA states that both parties endeavour to develop an Electronic Origin Data Exchange System (EODES) under Article 3.27. The EODES began operation on July 2016. EODES is a system for sharing information on the issuance of origin certificates between customs authorities. The electronic certificate of origin (e-C/O) is transmitted to the customs of the importing country, and the customs of the importing country can use this to compare and verify the accuracy of the declaration of origin certificate at the time of FTA import examination. The EODES system relies on the Customs Authorities of the respective countries to verify and guarantee the information accuracy of the e-C/O.

**ROK-Indonesia EODES**
From March 2020, the EODES with Indonesia for the exchange of e-C/O has been implemented. The ROK government is looking to grow the EODES partners in Southeast Asia and India as part of its New Southern Policy.

**e-C/O exchange with Taiwan Province of China**
ROK and Taiwan Province of China have a cross-border e-C/O PPP arrangement between the governments of both economies and the respective single window operators, KTNET and Trade-Van. It allows for the cross-border submission and approval of e-C/O utilizing the single window systems of both countries. The digital signature signed by the single window operator on behalf of the exporter uses the PKI mutual recognition framework of Pan Asian e-Commerce Alliance (PAA).

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ePhyto Hub
ROK is a participant in the ePhyto Hub, a centralized system to facilitate exchange of electronic phytosanitary certificates (ePhytos) between National Plant Protection Organizations with a set of prescribed rules of connection and defined structure/codes/terms for the electronic data message.\[446\]

International Standards in Electronic Messaging
The NSW uTradeHub is based on international standards, including UN/CEFACT Core Component Technical Specification (2003), UN/CEFACT Modeling Methodology (2002), XML Naming & Design Rules (2004).\[447\] The UniPASS system uses electronic document forms based on WCO Data Model 3.0 and UN/CEFACT international standards.\[448\]

APEC Cross-Border Privacy Rules
ROK is party to the APEC Cross-Border Privacy Rules (CBPR) and APEC Privacy Recognition for Processors System (PRP) that certifies data controllers and data processors respectively, that adopt data privacy policies consistent with the APEC Privacy Framework (2015).\[449\] The CBPR/PRP aims to bridge differing national privacy laws within the APEC region, reducing barriers to the flow of information for global trade, and is consistent with the core values of the OECD’s Guidelines on the Protection of Privacy and Trans-Border Flows of Personal Data (OECD Guidelines).\[450\] Businesses are subject to assessment and approval by the Info-communications Media Development Authority. Singapore recognises the APEC CBPR/PRP certifications for overseas transfers of personal data under the PDPA.

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which allows businesses to easily transfer personal data to the overseas certified recipient without meeting additional requirements.\textsuperscript{451}

**Common Criteria Recognition Agreement (CCRA)**

ROK is an Authorizing nation in the Common Criteria Recognition Agreement (CCRA) which allows for mutual recognition of Common Criteria certificates across 17 authorizing nations, and recognition by an additional 14 consuming nations. Common Criteria (CC), also known as ISO/IEC 15408, is a technical standard applied to the evaluation and certification of cybersecurity products.\textsuperscript{452}

<table>
<thead>
<tr>
<th>Other considerations on legal and regulatory issues</th>
<th><strong>State Liability</strong></th>
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<tbody>
<tr>
<td>Article 29 of the Constitution of the ROK provides for the right to claim just compensation from the State or public organization under the conditions as prescribed by law, in the event that a person has sustained damages by an unlawful act committed by a public official in the course of official duties.\textsuperscript{453} The Administrative Litigation Act provides the general legal framework for dispute resolution concerning administrative agencies.\textsuperscript{454} Chapter V of the Customs Act provides for rights of duty payers and procedures for filing objections. Under Article 110, the KCS shall formulate and publish a charter of duty payer rights concerning the protection of the rights of duty payers.\textsuperscript{455} Liabilities regarding paperless trade are not addressed in the ETFA or Foreign Trade Act.</td>
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**Liability of Single Window Operators/Paperless Trade Service Providers**


NSW operators are contractually liable to their subscribers. The liability of the KCS as the administrator of Uni-PASS is addressed contractually in the T&Cs for the Uni-PASS portal, including duties, liabilities, and disclaimers by KCS.\textsuperscript{456} uTradeHub’s Electronic Trade Infrastructure Service T&Cs includes KTNET’s obligations, liabilities for compensation, disclaimers and conditions for suspension of service.\textsuperscript{457}

**Liability of Data Intermediaries**

Intermediary liability is provided for under the Network Act, the PIPA, the Telecommunications Business Act, and the FEDT.

The Network Act covers the liabilities of internet and communications service providers and data intermediaries regarding personal data.\textsuperscript{458} Article 32 provides for users to claim compensation against the provider of information and communication services for damages; and Article 32-3, requires providers of information and communications services to take measures to fulfil liability obligations, such as taking out insurance. Chapter V includes responsibilities of information and communication service providers for content that passes through the networks. Under PIPA Article 39, information and communication service providers are liable for compensation for damages suffered by reason of violation of the Act and are required to take necessary measures such as purchasing insurance or accumulating reserves to fulfil its liabilities for compensation.\textsuperscript{459}


The Telecommunications Business Act governs telecommunications business operators and include liability provisions. Article 33 states that telecommunications business operators shall compensate users for losses, excepting force majeure events or if the user causes the loss on purpose or by negligence.\textsuperscript{460} FEDT’s Chapter V-II, Section 2 covers the certification and regulation of certified electronic document intermediaries. Under Article 31-13, they are required to protect personal information of users in relation to the storage and distribution of electronic documents, as prescribed by related statutes.

**Dispute Settlement (Choice of Law)**

The FEDT, DSA and ETFA are silent on the choice of law and forum in paperless trade. The Civil Procedure Act, Conflict of Laws Act and the Private International Law Act govern the choice of forum and choice of laws. Jurisdiction of courts are covered under Chapter 1, Section 1 of the Civil Procedure Act.\textsuperscript{461} The choice of law in claims are covered under Chapter 5 of the Private International Law Act.\textsuperscript{462} The Conflict of Laws Act provides the rules that determine the proper law in the event of conflict of laws.\textsuperscript{463}

The courts in ROK respect the choice of a foreign governing law in a contract, and the parties generally have the freedom to choose the laws governing a contract under the Act on Private International Law (Article 25). However, if the dispute involves any mandatory laws of South Korea, those laws will prevail.\textsuperscript{464}\textsuperscript{465}


**Dispute Settlement (Arbitration)**

Arbitration is possible under the Arbitration Act. The Korean Commercial Arbitration Board (KCAB) is the sole arbitral institution in Korea that is statutorily authorized to settle disputes. The KCAB International is an independent division of KCAB that specializes in cross-border commercial dispute resolution.\footnote{467} The FEDT, Chapter VI establishes a mediation committee to resolve disputes on electronic documents and electronic transactions.\footnote{468}

Arbitral awards are enforceable under Article 37 and Article 38 of the Arbitration Act. Foreign arbitral awards are enforceable the Arbitration Act, and ROK has ratified the Convention on the Recognition and Enforcement of Foreign Arbitral Awards (the New York Convention)\footnote{469} and the ICSID Convention.\footnote{470}


### Ownership and IP Protection of Data on the Cross-Border Paperless Trade System

The ownership and copyright protection of databases is covered under the Copyright Law, which allocates the copyright to the NSW operators. The Copyright Law protects databases for qualifying persons/entities under Article 91. Under Article 93, the database producer (who makes a considerable investment for production of a database, or renewal, verification, or supplement of its subject matters) shall retain the rights to the reproduction, distribution, broadcasting or interactive transmission of all or a material part of the database.\(^\text{471}\)

### Promotion of e-Payments

The key legislation for government promotion of financial sector development was the 2008 Act on the Creation and Development of Financial Hubs.\(^\text{472}\) The law established the Financial Hubs Establishment Committee and designated two districts in Busan and Seoul as financial centres. In addition, it required the Financial Services Commission to formulate and implement a basic plan for the creation and development of a financial hub every three years. The Fourth Basic Plan\(^\text{473}\) (2017-2019) and Fifth Basic Plan\(^\text{474}\) (upcoming 2020) cover financial innovation and the development of a fintech ecosystem including data, infrastructure, and standards.

The Bank of Korea oversaw the key developments in the electronic banking system. The Automatic Response Service (ARS) in 2001 launched the electronic banking system, and provides interbank funds settlement from telebanking, internet, and mobile banking on the following business day. The B2C e-Commerce payment system was launched in 2000, while the B2B e-Commerce payment system was launched in March 2002.\(^\text{475}\)

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**Competition Policy**

The Korea Fair Trade Commission is the lead agency on competition policy in ROK. Competition law is governed by the Monopoly Regulation and Fair Trade Act. It is applicable to KTNET and other paperless service trade providers, but KCS as a government agency does not fall under the scope of the Act.  

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**Singapore**

<table>
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<tr>
<th>Type of best practice</th>
<th>Details</th>
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<tr>
<td>Policies and regulations on governmental institutional</td>
<td>Pre-1991 National IT Policies</td>
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<tr>
<td>infrastructure, ICT and e-government, and laws supporting</td>
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<tr>
<td>paperless trade</td>
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<tr>
<td></td>
<td>In 1980, a high-level ministerial Committee on National Computerization (CNC) was chartered to explore how Singapore could benefit from developments in IT. The CNC made four recommendations, on IT manpower development, software industry development, and civil service computerization. This led to the <strong>Civil Service Computerization Programme (CSCP)</strong> and the establishment of the National Computer Board, the lead implementing agency for IT policies. The CSCP’s aim was to computerise government ministries to improve productivity and service quality, and to develop a pool of computer professionals in Singapore.</td>
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<tr>
<td></td>
<td>The <strong>National IT Plan</strong> of 1986-1991, developed by the National IT Plan Working Committee, was driven by new developments in technology that gave rise to new economic opportunities, and the need to integrate the fragmented IT</td>
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arrangements with different agencies tackling separate segments. The plan focused on the local IT industry, IT applications to improve business productivity, and telecommunications infrastructure. The seven key areas defined under the plan were: upgrading the telecommunications infrastructure, developing IT manpower, promoting an IT culture, building IT applications, fostering a local IT industry, engendering IT creativity and innovation, and encouraging coordination and collaboration in the implementation of the plan.

In the public sector, the plan aimed to create one-stop services through cross-agency linkages. The enhanced inter-agency communications resulted in the creation of three Data Hubs - Land, People and Establishment. An increasing number of public services were developed in the direction of the 'One-Stop, Non-Stop' strategy. Singapore's use of IT in automating and integrating traditional manual processes resulted in applications such as School Links, Integrated Land Use System (ILUS), One Stop Change of Address Reporting Services (OSCARS) and networks such as Tradenet, LawNet and MediNet.


The centrepiece of the IT2000 report released in 1992 was the National Information Infrastructure (NII), a broadband wireless network to interconnect every home, office, school, and factory. Singapore ONE (One Network for Everyone) was developed to provide an integrated network for everyone in the country.

The plan a few major thrusts: intensified development of IT manpower; improved quality of life through ICT; improved personal and community communications; using ICT to contribute to the competitiveness of every sector of

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the economy; using the NII to establish competitive advantage for Singapore. The latter aim was to be achieved through the provision of superior business infrastructure through the utilization of the latest ICT technology, and the positioning of Singapore as a regional hub by plugging into international business and ICT networks.

The plan reconstituted the CNC as the National Information Technology Committee (NITC), the high-level steering committee that established policy coordination across government bodies and provided policy guidance in addressing issues arising from implementation. Organizational changes also occurred in the NCB, with a new division formed comprising two departments: the planning and infrastructure department, and the IT application and promotion department.

Like the previous two IT planning efforts, IT2000 was concerned with increasing the overall competitiveness of businesses and leveraging human capital. However, IT2000 differs from the previous two IT plans in a number of ways, for example, it involved a greater focus on the private sector use of ICT, and correspondingly the planning effort involved a much larger number of business leaders from the private sector than previous plans; planning was carried out on a sectoral basis, in recognition of diverse needs and maturation of the IT sector, with 11 sectors being identified for sector-specific approaches to ICT development; and a greater focus on a needs-based or demand-pull approach.


