



# **An exploration of paperless trade implementation in UN and other international conventions involving cross-border exchange of trade-related data and documents**

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United Nations Network of Experts for Paperless Trade and Transport in Asia and the Pacific

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## Abstract

With a view to informing the implementation of the Framework Agreement on Facilitation of Cross-border Paperless Trade in Asia and the Pacific (CPTA), this paper reviews 14 international conventions of global scope involving the issuance and exchange of one or more trade-related documents as part of their implementation. The involvement of ESCAP members and existing CPTA parties in the digitalization projects under these conventions is significant and may provide a good foundation for cross-border paperless trade. The comparative analysis on the stage of development of the 14 conventions toward digitalization is conducted across six dimensions, including state of development and implementation of electronic exchange mechanism or system, existence of dedicated legal instruments and institutional mechanism, and attention to interconnectivity and interoperability. The scoring exercise reveals a significant gap between development of an electronic exchange mechanism under a convention, and its actual implementation and utilization. Further, limited thoughts seem to have been given in many cases about ‘interconnectivity and interoperability’ of the systems developed. Overall, the digitalization efforts under most conventions are still very much “work in progress”, providing ample opportunities for cooperation and systems’ harmonization. Going forward, the CPTA secretariat may invite experts involved in the digitalization efforts under the conventions reviewed to share their knowledge and experience. CPTA parties may consider undertaking coordinated implementation of digitalization projects under the most relevant and advanced conventions in this area (e.g., ePhyto under IPPC), as part of building trust towards broader collaboration on cross-border paperless trade.

**Keywords:** paperless trade, international conventions, trade-related documents and data, CPTA

**JEL Codes:** F13, K33

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# 1. Introduction

The Framework Agreement on Facilitation of Cross-border Paperless Trade in Asia and the Pacific (CPTA) entered into force as a United Nations (UN) treaty in 2021.<sup>2</sup> Its full implementation is expected to reduce trade costs by 17% on average.<sup>3</sup> This is the only UN treaty specifically dedicated to enabling and facilitating the exchange of electronic documents and data in international trade, supporting and complementing the full digital implementation of the WTO Trade Facilitation Agreement (TFA).

However, there are many other UN and international treaties and conventions involving the exchange of trade-related documents. Different international organizations are often in charge of the application, issuance, and exchange of different trade-related documents under these treaties. Each treaty or convention has its own governance mechanism, resulting in different prioritization given to digitalization, as well the development of electronic documents and data exchange mechanisms that may not be interoperable.

In that context, the purpose of this paper is to review what steps may have been taken under a range of existing global treaties relevant to cross-border paperless trade implementation. This will in turn inform the work to be undertaken under the CPTA, aiming to build on existing international standards and good practices. Information is collected from public sources on the international conventions identified as involving the issuance and exchange of trade-related data or document(s), focusing in particular on the extent and nature of the work done on digitalizing the document(s) and related exchange processes.<sup>4</sup>

The next section - section 2- provides an overview of the conventions identified. Section 3 presents the methodology and results of a comparative assessment of the stage of paperless implementation of each convention. The assessment is holistic and based on key aspects including the development of legal instruments, data exchange mechanisms, and specialized institutional mechanisms that may have been established under each convention for paperless trade. Section 4 then features individual reports with more detailed information on digitalization efforts under each of the conventions. Section 5 concludes the paper with recommendations.

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<sup>2</sup> More information on the CPTA is available at <https://www.unescap.org/projects/cpta> .

<sup>3</sup> UN Reports on Digital and Sustainable Trade Facilitation, 2023, available at [www.unftsurvey.org](http://www.unftsurvey.org).

<sup>4</sup> General global trade and transport facilitation conventions, such as the WCO Revised Kyoto Convention, are not included in the analysis, but are briefly described in Annex 1 for reference. Regional trade agreements, which are also increasingly used to support implementation of paperless trade, are also outside the scope of the analysis presented here – a brief review is included in Annex 2.

## **2. Global conventions involving exchange of trade-related data or documents: a selection**

A set of fourteen conventions has been identified based on a review of the related literature, and two key criteria: (a) the convention involves the issuance and exchange of specific trade-related data and documents as part of its implementation (such data or documents are created by / under the convention itself, and to be exchanged across borders as part of a trade transaction);<sup>5</sup> (b) the convention is global or potentially global.

Table 1 lists the fourteen conventions. The original texts of the treaties generally do not mention electronic documents as they were in many cases drafted decades ago. Nevertheless, dedicated legal instruments (including amendments, annexes, regulations, guidelines etc.) or working projects have been developed to adapt to the need of digitalization – as reflected in the ‘development on digitalization’ column.

The table also provides information about the number of ESCAP members and CPTA members<sup>6</sup> involved in the convention and names of relevant digitalization projects under each treaty, when applicable. More than half of ESCAP member states, including CPTA parties, are parties to most of the conventions, which means they may share existing common obligations to use and follow the standards, formats and protocols that may have been established for the electronic exchange of the documents created and regulated under these conventions.

CPTA parties are found to be quite active in the digitalization projects under the international conventions. This can potentially provide a good foundation for the implementation of the CPTA - Annex 3 provides more detailed information about the involvement of ESCAP member states in international conventions governing certain trade-related documents.

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<sup>5</sup> These data or documents are not necessarily required particularly for trade, but are involved to complete a trade transaction.

<sup>6</sup> 13 countries ratified/acceded as of January 2024: Azerbaijan, Bangladesh, China, Iran, Kyrgyzstan, Mongolia, the Philippines, Republic of Korea, Russian Federation, Tajikistan, Timor-Leste, Turkmenistan and Tuvalu. Although Armenia and Cambodia have yet to ratify the CPTA, they are included as signatories of the treaty.

**Table 1. Overview of selected conventions with**

No.	Convention	Host Organization	Number of Parties	Number of ESCAP Members	Number of CPTA Parties	Relevance to exchange of trade-related documents	Development on digitalization	Number of ESCAP Members involved in digitalization initiative	CPTA Parties involved in digitalization initiative
1	<b>ATA &amp; Istanbul Convention (Customs Convention on the A.T.A. Carnet for the temporary admission of goods)</b>	ICC, WCO	ATA: 63; Istanbul: 74	ATA: 17; Istanbul: 20	ATA: 4; Istanbul: 7	ATA carnets, an international customs document that permits duty-free and tax-free temporary import and export of goods in over 80 countries/customs territories.	<b>eATA</b> (launched in 2016), pilot implemented in 11 countries. The eATA Carnet project aims to digitalise ATA Carnets and their lifecycle management process – from issuance and declarations to transactions and claims.	3	CHN, RUS
2	<b>Basel Convention (on the Control of Transboundary Movements of Hazardous Wastes and their Disposal)</b>	UNEP	191	51	14	The Basel Convention sets out a detailed Prior Informed Consent (PIC) procedure with strict requirements for transboundary movements of hazardous wastes and other wastes, the exchange of notification and movement documents is needed to comply with the PIC.	Electronic approaches to the notification and movement documents, development of the Basel Convention control system.	8 Nominated members to the Small intersessional working group (SIWG)	BGD, CHN, IRN



No.	Convention	Host Organization	Number of Parties	Number of ESCAP Members	Number of CPTA Parties	Relevance to exchange of trade-related documents	Development on digitalization	Number of ESCAP Members involved in digitalization initiative	CPTA Parties involved in digitalization initiative
3	<b>Chicago Convention (Convention on International Civil Aviation)</b>	International Civil Aviation Organization (ICAO) (UN)	193	53	15	Consignment Security Declaration	Electronic Consignment Security Declaration (e-CSD) adopted by IATA	NA	NA
4	<b>CITES (Convention on International Trade in Endangered Species of Wild Fauna and Flora)</b>	CITES	184	45	12	Application, issuance, control, and authentication of CITES permits, reporting and exchange of permits and information between the Parties.	eCITES	14	CHN, KOR
5	<b>CMR (Convention on the Contract for the International Carriage of Goods by Road)</b>	UNECE, IRU	58	17	8	CMR consignment note, which presents information about the shipped goods and the transporting and receiving parties.	eCMR and the Additional Protocol concerning the Electronic Consignment Note provides conditions under which electronic consignment notes are considered equivalent to paper-based versions and therefore have the same evidentiary value and produce the same effects.	11	AZE, IRN, KGZ, RUS, TJK, TKM

No.	Convention	Host Organization	Number of Parties	Number of ESCAP Members	Number of CPTA Parties	Relevance to exchange of trade-related documents	Development on digitalization	Number of ESCAP Members involved in digitalization initiative	CPTA Parties involved in digitalization initiative
6	<b>FAL Convention (Convention on Facilitation of International Maritime Traffic)</b>	IMO (UN)	132	29	6	The FAL Convention seeks to standardize the information required by Member States from ships when calling a port to facilitate international trade. (FAL forms, declarations and other documents)	<b>Amendments to the Annex, Electronic Data Interchange (EDI), Maritime Single Window (MSW).</b> Since April 2019, the FAL Convention makes it mandatory for ships and ports to exchange FAL declarations electronically, and from January 2024, the single window approach will be mandatory in all ports.	NA	NA
7	<b>IPPC (International Plant Protection Convention)</b>	FAO (UN)	185	47	13	Phytosanitary certificates	The IPPC <b>ePhyto</b> Solution	32	KHM, CHN, KOR, TUV
8	<b>Montreal Convention (Convention for the Unification of Certain Rules for International Carriage by Air)</b>	ICAO (UN)	139	32	9	The Convention facilitates the use of simplified and modernized documents of carriage (air cargo manifest, air waybill), thus enabling the utilization of electronic or computerized data processing for the issuance of these documents.	<b>IATA e-freight, e-WAB, ONE Record Initiative</b>	31	ARM, AZE, BGD, KHM, CHN, KOR, MNG, PHL, RUS