The key dynamic is the accelerated liberalization of the telecommunications sector to facilitate internationalization and market competition, and the corporatization of NCB functions that lend themselves to private sector adoption through public-private partnerships and strategic alliances.\(^{489}\) This shift in emphasis means that the NCB will no longer be the sole source of expertise for developing IT policy, and reflects the accumulated size and maturity of Singapore’s contemporary IT industry. As a result, the NCB’s promotional efforts for IT in Singapore will increasingly be focused on specific industry clusters.\(^{490}\)

The NII Technical Committee was formed to drive the National Information Infrastructure Standardisation effort, to drive standardisation in the areas of security, electronic commerce, networking, information sources and exchange, and electronic mail and directory to provide the necessary foundation for the development of applications and interoperation between applications and services.\(^{491,492}\)

The EC Policy Committee was formed in 1997 to create an environment of trust, predictability, and certainty in the Singapore system so that companies can feel safe and secure in conducting their online business. A major specific policy recommendation by the EC Policy Committee was the enactment of the Electronic Transactions Act (ETA). The ETA came into force in July 1998. It provides a legal foundation for electronic transactions and gives predictability and certainty to the electronic formation of contracts. The Computer Misuse Act has also been amended to give greater protection to critical computer systems. Copyright laws are being updated to protect multimedia works, and a Privacy Code to safeguard consumer data is being drafted for industry self-regulation.\(^{493}\)

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Another key development was a new policy approach towards fostering local technopreneurship and capability development, in addition to the traditional focus on attracting MNC technology investments. These included NTB objectives of promoting science and technology to students, professionals, and the public; developing a conducive environment for small business; promoting finance and investment; developing manpower for R&D and technopreneurship; establishing international operations and strengthening tech infrastructure. ⁴⁹⁴


The government launched the Electronic Commerce Plan in 1998 to drive the pervasive use of electronic commerce in Singapore, and to strengthen Singapore’s position as an international e-commerce hub. The target is to have S$4 billion worth of products and services transacted electronically through Singapore, and 50 per cent of businesses to use some form of e-commerce by the year 2003. The plan has five main thrusts: develop an internationally linked e-

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commerce infrastructure; jump-start Singapore as an e-commerce hub; encourage businesses to use e-commerce strategically; promote usage of e-commerce by the public and businesses; harmonise cross-border e-commerce laws and policies.  


eGAP I’s purpose was to make Singapore a leading e-Government in an increasingly digital world economy. eGAP I was centred on five strategic thrusts:  

- Re-inventing government in the digital economy
- Delivering integrated electronic services
- Being proactive and responsive
- Using ICT to build new capabilities and capacities
- Innovating with ICT

Six programmes were identified to drive the strategic thrusts:  

- Knowledge-based workplace
- Electronic services delivery (integration of eCitizen front and back-end services; tighter business process integration between agencies, suppliers, and partners)
- Technology experimentation
- Operational efficiency improvement
- Adaptive and robust infocomm infrastructure
- Infocomm education

**Connected Singapore (2003-2006)**

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The Connected Singapore continued to build on the themes of the Infocomm 21 plan to utilize ICT as an enabler for growth and improved quality of life, and to establish Singapore as a “Digital Living Lab” for innovative products and services. It contains four key thrusts:

- **InfoComm for Connectivity, Creativity and Collaboration**
  - Maintaining world-class network readiness
  - Extending broadband network to the wireless 3G realm, combining connectivity with mobility

- **Digital Exchange**
  - Become a leading global digital distribution and trading center
  - Develop end-to-end infrastructure to integrates the processes of digital production, management, localization, archival, distribution
  - Secure provisioning of digital content, efficient treasury functions for copyright management and strong project management skills for systems integration

- **Engine of Growth**
  - Five specific clusters identified for high growth potential: Value-added mobile services; Infrastructure for wireless/wired networks; Multimedia processing and management; Web services & Portals; Security and Trust Infrastructure
  - Seed new activities, develop innovation capabilities, catalyse technology development, and assist companies’ expansion in overseas markets

- **Agent for Change**
  - Implement next phase of e-Government of accessible, integrated services
  - Combine ICT with cluster-level business process re-engineering with focus on 4 sectors: logistics, manufacturing, retail and healthcare

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502 Infocomm 21 was a five-year plan launched by then Infocomm Development Authority of Singapore in 2000.

eGAP II set out to achieve a networked government that is able to deliver accessible, integrated and value-added e-services. The full scope of eGAP II’s Strategic Thrusts are:

- Delighted Customers (Increasing awareness of e-services and convenient access for all/Improving the e-service experience)
- Connected Citizens (Engaging citizens through active consultation and virtual communities)
- Networked Government (Transcending organization boundaries)

### iN2015 (2006-2015)

The Infocomm Development Masterplan was a 10-year plan for infocomm released in 2006 with 4 key strategic thrusts: to transform key economic sectors, government and society through intelligent and innovative use of infocomm; to establish an ultra-high speed, pervasive, intelligent and trusted infocomm infrastructure; to develop a globally competitive infocomm industry, and to develop an infocomm-savvy workforce that is globally competitive. It includes action plans under several themes:

- **Infocomm Infrastructure, Services and Technology Development**
  - Next-Generation National Broadband Network (Next Gen NBN) by 2012
  - Wireless Broadband Network
  - IPv6 Internet Protocol Standardization
  - National Trust Framework

- **Infocomm Manpower Development**

- **Enterprise Development For Singapore-Based Infocomm Companies**

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• **Sectoral Development Plans (10 sectors)**
  o E.g., Manufacturing & Logistics Sector
    ▪ Adaptive Supply Chain
    ▪ TradeXchange (integration of national trade information systems)
    ▪ Infocomm@Airport/Seaport

iGov 2010’s primary goal was to achieve a more integrated government through the use of infocomm technology. To achieve this goal, backend processes were integrated across agencies, allowing them to provide a more customer-friendly service delivery. Efforts were made to develop insights into the needs and preferences of the customers, and to anticipate their needs in order to enhance e-Services. The reach of e-services was also extended, with steps taken to provide citizens lacking in access to the Internet with the facilities to do so.

The focus of eGov 2015 shifted the delivery of Government e-services from a top-down “Government-to-You” system to a “Government-with-You” approach. This approach encouraged greater co-creation and interaction between the Government, citizens, and private sector to create better solutions for the country and its people.

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**SmartNation (2014-Present)**
The government currently promotes digital government services and the digital ecosystem through the whole-of-government SmartNation Initiative, launched in 2014. Projects under the initiative cover areas in e-government, a national e-ID (National Digital Identity)\(^{512}\), cashless e-payments, a nationwide sensor platform (IOT), a government open data initiative, and sector-specific projects in transport, health, urban infrastructure, etc.\(^{513}\)

**Digital Government Blueprint**
The Digital Government Blueprint, released in June 2018, provides the framework for the government to build digital public services, and lists 6 key strategies, including a user-centric approach; strengthening integration between policy, operations and technology; building common digital and data platforms; operating reliable, resilient and secure systems; raising digital capabilities to pursue innovation; co-creating with citizens and business, and facilitating technology adoption.\(^{514}\)

**Digital Economy Framework for Action**
IMDA’s Digital Economy Framework for Action, the latest masterplan released in 2018, provides the key priority areas for the digitization initiatives, including digitizing industries, integrating ecosystems, and industrializing digital; and four key enablers: talent development; research and innovation; policy, regulation, and standards; and robust physical and digital infrastructure.\(^{515}\)

**CorpPass**
CorpPass is the one-stop digital identity used by corporate entities to make online transactions with government entities. It is managed by the Government Technology Agency (GovTech), the agency that develops and operates

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digital government services. From September 2018, CorpPass is the exclusive login method for business to transact with digital government services. By replacing other login methods, CorpPass ensures better cyber hygiene and security for businesses, in support of SmartNation objectives of creating secure and reliable digital services.

In line with the plans to develop the digital economy and to establish a digital e-commerce hub, the government rolled out the below-mentioned regulations to provide legal clarity and certainty to facilitate the growth of digital businesses and the use of digital technologies, and align them with international standards and reference laws to facilitate connectivity with trading partners and attract foreign direct investment (FDI) in digital services.

Electronic Transactions Act (ETA)
The Electronic Transactions Act (ETA) (2010) is the omnibus law that governs electronic transactions in Singapore. The ETA regulations are applicable to all electronic communications, with the exception of the following: negotiable instruments, documents of title, bills of exchange, promissory notes, consignment notes, bills of lading, warehouse receipts or any transferable document or instrument that entitles the bearer or beneficiary to claim the delivery of goods or the payment of a sum of money; wills; immovable property; indenture, declaration of trust or power of attorney, with the exception of implied, constructive and resulting trusts. The government has undergone public consultations to review these exclusions.

Non-Discrimination

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Under Article 6 of the ETA, information shall not be denied legal effect, validity, or enforceability solely on the ground that it is in the form of an electronic record. An electronic record satisfies requirement for being “written” if the information contained therein is accessible so as to be usable for subsequent reference (Article 7).  

Functional Equivalence

Singapore contract law is based on English common law, and the creation of a contract is founded on basic common law principles such as intention to create legal relations, offer and acceptance, capacity to contract and consideration. Article 11-16 of the ETA covers the non-discrimination of electronic forms of communication with regards to the establishment of contract.

Singapore adopts a tiered model for electronic signatures. Under the Electronic Transactions Act, both electronic signatures and secure electronic signatures are enforceable and admissible. However, in proceedings involving a secure electronic signature, the signature will have the same presumption of enforceability as a “wet signature.” If the electronic signature is not secure, this presumption will not apply.

The requirement for a signature (Article 8) is satisfied in relation to an electronic record if:

a) A method is used to identify the person and to indicate that person’s intention in respect of the information contained in the electronic record; and

b) The method used is either:
   (i) as reliable as appropriate for the purpose for which the electronic record was generated or communicated, in the light of all the circumstances, including any relevant agreement; or
   (ii) proven in fact to have fulfilled the functions described in paragraph (a), by itself or together with further evidence.

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A “secure electronic signature” can be verified, through the application of a specified security procedure, or a commercially reasonable security procedure agreed to by the parties involved, at the time that it was made that it is:

a) Unique to the person using it;
b) Capable of identifying such person;
c) Created in a manner or using a means under the sole control of the person using it; and
d) Linked to the electronic record to which it relates in a manner such that if the record was changed the electronic signature would be invalidated.

**Technological Neutrality**

The ETA does not limit the definition of “secure electronic signatures” to digital signatures, but it provides greater legal clarity for the users of digital signatures under conditions provided in the ETA Third Schedule, Paragraph 3. Certification Authorities are governed under the Electronic Transactions (Certification Authority) Regulations (Cap 88, Rg 1, 2010). 526

**Guidelines for Certification Authorities**

The ETA addresses the functional requirements that secure electronic records and secure electronic signatures must meet under Article 17 and Article 18. 527 The use of digital signatures as secure electronic signatures are covered in the Third Schedule of ETA. The Third Schedule additionally sets out the duties of Certification Authorities, and the conditions (including identification, authorization, and authentication) which must be met before a certification authority is allowed to issue a certificate to a prospective subscriber (Article 14). 528 The Electronic Transactions Act, 2010. 528

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(Certification Authority) Regulations sets out requirements that accredited certification authorities must meet in the certificate practice statement.\textsuperscript{529}

| Policies and regulations on paperless trade and single window systems including Customs, logistics and information and cybersecurity laws to regulate service providers | The Singapore Government has operated the National Single Window (NSW) since TradeNet was established in 1989. It provides a single platform and point of entry for the submission on a single declaration to multiple regulatory agencies to fulfil all import, export and transhipment related regulatory requirements.\textsuperscript{530} The Networked Trade Platform, launched in 2019, is an online platform and information management system that connects the trade and logistics ecosystem, both in Singapore and abroad, incorporates the NSW and a range of trade-related services including insurance and trade financing services, to provide a foundation for Singapore to be a leading trade, supply chain and trade financing hub.\textsuperscript{531} The lead agency in the development of the Networked Trade Platform (the latest iteration of Singapore’s Single Window) is Singapore Customs. The National Trade and Logistics Inter-Agency Steering Committee was formed to develop the platform and comprised of all the relevant government agencies. The committee conducted workshops and discussions with more than 400 individuals and 200 organizations across multiple industries to hear their pain points and business needs.\textsuperscript{532} Working groups comprising public agency and companies were formed to lend their expertise and understanding of business challenges to the NTP.\textsuperscript{533}

**Cybersecurity Policies**

Singapore’s Cybersecurity Strategy announced in October 2016, highlights four pillars of Singapore’s approach to cybersecurity. These include strengthening the resilience of Critical Information Infrastructure; mobilizing business  


and the community to make the cyberspace safer; developing a vibrant cybersecurity ecosystem comprising a skilled workforce, technologically-advanced companies and strong research collaborations; and forging strong international partnerships to combat cyberthreats.\textsuperscript{534}

Singapore established the Personal Data Protection Commission (PDPC) in January 2013 as the lead agency overseeing the promotion and enforcement of personal data protection and the Personal Data Protection Act (PDPA), to foster an environment of trust among business and consumers.\textsuperscript{535}

**Regulation of Imports and Exports Act (RIEA)**

Electronic import/export documents (bid, certificate, declaration, direction, list, manifest, notice, permit, receipt, return), in addition to being covered under the ETA, are governed under the RIEA. The subsidiary Regulation of Imports and Exports Regulations (RIER) provides the Customs Director-General with powers to determine the form and manner of application of permits, manifests and COOs.\textsuperscript{536} The Minister (in charge of customs) may make regulations prescribing the bids, certificates, declarations, directions, lists, manifests, notices, permits, receipts, returns, statements or any other document which may be transmitted electronically through the customs computer service.\textsuperscript{537}

**Non-Discrimination**

The RIEA provides electronic import/export documents with legal admissibility (Article 8) as well as general non-discrimination with written documents (Article 2(3)).\textsuperscript{538}

**Customs Act**


The Customs Act (Article 86) provides for the establishment and operation of an electronic customs service and provisions for trade documents to be made, served or submitted by electronic transmission; as well as to authorize the relevant Minister to make the necessary implementing regulations for electronic customs. The RIEA and RIER for the regulation of trade provides for the form and manner of trade document submission and record-keeping, and the powers of the relevant agencies to introduce implementing regulations.