No.	Convention	Host Organization	Number of Parties	Number of ESCAP Members	Number of CPTA Parties	Relevance to exchange of trade-related documents	Development on digitalization	Number of ESCAP Members involved in digitalization initiative	CPTA Parties involved in digitalization initiative
9	<b>Paris Convention (for the Protection of Industrial Property)</b>	WIPO	180	42	13	Documents related to the protection of industrial property including patents, utility models, industrial designs and trademarks.	WIPO Digital Access Service ( <b>DAS</b> )	11	CHN, IRN, KOR
10	<b>PCT (Patent Cooperation Treaty)</b>	WIPO	157	35	12	PCT international applications, WIPO digital certificates	<b>ePCT</b>	22	AZE, IRN, KGZ, KOR, PHL, RUS, TJK
11	<b>TIR Convention (Customs Convention on the International Transport of Goods under Cover of TIR Carnets)</b>	UN	78	22	10	TIR carnet is a document issued by national road transport associations of the TIR Convention member states. TIR is the only global customs transit system, facilitating trade and the seamless and secure movement of goods across borders.	Contracting Parties bound by Annex 11 shall connect their customs systems to the eTIR international system in line with the eTIR specifications. eTIR project aimed at providing an exchange platform for all actors involved in the TIR system.	22 (77 contracting parties accepted Annex 11, except Switzerland)	ARM, AZE, CHN, IRN, KGZ, KOR, MNG, RUS, TJK, TKM

No.	Convention	Host Organization	Number of Parties	Number of ESCAP Members	Number of CPTA Parties	Relevance to exchange of trade-related documents	Development on digitalization	Number of ESCAP Members involved in digitalization initiative	CPTA Parties involved in digitalization initiative
12	<b>UPC (Universal Postal Convention)</b>	UPU (UN)	192	50	15	Electronic advance data (EAD), item data of cargo and mail, especially used for aviation security, including Pre-Loading Advance Cargo Information (PLACI)	UPU Convention Regulations Article 08-002 requires all items containing goods to have Electronic Advance Data ( <b>EAD</b> ). Under articles 08-002, 17-107 and 17-216 of the UPU Convention Regulations, as of 1 January 2021, designated operators (DOs) are required to capture and exchange EAD for international postal items containing goods, in order to comply with the specific import customs and security requirements of member countries, as laid down in those articles.	32 (Mandatory EAD countries/territories)	ARM, AZE, KGZ, KHM, CHN, KOR, MNG, RUS, TJK, TKM
13	<b>UPU MDSA (Universal Postal Union Multilateral Data Sharing Agreement)</b>	UPU (UN)	60	23	9	Voluntary to join and accept binding obligations on data sharing.	MDSA is a dedicated agreement for advancing data sharing.	23	BGD, KHM, IRN, KOR, MNG, PHL, TJK, TLS, TUV

No.	Convention	Host Organization	Number of Parties	Number of ESCAP Members	Number of CPTA Parties	Relevance to exchange of trade-related documents	Development on digitalization	Number of ESCAP Members involved in digitalization initiative	CPTA Parties involved in digitalization initiative
14	<b>WOAH (OIE) Agreement (International Agreement for the Creation of an Office International des Epizooties)</b>	WOAH (OIE)	183	43	13	Health certification for trade in animals and animal products	The WTO Standards Trade Development Facility (STDF) and WOH implemented a project on the 'Development of a framework to facilitate e-veterinary certification for international trade on the basis of a single window system'. <sup>7</sup>	1 (out of 5 five applicant countries) <sup>8</sup>	KHM

Note: 'CPTA parties' in this table include Armenia and Cambodia which have yet to ratify the CPTA but are signatories of the treaty.

Source: ESCAP, based on publicly available information, including dedicated website of each convention.

<sup>7</sup> Full report is available at <https://www.woah.org/app/uploads/2021/03/a-veterinary-certification.pdf>.

<sup>8</sup> Cambodia, Eswatini, Nigeria, Paraguay and Zimbabwe.

### 3. State of digitalization: a comparative analysis of the conventions

In most cases, the secretariats and various bodies responsible for the implementation of the conventions identified in the previous section have launched dedicated projects or initiatives to advance the digital implementation of requirements and obligations. To assess the level of development of digitalization of document exchange, the following 6 key aspects are considered:

- 1) whether there is a mechanism such as an online system well developed to enable the application, submission and exchange of the required documents in electronic format;
- 2) to what extent the electronic exchange mechanism is used;
- 3) whether there is a legal basis that ensures the validity of electronic documents or requires the use of electronic means; and whether there is harmonized standards developed for implementing the electronic exchange of documents;
- 4) whether there is institutional mechanism supporting the implementation of digitalization, including dedicated working group and committee etc.;
- 5) whether the electronic exchange mechanism leverages existing international standards, to what extent it can be interconnected to other data/document exchange systems, including those developed by other organizations and custom agencies;
- 6) whether there is sufficient capacity building provided to member states / contacting parties to implement the digitalization of document exchange.

#### 3.1 Methodology and scoring scale for comparative analysis

In order to conduct a comparative analysis of the state of digitalization across the conventions, a scoring scale is developed. It covers each of the 6 aspects mentioned earlier. Development scores range from 0 (not developed) to 3 (fully developed), as specified below:

- 1. Development of electronic exchange mechanism or system (for data, documents, certificates etc.)**
  - Application enabled [1]
  - Submission enabled [1]
  - Exchange enabled [1]
- 2. Implementation of electronic exchange mechanism or system (for data, documents, certificates etc.)**
  - Pilot use in several countries [1]
  - Wide use in many (but not a majority of) countries [2]
  - Over 50% exchange takes place electronically [3]
- 3. Dedicated legal instruments**
  - Legal document requiring digitalization (annex, amendment, etc. ) [1]
  - Specific standards for implementing electronic exchange (e.g., guideline) [1]
  - Mandatory electronic exchange [1]

#### **4. Institutional mechanism**

- Dedicated committee or working group [1]
- Terms of reference and procedures for the conduct of activities [1]
- Engagement of private sector stakeholders [1]

#### **5. Interconnectivity and interoperability**

- Use of (or reference to) other international standards [1]
- Cooperation with other organizations [1]
- Cooperation with border agencies [1]

#### **6. Capacity building**

- Technical support upon request [1]
- General technical support [1]
- Other workshops and training [1]

### **3.2 Result of assessment**

The scoring is based on information collected through desk research, i.e., publicly available information and summarized in table 2. The overall digitalization scores suggest that IPPC, CITES, and UPC are the three conventions under which most work has been done towards paperless trade. WOH (OIE) is the least advanced, with exploration of possible digitalization solutions recently initiated through the WTO STDF.<sup>9</sup> Overall, the comparative analysis reveals that digital implementation of international conventions involving the exchange of trade-related documents remains mostly at an initial stage. None of the digitalization dimensions get an average score of 2 or higher, suggesting that most efforts remain at the pilot stage.

The “Development of electronic exchange mechanism or system” gets the highest average score (1.93), which indicates that many of the conventions have developed online system for electronically issuing, and sometime exchanging, the data or document(s) covered by the convention.<sup>10</sup> However, the average score for the actual “implementation of electronic exchange mechanism or system” is much lower (0.86), which reflects that the systems developed are yet to be fully operational and used. Among all the document/data exchange systems developed, the IATA eFreight/eAWB system (Montreal Convention) receives the highest score for implementation: e-AWB became the default contract of carriage for all air cargo shipments on enabled trade lanes on 1 January 2019.<sup>11</sup>

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<sup>9</sup>See <https://www.woah.org/en/what-we-offer/safe-trade-and-movement-of-animals/electronic-veterinary-certification/>.

<sup>10</sup> This excludes optional exchange systems that are used for the exchange of documents but are not unified, centralised or developed by the host organization of the convention. For example, However, the eFAL project does not provide a centralised exchange system for electronic FAL declarations. Likewise, the eCMR project does not provide a centralised exchange system, as any platform could be used as a Business-to-business (B2B) and Business to government (B2G) data exchange can be used to exchange eCMRs.

<sup>11</sup> IATA, <https://www.iata.org/en/programs/cargo/e/freight/>.

**Table 1. Stage of development on digitalization of international conventions**

Conventions	Digitalization projects	Development of e-exchange system	Implementation of e-exchange	Dedicated legal instruments	Institutional mechanism	Interconnectivity and interoperability	Capacity building	Digitalization score (out of 18)
ATA Convention	eATA	3	1	1	DK	1	1	7
Basel Convention	e-approaches	0	0	1	3	NA	NA	4
Chicago Convention	ICAO IATA e-CSD	3	DK	2	DK	0	1	6
CITES	eCITES	3	1	2	2	3	2	13
CMR	eCMR	NA	NA	2	DK	1	1	4
FAL Convention	eFAL	NA	NA	3	DK	1	1	5
IPPC	IPPC ePhyto	3	2	2	2	2	3	14
Montreal Convention	IATA e-Freight/e-AWB	3	3	2	DK	1	1	10
Paris Convention	WIPO DAS	3	1	2	1	0	1	8
PCT	WIPO e-PCT	3	2	2	1	0	1	9
TIR	eTIR	3	DK	3	DK	2	3	11
UPC	UPU EAD	3	2	3	1	1	2	12
UPU MDSA	UPU MDSA	NA	NA	1	DK	0	0	1
WOAH (OIE) Agreement	WTO STDF	0	0	0	0-1	0	0	0
<b>Average score</b>		1.93	0.86	1.86	-	0.86	1.21	7.36

*Note: 3-Fully developed, 2-Partially developed, 1-Pilot stage of development, 0-Not developed, NA-Not applicable, DK-Don't Know. For statistics, NA and DK are scored as 0. No average score is calculated for "institutional mechanism" given missing information for half of the conventions.*

*Source: ESCAP, based on publicly available information, including dedicated website of each convention.*

The "dedicated legal instruments" scores reveal that significant efforts have been made in adapting the conventions to digitalization. The maximum score is generally not achieved because it requires 'mandatory electronic exchange', while most of the legal instruments use non-binding language. The FAL Convention is the only one which adopt legally binding amendments to make the use of electronic documents mandatory. The other convention which received 3 is the TIR Convention – although it does not make the use of the use of electronic documents mandatory, Annex 11 to the TIR Convention makes it mandatory for Contracting Parties to connect their customs systems to the eTIR international system in line with the eTIR specifications.