**Payment Services Act**

The Payment Services Act provides the regulatory framework for the operators, settlement institutions and participants of payment systems, and licensing for payment service providers to promote security, efficiency, and growth in e-payment use. Some aspects covered by the regulation include interoperability and the imposition of an access regime and common standards; addressing loss of funds from insolvency through liability, guarantee and trust account and segregation; and technology risks.

**Cybersecurity Act**

The Cybersecurity Act mandates information security standards for critical infrastructure. Under the Cybersecurity Act, one of the functions of the Commissioner of Cybersecurity is to establish cybersecurity codes of practice and standards of performance for implementation by owners of critical information infrastructure, and to license and establish standards in relation to cybersecurity service providers.

**Computer Misuse Act**

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The Computer Misuse Act\textsuperscript{543} provides for the criminal offense of activities relating to unauthorised access to computer material (Article 3), unauthorised modification of computer material (Article 5), unauthorised use or interception of computer service (Article 6), unauthorised disclosure of access code (Article 8), etc.

**Personal Data Protection Act**

The Personal Data Protection Act (PDPA) governs the personal data protection regime in Singapore and covers the collection, use and disclosure of personal data in Singapore to maintain individuals’ trust in organizations that manage data. It is takes into account the principles of consent, purpose and reasonableness.\textsuperscript{544} The PDPA governs overseas data transfer, and no organization shall transfer any personal data outside of Singapore except in accordance with the PDPA or exempted by the Singapore Privacy Commission upon application (Article 26).\textsuperscript{545}

<table>
<thead>
<tr>
<th>Policies and regulations on cross-border trade systems</th>
<th><strong>UNCTRALL Model Laws</strong></th>
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<tbody>
<tr>
<td>Singapore has signed and ratified the UNCITRAL Model Law on Electronic Commerce (MLEC) and the United Nations Convention on the Use of Electronic Communications in International Contracts (ECC). The ETA, as well as Articles in the Customs Act and RIER pertaining to electronic messages are based on these laws.</td>
<td></td>
</tr>
<tr>
<td><strong>Mutual Recognition of Electronic Signatures</strong></td>
<td></td>
</tr>
<tr>
<td>Singapore is party to several bilateral and regional agreements that promote the use of cross-border electronic signatures and paperless trade. The only agreement Singapore has signed that realizes the mutual recognition of electronic signatures or electronic trade administration documents is the ASEAN Protocol on the Legal Framework to Implement the ASEAN Single Window.</td>
<td></td>
</tr>
<tr>
<td>Most (but not all) of the agreements adopt a variant of the common template on electronic signatures which states that:</td>
<td></td>
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</table>


The Parties shall not deny the legal validity of a signature solely on the basis that the signature is in electronic form.

The Parties shall encourage the use of interoperable electronic authentication and digital certificates.

The Parties shall work towards the mutual recognition of digital certificates and electronic signatures.

Each Party shall maintain or adopt, as soon as practicable, measures for electronic authentication that:

(i) Allow cross-border private contracting parties to mutually determine the appropriate authentication methods for that transaction

(ii) Permit participants in electronic transactions to have the opportunity to prove that their electronic transactions comply with the Party’s domestic laws and regulations.\(^546\)

Some of the FTAs with articles on electronic signatures include: ASEAN-Australia-New Zealand FTA (AANZFTA) (Ch. 10, Art. 5), Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP) (Article 14.6), EU-Singapore FTA (Article 8.60), and the Turkey-Singapore FTA (Article 9.6).\(^547\)

**Digital Economy Partnership Agreement (DEPA)**

The Digital Economy Partnership Agreement was the first “digital only” agreement concluded between Singapore, Chile, and New Zealand. The agreement was signed in June 2020 and include a total of 13 modules that serve to facilitate digital trade, enable trusted cross-border data flow, and provide opportunities for participation in the digital economy by individuals and businesses. Several key DEPA modules that promote cross-border paperless trade include the following.

Module 2: Business and trade facilitation

Articles and obligations under this module follow closely to the WTO Trade Facilitation Agreement where “each Party shall establish or maintain a single window that enables persons to submit documentation or data

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requirements for importation, exportation, or transit of goods through a single entry point to the participating authorities or agencies.” Each Party also agree to accept “electronic versions of trade administration documents as the legal equivalent of paper documents” unless in certain circumstances specified.548 (Article 2.2: Paperless Trading)

Parties also agree to “maintain a legal framework for electronic transactions that are consistent with the principles of (a) the UNCITRAL Model Law on Electronic Commerce (1996); or (b) the United Nations Convention on the Use of Electronic Communications in International Contracts, done at New York, November 23, 2005”. “Each Party shall endeavour to adopt UNCITRAL Model Law on Electronic Transferable Records (2017)” (Article 2.3: Domestic Electronic Transactions Framework).

Article 2.5 on electronic invoicing serves to promote and encourage the use of e-invoicing by businesses and ensure interoperability in the systems used by each Party.

Article 2.7 on electronic payments “support the development of efficient, safe and secure cross border electronic payments by fostering the adoption and use of internationally accepted standards, promoting interoperability and the interlinking of payment infrastructures, and encouraging useful innovation and competition in the payments ecosystem.” 549

Module 4: Data Issues
Article 4.2 on personal information protection ensures that each party shall adopt or maintain a legal framework to protect the personal information of individuals and users of electronic commerce and digital trade. Development of

legal framework for the protection of personal information shall take into account principles and guidelines of relevant international bodies.  

Each Party agree to “allow the cross-border transfer of information by electronic means, including personal information, when this activity is for the conduct of the business of a covered person” (Article 4.3: Cross-Border Transfer of Information by Electronic Means).

Module 7: Digital Identities
Article 7.1 on digital identities helps to foster technical interoperability or common standards between each Party’s implementation of digital identities and provide legal recognition and protection of digital identities through each Party’s respective legal framework or by mutual agreement.

Module 12: Joint Committee and Contact Points
The Parties agree to establish a joint committee made up of government representatives from each Party to consider issues related to DEPA and its implementation and any proposal to amend the agreement. The cooperation activities for the implementation of DEPA may include information exchanges, dialogues, or meetings between policy officials in regulatory agencies or responsible agencies; formal cooperation, such as mutual recognition, equivalence or harmonisation; and other activities. Each Party shall also designate an overall contact point for communication between the Parties on any matter covered by the agreement.

Under DEPA’s joint collaboration initiatives, Singapore and New Zealand are jointly involved in the International Connectivity System (ICS) which will allow the exchange of e-certificates for animal products such as meat and meat products between both countries.\(^5\)

**Singapore-Australia Digital Economy Agreement (SADEA)**

The Singapore-Australia Digital Economy Agreement (SADEA) is Singapore’s second digital agreement signed on 6 August 2020. The SADEA amends the Singapore-Australia Free Trade Agreement to replace Chapter 14 (Electronic Commerce) and Chapter 9 (Financial Services).

**Article 8. Domestic Electronic Transactions Framework**


**Article 9. Electronic Authentication and Electronic Signatures**

A Party shall not deny the legal validity of an electronic signature solely on the basis that the signature is in electronic form. Parties agree to not adopt measures for electronic authentication that would: (a) prohibit parties to an electronic transaction from mutually determining the appropriate authentication methods for that transaction; or (b) prevent parties to an electronic transaction from having the opportunity to establish before judicial or administrative authorities that their transaction complies with any legal requirements with respect to authentication.

**Article 10. Electronic Invoicing**

Each Party shall ensure that the implementation of measures related to electronic invoicing in its territory supports cross-border interoperability between the Parties’ electronic invoicing frameworks; each Party shall base its measures

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relating to electronic invoicing on international frameworks, such as PEPPOL (Pan-European Public Procurement OnLine).

Article 11. Electronic Payments
This Article serves to foster the adoption and use of internationally accepted standards for electronic payments and promote interoperability and interlinking of different payment infrastructures. Each Party agree to adopt international standards for electronic payment messaging, such as the International Organization for Standardization Standard ISO 20022 Universal Financial Industry Message Scheme, for electronic data exchange between financial institutions and services suppliers.

Article 12. Paperless Trading
Each Party agree to accept completed electronic versions of its trade administration documents as the legal equivalent of paper documents except in certain circumstances. Each Party shall endeavour to establish or maintain a single window enabling traders to submit trade administration documents and data requirements for importation, exportation, or transit of goods through a single entry point. The Parties shall endeavour to develop data exchange systems for the exchange of trade administration documents.

Article 17. Personal Information Protection
Each Party agree to adopt or maintain a legal framework that provides for the protection of the personal information of persons engaging in electronic transactions taking into account principles and guidelines of relevant international bodies, such as the APEC Cross-Border Privacy Rules System and the OECD Guidelines Governing the Protection of Privacy and Trans-border Flows of Personal Data.

ASEAN Single Window
The ASEAN Single Window is a regional initiative that connects and integrates the National Single Windows of ASEAN member states to enable the electronic exchange of border trade-related documents. The Agreement to establish the ASEAN Single Window was signed in 2005, and the implementing Protocol on the Legal Framework to Implement the ASEAN Single Window (PLF) provides for the mutual legal recognition of electronic documents, data, and information. Under Article 15, authenticated electronic documents produced in connection with transactions
under the ASEAN Single Window PLF may be admissible of any fact stated therein, provided that the Member State adopts procedures for the authentication of the electronic document, data, and information.\textsuperscript{556}

Only the electronic certificate of origin (ATIGA-Form D) is currently exchanged across all member states, but additional documents including ASEAN Customs Declaration Document (ACDD) and electronic Phytosanitary Certificate (e-Phyto) Certificate are under pilot testing and are expected to be implemented in the second half of 2020 among ready member states.\textsuperscript{557} The MoU on the implementation of the ASEAN Single Window Pilot Project includes Article XI that governs the registration and authentication of private sector users, and allows each government to ascertain the level of recognition to be accorded to a Certification Authority (CA), in consideration of a set of factors.\textsuperscript{558}

\textbf{TradeTrust}

Singapore’s Infocomm Media Development Authority (IMDA) is developing an interoperability framework, TradeTrust, for the secure exchange of electronic data for cross-border trade. TradeTrust consists of a set of governance and legal frameworks, standards, and a future-ready digital infrastructure, and aims to provide participants with the proof of authenticity and provenance for these electronic documents, to facilitate the interoperability of electronic trade document exchanges.\textsuperscript{559} Key components include:

a) Cross-border legal harmonization based on UNCITRAL Model Law on Electronic Transferable Records (ETR);

b) Accreditation Structure

c) Standards Development

d) Distributed Ledger Technology (DLT) Infrastructure


Pan-Asian E-Commerce Alliance
Singapore’s NSW service provider CrimsonLogic is party to the Pan-Asian E-commerce Alliance (PAA), a regional private sector alliance of government-backed paperless trade service providers. The PAA framework is a series of private contracts among paperless trade service providers, subscribers to the service, and certification authorities, to exchange and establish the mutual recognition of electronic trade documents across borders. However, as a contract between private parties across borders, it is generally not supported by domestic legislation that recognizes electronic documents across borders.  

Singapore-China EODES
Singapore and China established the Electronic Origin Data Exchange System (EODES) in November 2019 under the upgrade to the Singapore-China FTA. The EODES enables the electronic exchange of e-Preferential Certificate of Origin (PCO) / e-Certificate of Non-Manipulation. Traders in Singapore can send the e-documents directly to the General Administration of Customs of China through the NTP portal. The EODES system relies on the Customs Authorities of the respective countries to verify and guarantee the information accuracy of the e-C/O.