Nevertheless, each Contracting Party is free to establish by which date it connects its customs systems to the eTIR international system.

The comparative analysis highlights that the least developed aspect of digitalization is “interconnectivity and interoperability”. There are a few ways in practice to enhance interconnectivity and interoperability: promoting the use of existing international standards, collaborating with other international organizations, and collaborating with border agencies such as customs – these are reflected in the scoring scale as one point for work done in each of the three ways. For example, CITES received 3 points for the score of interconnectivity and interoperability because it has utilized all three approaches. The CITES e-permitting toolkit emphasizes the harmonization with international standards and norms, particularly those developed by UN/CEFACT and the WCO (1 point for the use of international standards).<sup>12</sup> CITES also collaborated with UNCTAD to jointly develop the ASYCUDA eCITES system, which can be implemented as a component of an ASYCUDA customs system (1 point for the cooperation with other international organization), and as a component of the National Single Window (1 point for the interconnection to national border agencies).<sup>13</sup> CITES also supported establishment of a joint task force with UNECE and ESCAP to facilitate pilot testing.<sup>14</sup> The low average score in this aspect indicates that although many efforts have been done to develop standards and systems for the digitalization, there is a big gap to fill to make these standards and systems interconnected or interoperable with each other. This underlines the need for cooperation among the organizations in charge of different conventions.

Scoring of the conventions in terms of ‘institutional mechanism’ and ‘capacity building’ activities towards digitalization proved difficult because of the limited information available in public resources. For example, most websites dedicated to the conventions, or digitalization projects under the conventions, provide few if any details of the committee or the working group in charge. Information on capacity building is available more often, but much more work might have been done than reported or published on the main websites. Based on the information collected, the most developed institutional mechanism for digitalization is that established under the Basel Convention. In turn, the most significant capacity building work on trade digitalization seem to have been done under the IPPC and the TIR Conventions.

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<sup>12</sup> The WCO has developed standards for eCITES, available at [WCO DM eCITES Derived Information Package \(DIP\)](#)

<sup>13</sup> Note that this is because it leverages the benefit of ASYCUDA customs system, which already built cooperation with national customs.

<sup>14</sup> <https://www.unescap.org/events/2022/uneceunescap-task-force-ecites-epix-pilots-0>

## 4. Individual Reports: Digitalization projects related to the selected conventions

As noted earlier, the comparative analysis presented in the above section was conducted based on publicly available documents and information available online. Standardized individual reports on each of the digitalization projects related to the selected conventions are provided below. The information summarized was collected during the second and third quarters of 2023 and readers may access the links provided in the reports for more up-to-date information.

### 4.1 ATA Convention: eATA

**Convention:** ATA Convention and Istanbul Convention<sup>15</sup>

**Type of trade-related document/data:** ATA carnets, an international customs document that permits duty-free and tax-free temporary import and export of goods in over 80 countries/customs territories.

**Provision/Annex on the exchange of document/data by electronic means:** NA

**Overview:**

Convention/ Projects	Assessment aspects	Stage of development
eATA	Development of electronic exchange mechanism or system	Fully developed
	Implementation of electronic exchange mechanism or system	Pilot stage of development
	Dedicated legal instruments	Pilot stage of development
	Institutional mechanism	Don't know
	Interconnectivity and interoperability	Pilot stage of development
	Capacity building	Pilot stage of development

**Brief description of the working project:** First developed by ICC in 2016 with the support of the World Customs Organization, eATA Carnet was launched to provide various digital tools tailored for a range of stakeholders including:

**A smartphone application**, the ATA Carnet app, enabling Carnet holders to carry and declare digital versions of their customs documents. **ATA Carnet Customs**, enabling customs officers to verify Carnets and approve digitally declared transactions. **The ATA Carnet Core**, the central engine and database of the whole ATA Carnet System. **[The ATA Gateway](#)**, a lightweight issuing module made available to NGAs and IAs to issue paper and digital carnets.

<sup>15</sup> Available at [https://www.wcoomd.org/en/topics/facilitation/instrument-and-tools/conventions/pf\\_ata\\_system\\_conven.aspx](https://www.wcoomd.org/en/topics/facilitation/instrument-and-tools/conventions/pf_ata_system_conven.aspx)

**Task force and working group:** Established by ICC's World Chambers Federation and endorsed by the World Customs Organization, no more detailed information available.

**Online exchange system:** When a Carnet is being issued, holders will also obtain a digital ATA Carnet, generated from the National Issuing and Claims Systems (NICS), which is run by a National Guaranteeing Association (NGA). The holder then downloads the ordered Carnet into his or her smartphone wallet using ICC's ATA Carnet app. If necessary, they can share it with his or her customs representative. For security purposes, the Carnet is encrypted and never transmitted in 'open format' on the network. When crossing a border, the holder, or their customs representative, unlocks the downloaded Carnet and prepares a declaration using the ATA Carnet app. A QR code is generated for each declaration to present to the customs officer upon travel. The customs officer then scans the QR code, reviews the declared elements via the ATA Carnet Customs Portal and determines if the goods can enter or exit the border. If the declaration is correct and accepted, the customs officer will the transaction via the ATA Carnet Customs Portal. The transaction is then recorded and a confirmation is sent to the holder or customs representative's smartphone.