International Standards in Electronic Messaging
The messaging specifications of the NTP is developed in accordance to international standards. TradeNet adopts WCO Data Model v3.0, and TradeNet v4.0 message specification is developed in compliance with the UN/EDIFACT version D.05B message specifications and its recommendations e.g., UN/LOCODE. TradeNet Ver 4.0 Extensible

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Markup Language (XML) Message Specification is developed adopting the OASIS Universal Business Language Technical Committee (UBL TC) recommendation and in compliance with the UN/CEFACT ebXML Core Component Technical Specifications (CCTS).\textsuperscript{564}

**APEC Cross-Border Privacy Rules**

Singapore is party to the APEC Cross-Border Privacy Rules (CBPR) and APEC Privacy Recognition for Processors System (PRP) that certifies data controllers and data processors respectively, that adopt data privacy policies consistent with the APEC Privacy Framework (2015).\textsuperscript{565} The CBPR/PRP aims to bridge differing national privacy laws within the APEC region, reducing barriers to the flow of information for global trade, and is consistent with the core values of the OECD’s Guidelines on the Protection of Privacy and Trans-Border Flows of Personal Data (OECD Guidelines).\textsuperscript{566} Businesses are subject to assessment and approval by the Info-communications Media Development Authority. Singapore recognises the APEC CBPR/PRP certifications for overseas transfers of personal data under the PDPA, which allows businesses to easily transfer personal data to the overseas certified recipient without meeting additional requirements.\textsuperscript{567}

**Common Criteria Recognition Agreement (CCRA)**

The Cybersecurity Agency of Singapore (CSA) launched a certification scheme known as the Singapore Common Criteria Scheme (SCCS). The SCCS provides a cost-effective regime for the info-communications industry to evaluate and certify their IT products and is based on the international standard ISO/IEC 15408, or Common Criteria (CC). The CC is adopted by members of the Common Criteria Recognition Arrangement (CCRA) in order to facilitate mutual recognition of evaluation and certification results.\textsuperscript{568} Singapore is an Authorizing nation in the


<table>
<thead>
<tr>
<th>Common Criteria Recognition Agreement which allows for mutual recognition of Common Criteria certificates across 17 authorizing nations, and recognition by an additional 14 consuming nations.</th>
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<tbody>
<tr>
<td><strong>Other considerations on legal and regulatory issues</strong></td>
</tr>
</tbody>
</table>
| **State Liability**  
The State Immunity Act covers the immunities and exceptions of the State to the Court’s jurisdiction. The State accepts liability in commercial transactions and contracts entered into by the State or performed in Singapore.\(^{569}\) Liability in paperless trade is addressed in contractual rather than statutory terms. The General Terms and Conditions (T&C) for the use of the Single Window Portal TradeNet states that the Government of Singapore shall have no liability to the subscriber or any other third-party for any claim of whatsoever nature and howsoever arising as a result of, or related to, or connected any access to, or use of the services.\(^{570}\)  
**Liability of Single Window Operators/Paperless Trade Service Providers**  
Liability is addressed in service contracts. The TradeNet Administrator, CrimsonLogic, may be liable with respect to their services. The broad limitations on its liability is provided in the General T&C of the service contract.\(^{571}\) Service providers are liable, and in addition to the TradeNet General T&Cs mentioned above, may impose their own terms and conditions and charges for the access and use of its services.\(^{572}\)  
**Liability of Data Intermediaries** |

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The Electronic Transactions Act (Part IV) clarifies and protects the liability of network service providers from content to which they are merely the host. The Telecommunications Act further clarifies the liability of public telecommunication licensees. The Info-Communication sector is regulated as an essential “Critical Information Infrastructure” (CII) sector under the Cybersecurity Act, and is therefore subject to a mandatory heightened cybersecurity regime under Part III of the Act.

**Dispute Settlement (Choice of Law)**
The ETA is silent on the choice of law and forum in paperless trade. For laws of general application, Singapore follows the Common Law in choice of law methodology. The common choice of law rule is based on the proper law of the contract, determined in three stages. Dispute settlement regarding the choice of court considers substantive questions based on the choice of court agreement, and procedural questions governed by the law of the forum (lex fori). Choice of court agreements are treated as contractual agreements. Singapore is party to the 2005 Hague Convention on Choice of Court Agreements and enacted the Choice of Court Agreements Act 2016 to ratify the convention.

**Dispute Settlement (Arbitration)**
Domestic arbitration is governed by the Arbitration Act (AA), while the International Arbitration Act (IAA) covers international arbitration agreements. Domestic, international, and foreign arbitral awards are enforceable under the

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AA and IAA. Singapore has ratified the New York Convention under the IAA (Part III), and the International Convention for the Settlement of Investment Disputes between States and Nationals of Other States (ICSID Convention) in Arbitration (International Investment Disputes) Rules Section 4. From May 2003, foreign awards made in countries or territories which are not signatories to the New York Convention, may also be enforced in Singapore in the same manner as a judgment or order to the same effect, with the leave of the High Court.

Ownership and IP Protection of Data on the Cross-Border Paperless Trade System

The TradeNet T&Cs do not specify the ownership of data in the cross-border paperless trade system, but it authorises CrimsonLogic to deal with any data or information submitted by or to the subscriber, in any manner, as CrimsonLogic deems necessary to carry out the services.

The IP protection of databases is covered under the Copyright Act. Databases created by an identified human author (or employee within the scope of employment) may be protected in Singapore by copyright, on condition that the database is “original”, i.e., whether there is sufficient amount of skill, labour and judgment involved in the creative process. However, as legislation protects only the expression of ideas and not the facts or data, it may be

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582 TradeNet. “CrimsonLogic General Terms and Conditions (ASP Services)”.


possible for someone to extract data from a work and yet not infringe copyright as long as the work is not reproduced in the same arrangement or presented in the same form.\textsuperscript{585}

\textbf{Promotion of e-Payments}

The promotion of e-payments is one of the priorities in the SmartNation initiative.\textsuperscript{586} The lead agency for the financial industry and e-payments, is the Monetary Authority of Singapore (MAS), which has unveiled a Singapore Payments Roadmap, as well as various schemes, platforms and initiatives to promote the growth of e-payments in Singapore.\textsuperscript{587} The Singapore Payments Roadmap, jointly developed by MAS and KPMG and involving extensive surveys of stakeholders, identifies key recommendations to strengthen the e-payments ecosystem, covering the regulatory frameworks, governance models, innovation support, developing interoperable solutions, simplifying acceptance and improving user experience, adopting central addressing schemes for interbank payments.\textsuperscript{588} Some of the main initiatives to advance e-payments include a standardized Singapore Quick Response Code (SGQR), and PayNow, an online funds transfer scheme involving major banks, linked to the personal mobile number and national ID system.

\textbf{Technological Neutrality}

The NSW accepts electronic payments, with interbank GIROs as the default payment method.\textsuperscript{589} The Government accepts payments by Interbank GIRO, debit cards (NETS), credit cards, cashcards, and cash.\textsuperscript{590} Electronic payments are not restricted to a specific method or provider.

\textbf{Competition Policy}

The Competition and Consumer Commission of Singapore is the lead agency that develops and enforces competition policy in Singapore, which is governed by the Competition Act. The Competition Act excludes coverage of activities conducted by government or statutory bodies (Section 33(4)), but includes activities conducted by state-owned


Therefore the NTP, which is a platform owned by Customs Singapore, does not fall within the scope of the Act, but TradeNet as the main e-service provider within the NTP platform which is administered by the privately-incorporated, state-owned company CrimsonLogic, is subject to the Competition Act. The Competition and Consumer Commission encourages government agencies to carefully assess the competition impact of their policies or initiatives on the affected markets as part of their policy formulation process.

### Thailand

<table>
<thead>
<tr>
<th>Type of best practice</th>
<th>Details</th>
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<tbody>
<tr>
<td>Policies and regulations on governmental institutional infrastructure, ICT and e-government, and laws supporting paperless trade</td>
<td>The achievements in paperless trade in Thailand was an amalgamation of government policies and legislations since the 1990s. The Thai government has developed many digital government initiatives including ICT frameworks, digital transformation plans and ICT master plans to create a digitally enabling environment in many areas.</td>
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**Thailand Information and Communication Technology (ICT) Policy Framework (2001-2010)**

The Thailand Information and Communication Technology (ICT) Policy Framework (2001-2010) or otherwise known as “IT 2010” was the second policy framework on information technology. The framework document builds on the foundation established on information infrastructure by Thailand’s first information technology policy known as “IT 2000”. IT 2010 was formulated to target particular sectors of importance and to enable both social and economic development. It contains development strategies for five strategic areas – e-Government, e-Commerce, e-

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Industry, e-Education, and e-Society. The development strategies for e-Government and e-Commerce helped to promote the use of IT by government agencies and create an enabling legal framework that is foundational for paperless trade.

In e-Government, the key development strategies were to establish an IT master plan for the public sector and to issue regulations or cabinet resolutions for the establishment of a central organization to map out a plan for the development and promotion of IT applications in the public sector.\(^{596}\) As e-government was developed through different individual agencies in the 1990s causing incompatibility issues,\(^ {597}\) having a central organization to lead and set the mission and goals of the relevant organizations supporting IT development in the public sector will help to integrate the different platforms and systems across government agencies.

IT 2010 also expedited the enactment of the Electronic Transaction Act and related laws under the e-Commerce development strategies.\(^ {598}\) Accelerating the drafting of data protection laws and developing guidelines for electronic payments and implementing security measures in the public sector database are strategies outlined to enhance confidence in the use of electronic transactions.

**National ICT Master Plan (2002-2006)**

The National Electronics and Computer Technology Center (NECTEC) was responsible for the drafting of the first ICT Master Plan which identifies the visions, missions, objectives, strategies, plans, targets and timeframe for the first 5 years of IT 2010.\(^ {599}\) The National ICT Master Plan (2001-2006) was approved by the Cabinet in September 2002.\(^ {600}\)

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The Ministry of Information and Communications Technology (MICT) which was established in October 2002 was responsible to drive most of the activities in the Master Plan.601

This Master Plan adopts seven strategies: elevate the Thai ICT industry to become a regional leader; utilize ICT to enhance the quality of Thai society; reform and enhance ICT research and development (R&D); develop human capital; enhance entrepreneurship; promote the use of ICT in small and medium enterprises (SMEs); and utilize ICT in public administration and services.602

Timelines were attached to the activities in the action plan. Activities that contributed to a paperless system include the following:

- Accelerating the drafting of ICT-related laws such as the National Information Infrastructure Law, the Data Protection Law, the Computer Crime Law, and the Electronic Funds Transfer Law was provided with two years (end 2002 to end 2004) to be established.603
- Expedite the legal process of the National Information Infrastructure Law for it to take legal effect by the end of 2003.604
- Setting up a Ministry overseeing ICT planning and development by end of 2002.605
- Allocating the budget for ICT development according to the ICT Master Plan from end 2003 to 2007.606

• Setting up the Government Data Exchange (GDX) to facilitate the exchange of information across ministries via government Intranet from end 2003 to 2006.\textsuperscript{607}

IT 2010 that set out a 10 year strategy and the ICT Master Plan which creates an action plan with timelines for the responsible agencies and monitoring of the activities to be undertaken by the newly established MICT helped to effectuate the government ICT agenda.

The Ministry of Information and Communications Technology (MICT) was then formed in 2002 with the authority to plan, promote, develop, and operate activities relating to information and communication technology.\textsuperscript{608} Several reforms were made at an organizational level where the Thai government attempted to create and reorganize lead agencies for e-government. The Royal Decree on the establishment of the Electronic Government Agency was promulgated in 2011 where the Electronic Government Agency (EGA) was set up to handle initiatives in the development of government IT applications and electronic government communication.\textsuperscript{609} The EGA was under the supervision of the MICT. The Ministry of Digital Economy and Society later replaced MICT in 2016. The Royal Decree on the establishment of the Digital Government Development Agency (Public Organization) was promulgated in 2018 and the EGA was renamed the Digital Government Development Agency (DGA) and supervision of the agency was transferred to the Prime Minister, the Office of Prime Minister. The various organizational changes that occurred including the setting up of the MICT and EGA contributed to an enhanced organizational structure for e-government and ICT relative to having fragmented initiatives carried out by various government agencies without coordinated planning through a central organization.

The underlying mechanism for the successful implementation of the ICT Master Plan could be attributed to a system of monitoring and evaluation that was introduced in the Master Plan where individual ICT committee established for each ministry and department will oversee the implementation with the committee having to report progress every six


\textsuperscript{608} Ministry of Digital Economy and Society. “Get to know the Ministry of Digital.” \url{https://www.mdes.go.th/about} [Accessed June 29, 2020]

months to the agency responsible for policy and planning in the MICT. The Master Plan also provided for a mechanism to link the operational plan with the budget as well as human resources plans where the MICT, the budget bureau, and the Office of Civil Service Commission cooperated closely to develop guidelines to assess the operational plans and ensure effective implementation by monitoring the ICT master plan indices e.g. number of government agencies fully utilizing ICT in their administration and the government services that are linked to other agencies.

ICT policies that were formulated in the later years include:

- The National Broadband Policy (2009)
- The Information and Communication Technology Policy Framework (2011-2020)
- The Universal Service Obligation (USO) Master Plan for Provision of Basic Telecommunication Services (2012-14)

**Thailand’s 3 year Digital Government Development plan (2016-2018)**

It was identified that there are five challenges faced by the public sector in implementing ICT and digital projects. The vision of government agencies do not align, there was lack of interoperability in the systems developed, inadequate budget allocation, insufficient human resources with IT expertise, and laws to support the current electronic operations have not been adequately tapped on. These deficiencies resulted in the introduction of a Digital Government Masterplan to provide a clear policy direction for development across all government agencies.

The Masterplan covers 18 digital capabilities where digital capabilities in trade and developing the trade Single Window falls into the third priority under a readiness assessment and capability gap analysis. By 2011, Thailand’s

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611 The Office of Civil Service Commission is a statutory board responsible to advice the Cabinet on policies and strategies regarding human resource management in the public sector and to prescribe rules and guidelines for administration of human resource management in government agencies.


Single Window has already been established and fully operational and hence, less priority was given to enhance the Single Window where there is little gap for improvement. In the timeframe of 2016-2018, the year 2018 was the allocated timeline for the Thai Customs to enhance the digital capabilities of the Single Window. The top priority then was to develop a central data sharing platform, building a technological service infrastructure and data centre to support interoperability of data and provide for added security.614

Various international agreements helped to shape Thailand’s IT development landscape. Some of those include Information Technology Agreement (ITA), telecommunications liberalization, and the e-Commerce Free Trade Zone under the World Trade Organization (WTO) and e-ASEAN Framework Agreement under ASEAN.

Thailand has a legal system based primarily on the civil law. Statutes enacted by the National Assembly takes the form of an “Act” which will have to be approved by the King and countersigned by the Prime Minister. There are various subordinate legislations, and this include the Royal decree enacted by the King and countersigned by the Prime Minister, Ministerial regulations issued by the Ministry and countersigned by the Minister in charge; and Rules and regulations issued by the Ministry.615 Notifications and announcements by the ministries and government agencies that prescribe rules, procedures, practices, and standards are also included in the Government Gazette. The legal system in Thailand ensures that laws and regulations are published in the Government Gazette and can be referred to.616 With the large number of statutes published, these laws, ministerial regulations and announcements are also made available on the websites of the relevant ministries and agencies for ease of access by the public. For example, the Electronic Transaction Act, Computer Crime Act and the royal decrees and announcements are available on the webpage of the Electronic Transaction Development Agency.617 Laws and specific provisions that have been repealed or updated will be indicated in the new versions of the laws.


617 The laws related to electronic transactions can be accessed at: [https://www.etda.or.th/laws-sharing.html](https://www.etda.or.th/laws-sharing.html)
Thailand's Electronic Transaction that was enacted in 2001 recognised the legitimacy of electronic documents and signatures and this facilitated electronic transactions conducted by businesses and governments. Chapter 5 of the Act mandated the establishment of an Electronic Transmission Commission with the authority and duty to monitor and supervise the operation of service business relating to electronic transactions and make recommendation on rules and laws relevant to the Electronic Transaction Act. The Act provides for the following:

Legal recognition of electronic data message (non-discrimination)
Section 7 provides that “Information shall not be denied legal effect and enforceability solely on the ground that it is in the form of a data message”. Data message as evidence can be used in legal proceedings but the reliability of the data will be judged by the circumstances and manner in which the data was stored, generated or communicated.

Functional equivalence
The Act allows for writing to be produced in the form of a data message provided that it is “accessible and usable for subsequent reference without its meaning being altered,” providing for functional equivalence to written paper documents.

Technological neutrality
The Act does not specify or favour any particular technology to be used for electronic communications to be given legal effect.

Legal recognition of electronic signatures
Section 9 states that electronic signatures can be enforced in writing provided that “(1) the method used is capable of identifying the signatory and indicating that the signatory has approved the information contained in such data message as being his own; and (2) such method is a reliable one and appropriate for the purpose for which the data

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message is generated or sent, having regard to the surrounding circumstances or an agreement between the parties.”

Section 26 specifies the requirements of a reliable digital signature.

Guidelines for certification service
Section 28 of the Act provides the obligations for certification service providers to ensure greater security and protection of the electronic certificate generated to take legal effect.

Non-discrimination of electronic signature/certificate
Section 31 states that electronic signatures or certificates regardless of the geographic location which the electronic signature or certificate is issued will have the same legal effect as an electronic signature issued domestically provided that the level of reliability is not lower that what was prescribed in the Act.

Establishing right to operate business services for electronic transaction
The Act allows setting up of accrediting agencies and service providers to issue electronic certificates and signatures although such businesses may require licensing or approval from the relevant Ministry or agency. Version 3 of the Act in 2019, provides an amendment such that all businesses providing services related to electronic transactions must be registered.

Establishing a national body for electronic transactions
Chapter 5 of the Act mandates that a national body to govern and supervise the implementation of policies related to electronic transactions will be set up. The body will be made up of the Minister of Information and Communication Technology and 12 other qualified persons. The Act led to the establishment of the Electronic Transaction

Commission on September 23, 2003, to oversee policy formulation for electronic transaction and supervision of businesses servicing electronic transactions.\textsuperscript{624}

The Electronic Transaction Commission provided recommendations for policies that provide the legal foundation for the development of electronic transactions, and this led to the issuance of the Royal Decree on Regulatory Practices in e-Government Implementation, the Royal Decree on Electronic Fund Transfer and The Royal Decree and Supplementary Regulation on Services Related to Electronic Certification and the Computer Crime Act.\textsuperscript{625}

The Electronic Transaction Act was later amended in 2008. The amendments and paragraphs added include:\textsuperscript{626}

- a more detailed description on the methods to determine the reliability of a data message
- a new paragraph on printout of a data message that provides equivalence to the original message if the printout is complete and certified by a competent agency
- in Section 11, it was further added that “whether in a civil action, a criminal action or any other action, on the sole ground that it is a data message,” data message in evidence shall not be denied in legal proceedings
- Section 12/1 was added such that documents that have been transformed subsequently to a data message still qualify as retention of document required by the law. (This could indicate that businesses can keep paper documents such as invoices and certificates of origin in electronic form as records required by Customs.)

The Royal Decree Prescribing Civil and Commercial Business Transactions Exempted from the Electronic Transactions Law (2006) stated that electronic transactions shall not be applied in family related transactions and transactions related to inheritance.\textsuperscript{627}


There are no special rules for specific types of electronic trade documents. Thai Customs law require record keeping for at least five years and based on the Electronic Transaction Act, electronic record keeping is allowed if it fulfills the retention requirement.

Policies and regulations on paperless trade and single window systems including Customs, logistics and information and cybersecurity laws to regulate service providers

The Thai Customs was appointed the lead agency by the Cabinet in 2005 to implement the National Single Window Project (NSW) to provide a one stop service and reduce the number of workflow steps between government agencies and businesses and to transform paper-based documents into automated electronic forms. The Thai Customs was provided with strong support by relevant agencies in trade and logistics such as the National Logistics Development Committee and Sub-Committee on Integrated Information linkage for Import, Export and Logistics and this was in accordance to the ASEAN Agreement to establish and implement the ASEAN Single Window.  

The Government of Thailand established the National Logistics Committee chaired by the Prime Minister in March 2007 to pursue its national agenda to be a world class logistics hub in the Thailand Logistics Development Masterplan. The Committee comprises representation from ministries and from the private sector trade and transport associations.

Initiatives related to development of a National Single Window are included in the Logistics Development Strategy crafted by the National Economics and Social Development Board (NESDB). The first Logistics Development Strategy was drafted by the NESDB and approved by the Cabinet in February 2007.

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The first Thailand’s Logistics Development Strategy (2007 – 2011) had the objectives to enhance trade facilitation and add value to the logistics and supporting industry. The key strategy in trade facilitation is to develop e-Logistics and Single Window Entry into a central system to reduce processing time and move towards paperless trade.\(^6\)

The Logistics Development Strategy also targeted expediting the enactment of relevant Decrees under the Electronic Transaction Act, B.E 2544 including the Royal Decree on exemptions to the implementation of the law governing electronic transactions, the Royal Decree on safety procedures in conducting electronic transactions, the Royal Decree on service businesses involved in electronic transactions and the Royal Decree on electronic transactions by the public sector.\(^7\)

Apart from meeting its national agenda in logistics, Thailand will also need to fulfil its obligations in the Agreement to Establish and Implement the ASEAN Single Window signed by ASEAN members in 2005. As indicated in the agreement, Thailand will need to have an operationalised National Single Window by 2008. Thus, Thailand enacted legislations on information security and data confidentiality and on data sharing and use by the public and government agencies. This offered greater security and protection for users to carry out transactions via a Single Window or any online platform of government agencies. The previous EDI system of the Thai Customs was fully migrated to electronic customs service in 2008 and this was the early phase of the electronic single window system in Thailand.


Guidelines for security and use by public agencies

State agencies must establish guidelines on access and use of information, provide information system and backup systems and prepare emergency plans in case electronic transaction cannot be made.\(^8\) Regular monitoring and

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evaluation of security risks in the information should also be made. Government agencies must also have personal data protection guidelines for collection, storage and use of information that may directly or indirectly identify a person.634

The Decree implemented will enhance the efficiency of government agencies in providing services electronically. By having state agencies establish their standard procedures and guidelines in handling electronic information, it promotes greater public confidence in how information is handled by the government and encourage more usage of electronic transactions contributing to a paperless system.

**Computer-related Crime Act B.E. 2550 (2007), amended 2017**

**Prevent cybercrimes**

The enactment of the Computer-related Crime Act prescribes greater confidence in using and sending data in electronic form as the Act criminalises offender that illegally access a computer system, uses falsified data, misuse and abuse information and hence causing harm to others.635 Service providers who cooperates, consents or supports the perpetration of the offences in a computer system under his control will also be held liable. The amended Act in 2017, however allows service providers to prove compliance to rules issued by Ministers where they shall be exempted from penalty.636

The Royal Decree prescribing criteria and procedures for Electronic Transactions of the Government Sector and the and the Commission of Computer-Related Offences Act offered greater security and protection for users to carry out transactions via a Single Window or any online platform of government agencies.

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As part of the e-Government strategy of Thailand, the e-Government Interoperability Framework (TH e-GIF) was developed to facilitate the integration and exchange of electronic information among government agencies using information systems created on different platforms.637

**Thailand e-Government Interoperability Framework (TH e-GIF) Version 1.0**

**Technical standards (international standards)**

The framework established policy guidelines for operational capacity and technical standards that enabled information exchange and communication between government departments automatically. The framework consists of a list of standards to connect data systems, standards for data exchange, standards for data storage and presentation, and standards and technology for web services etc.

E.g., The structure of data in electronic documents that is used for data exchange follows the XML schema in accordance with United Nations/CEFAT XML naming and design rules.638

E.g., Core component data specifications are aligned with ISO/DTA 15000-5 for data modelling.

**Security standards**

The chapter on security of Thailand’s e-GIF cover technology and standards that support the exchange of information that is secure. The list of 26 standards covers encryption, public key infrastructure, public key and private key for encryption and decryption and digital signature standards.639 The list include IPSec, HTTPS, SSH, TLSv1 and XMLSignature.

The various e-government strategy and logistics strategy along with the legislative measures and relevant Decrees enacted under the Electronic Transaction Act contributed to the legal environment for development of a Single Window and a paperless trading system in Thailand in 2008.

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Customs Act B.E. 2560 (2017)

Legal recognition of electronic data used in Customs-related procedures

Section 11 of the Customs Act provided legal recognition of electronic data used in customs-related proceedings. The use of the electronic data will follow the law on electronic transaction. This amended provision in 2014 provides greater clarity that electronic data governed under the Electronic Transaction Law is also applied in Customs.

The Notification of the Thai Customs Department No.230/2015 was published to guide users on electronic customs clearance. It replaces Customs Notification No.103/2010, dated December 20, 2010, on Electronic Customs (e-Customs) Procedures for the Exchange of Permits and Certification among the Pilot Agencies as Thailand head toward full integration across all government agencies.

Notification of the Thai Customs Department No.230/2015 on Electronic Customs Clearance Procedure for the Purpose of Data Linkage in Accordance with other Customs-Related Laws

Transparency

When electronic data for permit/certification from computer systems of other government agencies has been connected to the computer system of the Thai Customs, the Thai Customs Department will publish the list of goods requiring electronic permit/certification (known as Permission Goods) via the official website of the Thai Customs Department (www.customs.go.th). The Notification contains a series of steps that users have to take when making an electronic customs declaration and listed what each error response message means and how users can take the next steps to resolve the problem.

Progress on Thailand’s NSW was updated in November 2018 and last updated March 2020 on the website of Thailand National Single Window by the Thai Customs Department where 32 agencies have linked their data with the Thai Customs Department.

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| Policies and regulations on cross-border trade systems | Section 31 of Thailand’s Electronic Transaction Act accorded legal recognition of electronic signature regardless of the location where the electronic signature is created. However, the domestic laws did not mention cross-border legal recognition of electronic documents and it may be assumed that the legal validity of electronic documents could be dependent on the electronic signature attached. The mutual legal recognition of electronic messages is often provided in bilateral or multilateral agreements that Thailand has with other countries.