**Harmonization (standards):** [WCO DM eATA Carnet Derived Information Package \(DIP\)](#)

**Link to other international standards:** NA

**Progress:** While basic functionalities of the system have been built, the project is currently running a pilot phase with selected NGA members and their respective customs authorities.

**Capacity building:** support as requested

**Cooperation and/or interconnectivity (with other international organizations):** [WCO DM eATA Carnet Derived Information Package \(DIP\)](#)

**Quantitative assessment of implementation cost:** NA

**Quantitative assessment of benefit (expected trade cost reductions):** NA

## 4.2 Basel Convention: e-approaches

**Convention:** Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal (Basel Convention)<sup>16</sup>

**Type of trade-related document/data:** Notification and movement documents needed to comply with the Prior Informed Consent (PIC) procedure for exporting and importing wastes regulated by the Basel Convention.

**Provision/Annex on the exchange of document/data by electronic means:** NA

### Overview:

Convention /Project	Assessment aspects	Stage of development
Basel Convention e-approaches	Development of electronic exchange mechanism or system	Not developed
	Implementation of electronic exchange mechanism or system	Not developed
	Dedicated legal instruments	Pilot stage of development
	Institutional mechanism	Fully developed
	Interconnectivity and interoperability	Not applicable
	Capacity building	Not applicable

### Brief description of the working project:

The Basel Convention sets out a detailed Prior Informed Consent (PIC) procedure with strict requirements for transboundary movements of hazardous wastes and other wastes. This project is to establish electronic approaches to the notification and movement documents relating to the PIC. Work on electronic approaches to the notification and movement documents was initiated by the Committee Administering the Mechanism for Promoting Implementation and Compliance (ICC) of the Basel Convention with a view to improve implementation of and compliance with Article 6 of the Basel Convention.

**Task force and working group:** The Small intersessional working group (SIWG) on electronic approaches to the notification and movement documents was established pursuant decision BC-15/14. The group has been entrusted to look further into electronic approaches to the notification and movement documents taking into account the report of the first consultative workshop on electronic approaches to the notification and movement documents of the Basel Convention and previous reports prepared on that topic.<sup>17</sup> Contact: Ms. Carla Valle-Klann, Secretariat of the Basel, Rotterdam, and Stockholm Conventions (Email: [carla.valle@un.org](mailto:carla.valle@un.org))

**Online exchange system:** NA (under development)

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<sup>16</sup> Provision on notification and documents: Article 6, paragraph 1 of the Basel Convention & decision VIII/18 of COP 8, see <https://www.basel.int/Procedures/NotificationMovementDocuments/tabid/1327/Default.aspx>

<sup>17</sup> More information is available at <https://www.basel.int/Implementation/Controllingtransboundarymovements/eapproachesfornotificationandmovement/SWIG/tabid/9442/Default.aspx>

**Harmonization (standards):** NA (under development)

**Link to other international standards:** NA

**Progress:** Parties have been invited to provide information about their experiences with electronic approaches to the notification and movement documents by responding to a questionnaire, a report based on the survey results is available at <https://www.basel.int/Portals/4/download.aspx?d=UNEP-CHW-OEWG.11-INF-21.English.pdf> Also, Parties are invited to nominated experts to contribute to the consultative workshops to explore options for a system under the Basel Convention that would allow for the automation of processes and the electronic exchange of information. The latest progress includes: 1) invitation to Parties and observers to work on pilot projects on electronic approaches to the notification and movement documents; 2) report on further recommendations on electronic approaches to the notification and movement documents is under development by the Secretariat; 3) the Secretariat is preparing to organize technical assistance activities and awareness-raising events in order to help Parties advance the work on electronic approaches.

**Cooperation and/or interconnectivity (with other international organizations):** NA

**Quantitative assessment of implementation cost:** NA

**Quantitative assessment of benefit (expected trade cost reductions):** NA

### 4.3 Chicago Convention: eCSD

**Convention:** Convention on International Civil Aviation (Chicago Convention)

**Type of trade-related document/data:** Consignment Security Declaration, which is to meet ICAO requirements, ensuring that each consignment received by an aircraft operator or a regulated agent comes with documentation, either on the e-ABW or on a separate declaration.

**Provision/Annex on the exchange of document/data by electronic means:** IATA e-CSD/CSD Resolution 651

**Overview:**

Convention /Projects	Assessment aspects	Stage of development
IATA ICAO eCSD	Development of electronic exchange mechanism or system	Fully developed
	Implementation of electronic exchange mechanism or system	Don't know
	Dedicated legal instruments	Partially developed
	Institutional mechanism	Don't know
	Interconnectivity and interoperability	Not developed
	Capacity building	Pilot stage of development

**Brief description of the working project:** The e-CSD allows operators to exchange and archive security information electronically to warrant that only secure cargo is shipped. This electronic document can also be audited by regulators at any point in the supply-chain and printed from electronic records.