Thailand has amended its legislations based on the UNCITRAL Model Law on Electronic Commerce (1996) and certain provisions based on the United Nations Convention on the Use of Electronic Communications in International Contracts (2005) although Thailand is not a signatory of the UN Convention on the Use of Electronic Communications in International Contracts. E.g., The Electronic Transaction Act allows any action that is legally required to be in writing to be executed in the form of information generated, sent, received, stored, or processed by electronic means.

Thailand accepted the WTO Trade Facilitation Agreement in October 2015 and was a contracting party to the Revised Kyoto Convention (2006) in June 2015.

Thailand as a member of ASEAN signed the Association of Southeast Asian Nations Single Window Agreement (2005), the Protocol To Establish and Implement ASEAN Single Window (2006) and the Legal Protocol (2015) provided for mutual legal recognition of data message used in the ASEAN Single Window. The agreements however subject the legal validity of data and information to correspond to that of national laws and regulations of ASEAN member countries and encouraged members to make bilateral or regional arrangements for the exchange of data.

The Japan-Thailand Economic Partnership Agreement in force since November 2007 contained a chapter on paperless trade. Both countries “shall cooperate with a view to realising and promoting paperless trading between them”. Parties are also committed to realise paperless trading by agreeing to “review as soon as possible, and in any

\[\text{NSW system for use in paperless customs clearance. The list of certification authorities for digital certificates was also made available on the webpage of Thailand’s NSW.}^{643}\]

\[\text{Policies and regulations on cross-border trade systems}^{643}\]

\[\text{The list of certification authorities for electronic certificates can be accessed at:} \ http://www.thainsw.net/INSW/index.jsp?nswLang=E^{643}\]

case, not later than 2 years after the date of entry into force of this Agreement, how to realise paperless trading in which electronic trade-related information and electronic versions of relevant documents exchanged between enterprises of the Parties through the facilities may be used as supporting documents by the trade regulatory bodies of the respective Parties”. Both countries also agree to establish a sub-committee on paperless trading.

Other agreements that Thailand had that supports paperless trade include Thailand-Australia FTA and New Zealand-Thailand CEP.

Article 1107 of the electronic commerce chapter of Thailand-Australia FTA contains a paperless trading provision that confers mutual legal recognition of electronic trade documents where “each Party shall accept the electronic format of trade administration documents as the legal equivalent of paper documents except where: there is a domestic or international legal requirement to the contrary; or doing so would reduce the effectiveness of the trade administration process”. Article 1103 also commits parties to maintain “domestic legal frameworks governing electronic transactions based on the UNCITRAL Model Law on Electronic Commerce 1996”.

In the NZ-Thailand CEP, the chapter on customs procedure and cooperation includes Article 3.12 on paperless trading and use of automates systems. “The customs administrations of both Parties, in implementing initiatives that provide for the use of paperless trading, shall take into account the methods agreed in APEC and the World Customs Organization” and “the customs administrations of the Parties shall, as soon as practicable, adopt electronic procedures for all reporting requirements, consistent with the provisions of Chapter 10 of this Agreement”.

Article 10.6 of the electronic commerce chapter include provides for legal recognition of electronic format of trade

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documents as equivalent to that of paper documents unless “there is a domestic or international legal requirement to the contrary; doing so would reduce the effectiveness of the trade administration process”. 648

<table>
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<th><strong>Other considerations on legal and regulatory issues</strong></th>
<th><strong>Legal liability</strong></th>
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<tr>
<td>The Computer-related Crime Act in place prescribes legal liability to service providers who cooperates, consents, or supports the perpetration of the offences in a computer system under his control. The ETA includes a chapter on penalties stating that “any person operating the service business relating to electronic transactions without notifying or applying for registration with the competent official” shall be liable to imprisonment or fine, or both.</td>
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It was not specified whether state departments will need to take legal liability for any security breach or damaged caused to users of their system. The Royal Decree on Safe Procedures for Electronic Transactions 2010 provided guidelines that any department or organization shall take and may publish a list of agencies that have established polices and guidelines according to this Decree but there was not mention of liabilities for failing to do so. 649 There was also a list of government departments and public organizations published that shall follow strict safety procedures but there was again no mention of liabilities for not adhering to the security guidelines. 650

**Protection of Intellectual Property**

Under the Trade Secrets Act (2002), disclosure or use of trade secrets without consent of the owner is a violation of the Act. Such actions also include fraud, theft, or espionage by electronic means. Section 7 stipulates the exceptions where (1) disclosure of trade secrets by a person who acquired the trade secrets through legal means without knowledge that the trade secrets is acquired by another party and (2) disclosure of trade secrets by a government agency in cases where it is necessary for protection of public health or safety or other public benefits. 651 Article 15 of the Act allows owners of the trade secrets to notify government agencies to maintain the trade secrets from disclosure


650 Office of the Electronic Transactions Commission. “Announcement of the Electronic Transactions Commission, Subject: List of departments or organizations or departments of agencies or organizations considered as an important infrastructure of the country, which must strictly accord with the safety procedures,” 2016. [https://www.etcommission.go.th/law.html](https://www.etcommission.go.th/law.html) [Accessed July 14, 2020]

and use but the owner is required to file a notification to the government agencies. Juristic persons who discloses trade secrets known to him in execution of work and responsibilities are liable to the penalties of imprisonment or fine or both. 652 However, the law does not include the legal liability of state departments, but it may be understood that the person directly involved in the disclosure of trade secrets shall bear the liability.

The Department of Intellectual Property is the agency tasked to develop laws for the protection of intellectual property. Thailand also has a Patent Act, Copyright Act (amended 2018), Trademark Act and Geographical Indications Protection Act that protects intellectual property. 653

**Dispute settlement**

Dispute for Thailand’s transactions often has to be addressed locally through mediation and arbitration. Out-of-court arbitration in Thailand is covered by the Arbitration Act B.E.2545 (2002) where parties can select an odd number of arbitrators and the language used for the proceedings. 654

The Thai Arbitration Institute (TAI) in the Alternative Dispute Resolution Office is the main out-of-court arbitration service provider in Thailand for both local and international disputes. 655

**Competition law**

The Trade Competition Act (TCA) in Thailand enacted in 1999 and revised in 2017 helped to regulate anti-competitive actions by businesses. Section 4 exempted central, provincial, or local administrations, state-owned enterprises acting under law on budget procedures, farmer’s group and cooperatives and other businesses prescribed by Ministerial regulations from the Act. The Act prohibits anti-competitive behaviour from monopolies such as price fixing, requiring suppliers of its services to restrict supply and does not allow any businesses to rig prices in tenders.

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or bid, allocate market by geography or by customers etc. Such actions may have criminal or administrative liabilities attached under the revised Act.  

A Trade Competition Commission consisting of the Minister of Commerce as chairman; the Permanent-Secretary of the Ministry of Commerce as vice-chairman and other qualified persons shall also be established to prescribe rules and issue notifications related to this Act. The inquiry sub-committed under the Trade Competition Commission has the power to conduct investigations.

**E-payment**

Under the National e-Payment Masterplan, all sectors including government agencies shall aim to reduce usage of cash and cheques in payments. The Customs Department has in the recent years, made available payment options such as internet banking and mobile banking. Receipts can be printed via the e-Tracking system without the need to obtain the receipts at Customs Department. The Customs Department also conducted a seminar to introduce the new e-Payment, e-Tracking and the Bill payment system that commenced service since January 2019 to participating businesses.

Krunghthai Bank Public Company Limited has issued the Krunghthai Logistics Card, which is the first card in Thailand that can be used to pay Customs duty and fees related to imports and exports. Customs clearance fees can also be made through Siam Commercial Bank’s SCB Easy application app. Different payment methods of Customs duties

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and fees can be made through various Thai banks’ internet and mobile platforms or at service counters maintained by Counter Service Company Limited.\(^{661}\)

### Viet Nam

<table>
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<th>Type of best practice</th>
<th>Details</th>
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| Policies and regulations on governmental institutional infrastructure, ICT and e-government, and laws supporting paperless trade | The Viet Nam Government views digital transformation across the broader economy as critical to continued growth and prosperity. Its commitment is expressed in a number of policies, master plans and directives published over the last 30 years that have emphasized on the need to invest in critical infrastructure, build the ICT industry, promote e-commerce, and adopt technology as a means of lifting productivity.\(^{662}\) Digital government and economy is covered by various Ministries in Viet Nam, including the Ministry of Information and Communications (MIC), the Ministry of Industry and Trade (MoIT) and its subsidiary e-Commerce and Digital Economy Agency (iDEA), the Ministry of Science and Technology (MOST), the Ministry of Planning and Investment (MPI), and Ministry of Finance (MOF).\(^{663}\) The National Committee for e-Government was established in August 2018 to propose policies and laws to promote the development of e-government, the digital economy and digital society and the implementation of Industry 4.0, as well as coordinating, encouraging and inspecting the implementation of cross-sector strategies for developing e-government.\(^{664}\) A summary list of strategies and

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regulations relating to the digital economy in Viet Nam is provided on the Ministry of Industry and Trade of Viet Nam’s website.665

**National Digital Transformation Programme 2025**

The National Digital Transformation Programme 2025, released in June 2020 to promote digital government, economy and society, sets targets for digital government work dossier processing, national databases, and digital connection and integration of reporting systems; targets for the digital economy to account for 20% of the economy and 10% in each sector; and infrastructure, including fibre-optic internet infrastructure coverage of more than 80% for homes and 100% for communes, nationwide 4G/5G coverage, 50% of the population with digital checking accounts, and cybersecurity development. The tasks are allocated into four groups, including: providing a foundation for digital transformation, digital government development, digital economy development, and digital society development. The plan also provides sectors which are prioritized for digitization, including healthcare, education, financial, transport and logistics, energy, natural resources and environment, and industrial manufacturing.666

**Directive 16/CT-TTg**

The Directive 16/CT-TTg (2016-2020) issued by the Prime Minister asked all heads of central and local government offices nationwide to focus efforts on preparing the human resources and developing the infrastructure needed to implement the 4th Industrial Revolution. It mentioned a number of crucial solutions concerning the development of IT infrastructure, digital industries, smart agriculture, smart tourism and smart city, and start-up ecosystems. It included key measures for the Vietnamese Government, such as developing digital infrastructure and networks; institutional reforms to encourage businesses to adopt new technology; prioritizing the development of the Vietnamese ICT and promoting the take-up of smart technologies across all industries; building the innovation eco-system through R&D

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funding; creating international relationships; promoting tech start-ups; build technological skills through a focus on STEM education; raising awareness of the challenges and opportunities of the 4th Industrial Revolution.\textsuperscript{668}

Other policies to promote ICT development include:\textsuperscript{669}
- Government's Decree No. 64/2007/ND-CP (2007), on information technology application in state agencies' operations;\textsuperscript{670}
- Decision No. 1755/QD-TTg (2010): National strategy on “Transforming Viet Nam into an advanced ICT country”;
- Decision No.1605/QD-TTg (2010): National program on IT application in the operations of state agencies during period 2011-2015;
- Decision No.1819/QD-TTg (2015): National program on IT application in the operations of state agencies during period 2016-2020;
- Decision No. 392/QD-TTg (2015): Sets targets on information technology development through to 2020 with a vision toward 2025;
- Decision No. 149/QD-TTg (2016): Sets goals for broadband and telecommunications infrastructure development through to 2020
- Resolution No. 142/2016/ QH13 (2016): 5-Year Socio-Economic Development Plan which sets targets for economic growth and development

\textbf{Law on E-Transactions (LET)}\textsuperscript{671}

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The use of electronic documents and electronic signatures is governed under the Law on E-Transactions (2005) and related Decrees and Circulars. Viet Nam applies a tiered system where electronic signatures are generally recognized if given conditions are met, but secured electronic signatures are required under certain transactions.

Non-Discrimination
Article 14 states that a data message cannot be denied validity as evidence for the sole reason that it is a data message. The validity as evidence of a data message shall be determined based on the reliability of the manner in which the data message was generated, stored or communicated; the manner to ensure and maintain the integrity of the data message; the manner in which its originator was identified, and on other relevant factors. Article 34 recognizes the validity of e-contracts; and the validity of an e-contract shall not be denied for the sole reason that such contract is in the form of a data message.

Functional Equivalence
LET Article 24 recognizes the validity of both electronic signatures and “secured” electronic signatures where the law requires a written document to have a signature, provided that:

a) The method creating the e-signature permit [such method] to identify that person and to indicate that person's approval of the contents of the data message;
b) Such a method is sufficiently reliable and appropriate for the purpose for which the data message was generated and communicated.

Where the law requires a written document to have a seal of the agency or organization, such requirement is regarded as being met if such date message meets the requirements of a secured electronic signature. Under Article 22(1), a secured electronic signature satisfies the conditions:

a) E-signature creation data is attached only to the signatory in the context that such data is used;
b) E-signature creation data is only under the control of the signatory at the time of signing;
c) All changes to the e-signature after the time of signing are detectable.
d) All changes to the contents of the data message after the time of signing are detectable.
Under Article 22(2), e-signatures certified by an e-signature certification service providing organization shall be considered as meeting all the security conditions set out in Article 22(1).

Technological Neutrality
The LET does not mandate the use of specific technologies for electronic signatures or secured electronic signatures. Article 44(1) states that agencies, organizations, and individuals have the rights to select measures to ensure security, safety in accordance with the law when conducting e-transactions. However, the Decree No. 26/2007/ND-CP672 and Decree No. 130/2018/ND-CP673 on digital signatures and digital signature certification services provides greater legal clarity for users of digital signatures as secured electronic signatures, based on PKI technology.

Guidelines for Certification Providers
Certification providers are governed under Chapter 2, Section 2, and Section 3 of the LET. Decree No. 130/2018/ND-CP covers the regulations and licensing of public digital signature certification authorities in greater detail. Digital signatures must be certified by a digital certificate granted by one of the following authorities: (i) Viet Nam National Root Certification Authority; (ii) Specialized certification authorities of the Government; (iii) Public certification authorities (listed on the website of Ministry of Information and Communications (MIC) in Vietnamese only); or (iv) Specialized certification authorities of agencies and organizations issued with certificates of eligibility for special-use digital signature security.674

Government Decree on E-Commerce (No. 52/2013/ND-CP)

Functional Equivalence

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The 2013 law provides for the development, application, and management of e-commerce activities, defined as conducting part or the whole of the process of commercial activity by electronic means connected to the Internet, mobile telecommunications network or other open networks. Of note is the recognition of the legal validity of e-documents in commercial transactions under Article 9 (1). It states that e-documents in commercial transactions are legally valid as the original if fully meeting the following conditions:

a) There is a reliable assurance of the integrity of information contained in e-documents from the time the information is first generated in the form of e-document;
b) Information contained in the e-document is accessible and usable in complete form when necessary.

Under Article 9 (2), the criteria for assessing the integrity of information are completeness and unalteredness, apart from changes in the form arising in the process of communication, storage or display of the e-document.

Policies and regulations on paperless trade and single window systems including Customs, logistics and information and cybersecurity laws to regulate service providers

Viet Nam’s National Single Window was launched in 2014, providing a platform for the submission of standardized data from a single point, and for government agencies to process information from unified and consistent procedures, and issue decisions to platform users. The impetus for the establishment of the National Single Window was provided by the government’s commitment towards the ASEAN Single Window, reflected in the Agreement on the establishment and implementation of the ASEAN Single Window (2005); the Protocol on building and deploying the ASEAN Single Window (2006) and the Protocol on the legal framework to implement the ASEAN Single Window (2015). As of February 2019, the VNSW had implemented 173 administrative procedures from the integration of 13 governmental agencies.

The National Steering Committee for the ASEAN Single Window and the National Single Window was established under Prime Minister’s Decision No. 2120 / QD-TTg of November 29, 2011, consisting of the Deputy Prime Minister

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and nine Ministries, to direct, coordinate, guide, inspect and implement the NSW/ASW. Its role was to assist the Government to regulate and coordinate activities of Ministries and other organizations, review the amendments of systems, processes and laws to meet deployment requirements, oversee and push the implementation of the ASW/NSW. Due to the need for more comprehensive reforms of administrative procedures towards standardization, harmonization and simplification in accordance with international standards, the replacement National Steering Committee on ASEAN Single Window, National Single Window and Trade Facilitation was established in 2016. The Standing Body (lead agency) in both committees was the Ministry of Finance (the General Department of Customs).

Master Plan of Implementing National Single Window and ASEAN Single Window In The Period Of 2016 – 2020, Prime Minister Decision No. 2185/QD-TTg

The Master Plan aims to have all administrative procedures for trade in goods conducted through the NSW, participate in ASW, and ensure technological preparedness to communicate and exchange information with non-ASEAN trade partners. The main categories of tasks include reforming the legal basis and administrative procedures; building IT systems; training, propagation, and support; ensuring finance for NSW/ASW implementation. It also provides a timeline for implementation of various projects.
Action Plan to promote the National Single Window, ASEAN Single Window (2018-2020), Prime Minister Decision No. 1254 / QD-TTg
The plan aims to complete the implementation of the National Single Window to cover all administrative procedures related to trade in goods, to fully implement the ASEAN Single Window system, ensure full utilization and information sharing among government agencies through the NSW portal, and comprehensive reform of customs inspection procedures. It sets renewed targets for these goals by end 2019 and 2020. The main categories of tasks include perfecting the legal basis; building IT systems; training, propagation, and support; formulating a comprehensive scheme on e-commerce management including the financial, trade, and logistics sectors; and setting up independent monitoring and evaluation of ministries and branches.  

Customs Policies
The Viet Nam Automated Cargo Clearance System (VNACC/VCIS) was implemented in 2014, with Overseas Development Assistance from Japan utilizing technical assistance from Japan’s Nippon Automated Cargo and Port Consolidated System (NACCS) and Customs Intelligent Database System683, as well as e-customs systems developed by the General Department of Viet Nam Customs (GDVC). It handles e-Declaration, e-Manifest, e-Invoice, e-Payment, e-Certificate of Origin, selectivity, risk management/criteria, corporate management, goods clearance and release, supervision and inspection.684 Since VNACCS started operation in 2014, 99% of customs declarations have been processed through this system685, as per the 2014 Customs Law that stipulates that customs declarations be made...

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VNACCS/VCIS has enabled the homogenization of customs clearance procedures and the adoption of paperless customs processes, leading to reduced clearance time and easing the administrative burdens on customs officials.

**Customs Development Strategy Till 2020 (2011), Prime Minister Decision No. 448 / QD-TTg**

The strategy provided a key roadmap for the development of automated customs in Vietnam and provided the reference for subsequent customs roadmaps. It planned to establish e-customs procedures, modernize customs institutions and customs operations in line with international standards, improve inspection and tax administration processes, develop organizational structure and human resources in customs, build a modern customs information technology system, and ensure the completeness, accuracy, and timeliness of state statistics on customs. The strategic tasks include legal and regulatory development; simplification and harmonization of customs procedures in accordance with international standards; build a system of customs information databases and risk management systems for customs control; consolidate the customs organization system to meet modern customs management requirements; investments in material facilities, technical equipment, information technology and customs statistics; developing quality management models; promoting bilateral and multilateral cooperation to share experiences on customs reform, etc.

**Plan for Customs Reform, Development and Modernization of Customs for the 2011-2015 Period (Minister of Finance)**

The plan highlighted the key task of implement electronic customs procedures including electronic manifest information (e-Manifest); Electronic clearance of data processing (e-Clearance); making electronic payment of taxes and fees electronically (e-Payment); receive and exchange license information and electronic C/O (e-C/O and e-Permit) with relevant agencies, etc. It also provided the roadmap for customs modernization, and included reforms in customs procedures, including administrative procedures, electronic customs procedures, tax administration, business

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techniques, customs control, inspection checks; organization structure and human resources, and investments in IT and customs facilities.\textsuperscript{689}

\textbf{Plan for Customs Reform, Development and Modernization for the 2016-2020 Period (Minister of Finance)}

Viet Nam’s 2016-2020 customs strategy aims to implement the second phase of the VNACCS/VCIS Project to upgrade automation functions, cargo management, risk management and expand the utilization of e-customs.\textsuperscript{690} Key tasks relevant to NSW development include refining the legal framework for NSW; ensuring wider and deeper implementation of electronic customs through standardized procedures and forms, developing IT systems, complete upgrading of satellite IT systems, upgrade the import-export tax accounting system, extending information networks to ports; connecting with the information systems of the remaining Ministries and branches to ensure full NSW coverage; upgrading interconnectivity with ASEAN and non-ASEAN trading partners, etc.\textsuperscript{691}

\textbf{Cybersecurity Policies}

The Ministry of Public Security and the Ministry of Information and Communications are responsible for cybersecurity.\textsuperscript{692} The main strategy documents covering cybersecurity are the 2010 Digital Information Security Development Project to 2020 and the Network Information Security Plan 2016-2020. Policy implementation is supported by additional directives such as Prime Minister's Decision No. 05/2017/ QĐ-TTg.


The 2010 Digital Information Security Development Project to 2020 includes four main cybersecurity objectives: ensuring network security and information infrastructure so that they are in line with the needs of ICT development; ensuring the safety of data and information technology applications so that they comply with safety standards; training certified cybersecurity specialists and raising public awareness on information security; and improving the legal framework for information security and computer-related crime.\(^{693}\)

The Network Information Security Plan 2016-2020 (Prime Minister Decision No. 898/QĐ-TTg)\(^{694}\) provides more specific tasks to be achieved during the period 2016-2020 and provides a greater focus to the reinforcement of the cooperation with the private sector and the role of Vietnamese companies in the domestic information security market, and the enhancement of critical information systems security and cyber resilience capacity.\(^{695}\)

**Law on Electronic Transactions (LET)**

Chapter V of the LET regulates the e-transactions concerning state agencies, including those between state agencies and organizations and individuals. Article 40 (6) requires state agencies to determine the format of data messages, e-signature types and certification processes, and procedures to ensure the security, confidentiality and integrity of e-transactions when conducting e-transactions.\(^{696}\)

**Government Decree Prescribing Handling of Administrative Procedures via National Single Window and ASEAN Single Window and Specialized Inspection for Exports and Imports (No. 85/2019/ND-CP)**

The Decree specifies the functions and the transactions processed under the NSW, the operational principles of NSW, and allocates the responsibility for the management of the NSW to the GDVC under the Ministry of Finance. The

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Decree was issued in response to issues such as overlaps and inadequacies from the legal provisions, manual implementation methods and interdisciplinary coordination, which have surfaced in the implementation of the NSW/ASW. The Decree provides a legal basis for simplification, harmonization and electronic deployment of administrative procedures for import and export goods and goods in transit; stipulates the implementation of procedures under the NSW; and aims to establish an interdisciplinary coordination mechanism for specialized inspection on the basis of information connection through the NSW.

**Law on Customs**
The 2014 Law on Customs supports the State’s implementation of NSW by prioritizing customs modernization and mandating the use of electronic customs declarations. Article 8 notes that the state shall give priority to investments in advanced technologies to ensure the effective customs management. Article 24 permits customs documents to be in electronic form, and electronic documents must ensure the integrity and format prescribed in LET regulations. Article 29 requires customs declaration to be made electronically, except when prescribed in regulations of the Government. Article 8 notes that entities involved in import and export are responsible for participating in developing and performing electronic transactions and electronic customs formalities when encouraged by the State to apply modern customs management methods.

**Relevant Decrees and Laws to Implement Electronic Trade**
Decree 87/2012/ND-CP details a number of articles of the Customs Law of the electronic customs procedures for export and import trade. Circular 196/2012/TT-BTC specified e-customs procedures for export and import trade. Decision 2341/QD-BTC issued the roadmap of using public digital signature in electronic customs procedures. The

office of the General Administration of Customs 5559/TCHQ-CNTT provided guidance on the implementation of digital signatures in electronic customs procedures.\(^{699}\)

**Law on Information Technology**

The 2006 Law on Information Technology is the framework law for information technology application and development, and the rights and obligations of agencies, organizations and individuals engaged in information technology application and development activities. It sets out the state powers, policies and responsibilities on information technology, the rights of organizations and individuals, prohibited acts, and the direction of state policy in promoting the development of information technology industry, infrastructure, and services.\(^{700}\) The Government Decree on Information Technology Application in State Agencies’ Operations (No. 64/2007/ND-CP) and Decree on Management, Provision, and Use of Internet Services and Information Content Online (No. 72/2013-ND-CP)\(^{701}\) are subsidiary Decrees governing the public and private sectors respectively.

**Government Decree on Information Technology Application in State Agencies’ Operations (No. 64/2007/ND-CP)**

The 2007 Decree governs the use of information and information technology by state agencies and promotes the use of IT in state agencies, laying the foundation for the NSW, and references the Law on Information Technology. It covers the development of state information infrastructure (Chapter II); the management of e-documents (Chapter III, Section 2), including such topics as legal validity (Article 35), processing of e-documents (Article 39), and e-signatures (Article 40); steps to enhance the use of e-documents (Article 8) and the formulation of uniform electronic

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forms (Article 19); state responsibilities on the protection of personal information (Article 5), information safety assurance (Article 41) and information safety-related incidents (Article 42).  

**Law on Network Information Security (LNIS)**
The 2015 LNIS provides the regulatory framework on the security of information over networks, and includes sections on personal information data protection (Chapter II, Section 2); classification of information systems and system protection (Chapter II, Section 3); standards and norms of network information security such as certifications of hardware and software products and information systems (Chapter V); regulations and licensing of network information security products and services (Chapter VI), etc.  