**Task force and working group:** no detailed information available.

**Online exchange system:** eCSD can be added on eAWB, and eAWBs are often processed through Cargo Community Systems (CCS), which enable various parties in the air cargo industry to exchange electronic documents. Since 2018, IATA has been introducing the ONE Record data sharing standard. It aims to replace messaging standards and platforms with a data-centric standard that retains data at its source. This standard creates transport records by linking necessary data for documents like flight manifests to distributed data sources, making air transport data platform-independent.

**Harmonization (standards):** In November 2015, the IATA e-CSD/CSD Resolution 651 entered into force. It offers industry stakeholders and IATA carriers a universal standard [Electronic Consignment Security Declaration - standard layout](#). Technical tool to guide business experts and message providers in the development and implementation of the e-CSD: [The Other Customs, Security and Regulatory Control Information \(OCI\) table](#)

**Link to other international standards:** Be in accordance with the requirements of ICAO Security Manual Doc. 8973 and the Commission Implementing Regulation (EU) 1998/20.

**Progress:** Since 2013, several countries have show their official support to e-CSD: The German Federal Aviation Office (LBA) issued a communication confirming that the country officially accepts the e-CSD and CSD layout; The South African Civil Aviation Authority (SACAA) agreed that freight forwarders, carriers and ground handling agents could implement the e-CSD in addition to the CSD paper layout; The Swiss Civil Aviation Authority (FOCA) informed the air cargo industry that they can implement e-CSD and its layout as defined in the latest ICAO Aviation Security Manual.

**Capacity building:** Workshops and Training.

**Cooperation and/or interconnectivity (with other international organizations):** NA

**Quantitative assessment of implementation cost:** NA

**Quantitative assessment of benefit (expected trade cost reductions):** NA

#### 4.4 CITES: eCITES

**Convention:** The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)

**Type of trade-related document/data:** CITES permits (over 35,000 species regulated by CITES, over 950,000 permits issued per year)

**Provision/Annex on the exchange of document/data by electronic means:** The Convention, through the Resolutions and Decisions adopted by the Conference of Parties provides standards for eCITES implementation and ensures that Parties can take advantage of modern eBusiness approaches to implement the Convention. For example, [Decision 19.150 to 19.152 Electronic systems and information technology](#) and [Resolution Conf. 12.3 \(Rev. CoP19\)](#).

#### Overview:

Convention /Projects	Assessment aspects	Stage of development
eCITES	Development of electronic exchange mechanism or system	Fully developed
	Implementation of electronic exchange mechanism or system	Pilot stage of development
	Dedicated legal instruments	Partially developed
	Institutional mechanism	Partially developed
	Interconnectivity and interoperability	Partially developed
	Capacity building	Partially developed

**Brief description of the working project:** eCITES includes electronic application and issuance of CITES permits, control and authentication of CITES permits, reporting as well as electronic exchange of permits (permit information) between the Parties. There are 4 pillars of eCITES: ePermit, eControl, eReport, and eExchange.

**Task force and working group:** The CITES Intersessional Working Group on Electronic Systems and Information Technology

**Online exchange system:** The ASYCUDA eCITES system is an off-the-shelf software solution for electronic permit management and exchange. The ASYCUDA eCITES system can be implemented and maintained by a Management Authority as a stand-alone system or, if the national administration uses the ASYCUDA customs system, as a component of this Customs system. To provide access to electronic Permit solutions for many of the 193 Parties that have low permit volumes, the CITES Secretariat and UNCTAD have now developed the [eCITES BaseSolution](#), a cloud-based release of the ASYCUDA eCITES system which provides electronic permit processing functionality to Parties while the technical infrastructure of the server is maintained by UNCTAD experts. The system is virtually maintenance free for the Management Authorities and does not require advanced technical expertise or IT systems.



**Harmonization (standards):** The Working Group and the Secretariat publish standards and tools that support parties in the implementation and foster compatibility and information exchange of eCITES systems: [The eCITES Implementation Framework](#) and [The CITES ePermitting Toolkit](#).

**Link to other international standards:** The CITES e-permitting toolkit emphasizes the harmonization with international standards and norms, particularly those developed by UN/CEFACT and the WCO. Currently, the ASYCUDA eCITES module can be implemented either as a component of an ASYCUDA customs system, as a component of the National Single Window or as a standalone system module. The modularity of ASYCUDA and the compatibility with the customs system gives the possibility to adapt the technical implementation to the requirements of the country and the state of the implementation. From a technical perspective, ASYCUDA eCITES and ASYCUDA customs are based on the same software development platform and hardware requirements. Further information on the system requirements can be found on the ASYCUDA website <https://ecites.asycuda.org/#/home/default>

**Progress:** The development of the ASYCUDA eCITES system and the eCITES BaseSolution were initially completed, still need to promote the use of the system. Currently, quite few of countries have eCITES permit system in place. The national eCITES status is being continuously updated at <https://cites.org/eng/prog/eCITES>

**Capacity building:** The CITES Secretariat provides advisory services and capacity building to Parties. It works with a technology provider to provide Parties with low cost and off the shelf solutions such as the UNCTAD eCITES system. It also supports the implementation of eCITES in partnership with other international or regional organizations.