**Law on Cybersecurity**
Viet Nam enacted the Law on Cybersecurity in June 2018 to regulate cyber activities that impact national security and social order and safety. It covers the allocation of responsibilities to public agencies including Cybersecurity Task Forces (Chapter 6); prohibited acts in cyberspace (Article 8); assessment, protection and supervision of critical systems (Chapter 2); preventing cyberespionage and the protection of state secrets and confidential information (Article 17, 18); prevention and response to cyberattacks (Article 19- Article 22); data localization requirements (Article 26 (3)); and content monitoring (Article 16).  

**E-Payment Laws**
The State Bank of Viet Nam (SBV) is the financial regulator for e-payments services. The Decree No. 101/2012/ND-CP on non-cash payments (amended by Decree No.80/2016/ND-CP); and Circular 39/2014/TT-NHNN on...
intermediary payments services set out the legal framework e-payment services. Circular No.30/2016/TT-NHNN was issued in 2016 to revise several Circulars stipulating payment service provision and intermediary payment services, and Circular No. 23/2019 was issued in 2019 to amend and supplant various provisions of Circular No. 39 on intermediary payment services. The Government Decree on E-Transaction in Finance (No. 165/2018/ND-CP) Decree was issued in December 2018 to replace the previous decrees regarding E-Transactions in Financial Operations (Decree no. 27/2007/ND-CP and Decree no. 156/2016/ND-CP) and covers electronic transactions in financial activities. It includes provisions on the legal validity of electronic documents in financial transactions in compliance with the Law on E-Transactions (Article 5).

**Laws on Protection of Personal Information**

The general framework for data protection is provided in the Law on Network Information Security (LNIS). The LET, the Law on Information Technology, Law on Telecommunications, Law on Protection of Consumer Rights, and other sectoral laws also provide personal data protection rules. Article 3.15 of LNIS defines personal data as any information which relates to the identification of a data subject. According to the Civil Code Article 38, this includes any information that relates to a data subject’s: personal life, such as name, date of birth, address, telephone number, identification number, or email address; personal or family secrets; and personal communications. Before collecting and processing personal data, LNIS requires processors to obtain the consent of the data subject (Article 17); publish its policy regarding the processing and protection of personal data (Article 16 (3)); and provide an adequate level of

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Exceptions to consent are provided. Viet Nam’s Ministry of Public Security is currently in the process of drafting an omnibus data protection decree as a sub-legislation to the Cybersecurity Law and published the first draft in December 2019.

### Policies and regulations on cross-border trade systems

<table>
<thead>
<tr>
<th><strong>UNICTRAL Model Laws</strong></th>
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<tbody>
<tr>
<td>Viet Nam has signed and ratified the UNICTRAL Model Law on Electronic Commerce (MLEC) and the UNICTRAL Model Law on Electronic Signatures. Legislation also includes substantive provisions of the United Nations Convention on the Use of Electronic Communications in International Contracts. The LET is based on these laws.</td>
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<tr>
<td><strong>Mutual Recognition of Electronic Signatures</strong></td>
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<tr>
<td>Viet Nam is party to several bilateral agreements with e-commerce chapters that endeavour to promote paperless trade, and to work towards the mutual recognition and/or interoperability of electronic signatures. The only agreement Viet Nam has signed that realizes the mutual recognition of electronic signatures or electronic trade administration documents is the ASEAN Protocol on the Legal Framework (PLF) (Article 15) to Implement the ASEAN Single Window. Some FTAs that address electronic signatures include: AANZFTA (Ch. 10, Art. 5), CPTPP (Article 14.6), the Eurasian Economic Union (EAEU)-Viet Nam FTA (Article 13.3), and the ROK-Viet Nam FTA (Article 10.3).</td>
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Vietnamese law provides for the recognition of foreign e-certificates and e-signatures under the LET and Decree 26/2007/ND-CP on digital signatures. The LET Article 27 recognizes the validity of foreign e-certificates and e-signatures if such e-signatures or e-certificates have a reliability level in accordance with the provisions of Viet Nam’s laws. The determination of the reliability of foreign e-signatures and e-certificates shall be based on internationally accepted standards, international treaties of which the Viet Nam is a party and other relevant factors.  

Chapter VII of Decree 26/2007/ND-CP covers the recognition and operation of foreign digital certificate providers, and requires that they obtain a certificate of recognition from the Ministry of Information and Communications under Article 52 in order to be recognized as legally valid under Article 8.

**ASEAN Single Window**

The ASEAN Single Window is a regional initiative that connects and integrates the National Single Windows of ASEAN member states to enable the electronic exchange of border trade-related documents. The Agreement to establish the ASEAN Single Window was signed in 2005, and the implementing Protocol on the Legal Framework to Implement the ASEAN Single Window (PLF) provides for the mutual legal recognition of electronic documents, data, and information. Under Article 15, authenticated electronic documents produced in connection with transactions under the ASEAN Single Window PLF may be admissible of any fact stated therein, provided that the Member State adopts procedures for the authentication of the electronic document, data, and information. 

Only the electronic certificate of origin (ATIGA-Form D) is currently exchanged across all member states, but additional documents including ASEAN Customs Declaration Document (ACDD) and electronic Phytosanitary Certificate (e-Phyto) Certificate are under pilot testing and are expected to be implemented in the second half of 2020 among ready member states. The MoU on the implementation of the ASEAN Single Window Pilot Project includes

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Article XI that governs the registration and authentication of private sector users, and allows each government to ascertain the level of recognition to be accorded to a Certification Authority (CA), in consideration of a set of factors.\textsuperscript{721}

**EAEU-Viet Nam Exchange of Electronic Customs Information**

Viet Nam and the EAEU are in the process of implementing e-Customs information exchange in accordance with the commitments in Article 5.7 of the EAEU-Viet Nam FTA. A protocol and implementation roadmap was signed in June 2018. The first phase from Oct 2018-Oct 2019 is a pilot implementing e-Customs information exchange for some goods; the second phase from Oct 2019-Oct 2021 implements the information exchange for goods for which turnover between the parties have increased by more than 20% from the effective date of the FTA; and from Oct 2021, implementation of information exchange for all goods traded between the parties. The pre-arrival information exchange mechanism contributes to accelerating the Customs clearance, facilitating trade, and promoting exports of each state.\textsuperscript{722}

**ePhyto Hub**

Viet Nam has registered for participation and is currently pending approval for use of the ePhyto Hub\textsuperscript{723}, a centralized system to facilitate exchange of electronic phytosanitary certificates (ePhytos) between National Plant Protection Organizations with a set of prescribed rules of connection and defined structure/codes/terms for the electronic data message.\textsuperscript{724}

**International Standards in Electronic Messaging**

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\textsuperscript{721} ASEAN. “Memorandum of Understanding on The Implementation Of The ASEAN Single Window Pilot Project”, 2013.  


\textsuperscript{723} International Grain Trade Coalition. “International Progress Through Cooperation: ePhyto Solution Project”.  

\textsuperscript{724} International Plant Protection Convention. “IPPC ePhyto Solutions: Hub”.  
The NSW (VNACC/VCIS) utilizes United Nations/Electronic Data Interchange for Administration, Commerce and Transport, XML and WCO Data Model standards. Circular No. 02/2017 / TT-BTTTT covers the use of XML data messages and SOAP connection protocols on exchange of citizen information in the national information database.

Other considerations on legal and regulatory issues

| **State Liability** | The state accepts liability under the Law on State Compensation Liability and Customs Law. The Law on State Compensation governs the rights to compensation, the scope of liability, determination of damages, and procedures and claims settlement. Under Article 18 (g) of the Customs Law, customs declarants have the right to claim compensation for damage caused by customs authorities and customs officials in accordance with the Law on State Compensation Liability.

**Liability of Single Window Operators/Paperless Trade Service Providers**
The GDVC is the lead agency that operates the NSW. See above for state liability. Commercial service providers are subject to civil liability laws (e.g., Civil Code, Law on Protection of Consumer’s Rights). Article 50 of the LET provides for compensation for damages if agencies or organizations violate laws regarding e-transactions.

**Liability of Data Intermediaries**

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Data intermediaries are responsible for network information security under the LNIS. Data intermediaries fall under the scope of organizations which handle personal information under Article 3.16 and are subject to LNIS/MIC regulations on information security and the protection of personal information. Under the Law on Cybersecurity, they are subject to additional regulations on cyberspace content (Article 16) and the prevention and combatting of cyberespionage (Article 17), etc. The LET includes Chapter VI regulations on the confidentiality and security of e-transactions that apply broadly to agencies, organizations, and individuals.

Under Article 16 of the Law on Telecommunications, telecommunications service users have the right to have their private information kept confidential, and Article 33 provides for compensation damages for direct material damage caused by their fault to other parties in telecommunication service use contracts. The Law on Protection of Consumer’s Rights includes Article 6 protections of consumer information, including ensuring safety, accuracy, completeness during collection, use and transfer of consumer information.

**Dispute Settlement (Choice of Law)**

The LET is silent on the choice of law and forum in paperless trade. The 2015 Civil Code governs the choice of law, while the 2015 Code of Civil Procedure governs the choice of court. Under the Civil Code Article 683.1, generally the parties to a contract can choose the law applicable to the contract, subject to the conditions provided in Article 683. In case the contracting parties fail to agree on the applied law, the law of the country with which such contract closely associates shall apply, as provided by Article 283(2). For civil cases involving foreign elements, international agreements to which Viet Nam is a signatory or Vietnamese law will be applied to a sale of goods contract when one party is a foreign national (Article 664).
Under the Code of Civil Procedure, local courts will recognise a choice of foreign jurisdiction if the contract contains foreign elements (for example, one of the contracting parties is a foreign trader) (Articles 464.2), unless they fall under the exclusive jurisdiction of Vietnamese courts under Article 470. Chapter XXXVIII provides the rules governing the procedure for settlement of civil cases involving foreign elements. Article 39 (1) and Article 40 (1) provide for rules on the territorial jurisdiction of courts to settle civil lawsuits.


**Dispute Settlement (Arbitration)**
Arbitration is governed by the Law on Commercial Arbitration (2010). Among the more than 20 arbitral institutions in Viet Nam, the Viet Nam International Arbitration Centre is the largest and most commonly-used arbitration centre. Arbitral awards are enforceable under the Law on Enforcement of Civil Judgements.
awards are enforceable under Article 424 of the Civil Procedure Code\textsuperscript{738}, as well as the Law on Enforcement of Civil Judgements. Viet Nam has ratified the Convention on the Recognition and Enforcement of Foreign Arbitral Awards (the New York Convention), with the qualification that Convention will be applied only to differences arising out of legal relationships that are considered as commercial under the laws of Viet Nam.\textsuperscript{739}

**Ownership and IP Protection of Data on the Cross-Border Paperless Trade System**

The GDVC NSW T&Cs are not publicly available. Compilations of data can enjoy copyright protection under Article 26 of the Law on Intellectual Property (2005), however copyright to compilations of data do not cover the copyright to the data itself.\textsuperscript{740} Copyright protections include Article 19 Moral Rights to title, publish, protect the integrity of works, etc.; as well as Article 20 Economic Rights to make derivative works, display, reproduce, distribute, or communicate their works to the public. The Law on IP does not specifically cover the assignment of copyright for data compilations.

**Promotion of e-Payments**

The Prime Minister Decision No. 2545/QD-TTg on the Scheme on Development of non-cash payment in Viet Nam during 2016-2020 sets out the overall objectives, roadmap and specific targets for the development of e-payments, which include promoting the use of non-cash payments and reducing the ratio of cash to total payment instruments to below 10%; ensuring the security, safety and operational effectiveness of payment and settlement systems; improving the effectiveness of the management and supervision by state management agencies; and making payment activities in the economy and personal incomes transparent to reduce corruption and economic crimes.\textsuperscript{741} In May 2020, Prime Minister Directive No. 22/CT-TTg was issued to accelerate the deployment of non-cash payments across various Ministries and sectors, including trade and industry, health, education, and transport. The SBV was also asked to


<table>
<thead>
<tr>
<th>promptly review and develop a legal framework for non-cash and e-payments and to submit a draft Decree on non-cash payment to the Government.\textsuperscript{742}</th>
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</table>
| **Competition Policy**  
The lead agency for competition policy and enforcement is the Viet Nam Competition Commission. The Competition Law (No. 23/2018/QH14) and the implementing Decree 35/2020/ND-CP governs competition regulation in Viet Nam.\textsuperscript{743} The Competition Law covers public sector entities under Article 2, but it remains ambiguous if the GDVC as the NSW operator falls under that category.\textsuperscript{744} |

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\textsuperscript{742} Online Newspaper of the Government, The Socialist Republic of Vietnam. “PM Orders Acceleration Of Non-Cash Payment Development".  