**Cooperation and/or interconnectivity (with other international organizations):** The CITES Secretariat and the UNCTAD ASYCUDA programme jointly developed the ASYCUDA eCITES system, under a joint MoU. The WCO has developed standards available at [WCO DM eCITES Derived Information Package \(DIP\)](#). Moreover, the UNECE and ESCAP established an Electronic Permit Information exchange (EPIX) Task Force to provide a forum where Parties could continue to share experiences and information related to the piloting and testing of electronic CITES permit information exchange and to network with other interested Parties.

**Quantitative assessment of implementation cost:** NA

**Quantitative assessment of benefit (expected trade cost reductions):** NA

#### 4.5 CMR: eCMR

**Convention:** The Convention on the Contract for the International Carriage of Goods by Road (CMR)

**Type of trade-related document/data:** CMR consignment note (the waybill/consignment note and contractual terms affiliated with it that were agreed at the CMR Convention), which presents information about the shipped goods and the transporting and receiving parties.

**Provision/Annex on the exchange of document/data by electronic means:** The Additional Protocol concerning the Electronic Consignment Note (eCMR)

#### Overview:

Convention /Projects	Assessment aspects	Stage of development
eCMR	Development of electronic exchange mechanism or system	Not applicable
	Implementation of electronic exchange mechanism or system	Not applicable
	Dedicated legal instruments	Partially developed
	Institutional mechanism	Don't know
	Interconnectivity and interoperability	Pilot stage of development
	Capacity building	Pilot stage of development

**Brief description of the working project:** In February 2008, a protocol was added to the CMR Convention, which requested that CMR could be managed electronically, via 'e-CMR'. This protocol entered into force on 5 June 2011, and to date 34 countries have acceded.<sup>18</sup>

**Task force and working group:** No public information available.

**Online exchange system:** Any platform could be used as a Business-to-business (B2B) and Business to government (B2G) data exchange. The implementation of e-CMR entails the need for a partner who can act as a "trusted third party". This must guarantee the legal coverage of operations and ensure the veracity, security and traceability of the information contained and updated in the e-CMR throughout your trip. Thus, in Europe there are two relevant solutions that respond to this need: Transfollow and Pionira.<sup>19</sup>

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<sup>18</sup> Azerbaijan, Belarus, Belgium, Bulgaria, Czech Republic, Denmark, Estonia, Finland, France, Germany, Iran, Kyrgyzstan, Latvia, Lithuania, Luxembourg, Netherlands, Norway, Oman, Poland, Portugal, Moldova, Romania, Russian Federation, Slovakia, Slovenia, Spain, Sweden, Switzerland, Tajikistan, Türkiye, Turkmenistan, Ukraine, United Kingdom, and Uzbekistan.

<sup>19</sup> Non-official source: [https://www.globalnegotiator.com/blog\\_en/e-cmr-implementation/](https://www.globalnegotiator.com/blog_en/e-cmr-implementation/)

**Harmonization (standards):** UN/CEFACT, in close collaboration with IRU (International Road Union) has developed a business requirements specification (BRS) and XML standard for the e-CMR, available at [UN/CEFACT eCMR<sup>20</sup>](#)

**Link to other international standards:** NA

**Progress:** e-CMR officially launched in January 2017 with the first ever border crossing to use electronic consignment notes between Spain and France, proving that the system works and is simple to implement and use. It is likely to prompt other countries to join – therefore increasing the potential for common benefit.

**Capacity building:** workshops were organised.

**Cooperation and/or interconnectivity (with other international organizations):** UN/CEFACT developed standards for eCMR.

**Quantitative assessment of implementation cost:** NA

**Quantitative assessment of benefit (expected trade cost reductions):** NA

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<sup>20</sup> The UNCEFACT e-CMR specification is a subset of the UN/CEFACT Multi-Modal Transport Reference Data Model (MMT-RDM), which is a subset of the UN/CEFACT Buy-Ship-Pay Reference Data Model.

**4.6 FAL Convention: eFAL**

**Convention:** Convention on Facilitation of International Maritime Traffic (FAL Convention)

**Type of trade-related document/data:** information required by Member States from ships when calling a port to facilitate international trade. (FAL forms, declarations and other documents).

**Provision/Annex on the exchange of document/data by electronic means:** Amendments to the Annex adopted in 2016 and 2022.

**Overview:**

Convention /Projects	Assessment aspects	Stage of development
eFAL	Development of electronic exchange mechanism or system	Not applicable
	Implementation of electronic exchange mechanism or system	Not applicable
	Dedicated legal instruments	Fully developed
	Institutional mechanism	Don't know
	Interconnectivity and interoperability	Pilot stage of development
	Capacity building	Pilot stage of development

**Brief description of the working project:** A mandatory requirement for national governments to introduce electronic information exchange between ships and ports comes into effect from 8 April 2019.

In 2022, the IMO's Facilitation Committee adopted amendments to the Annex to the Facilitation (FAL) Convention which will make the single window for data exchange mandatory in ports around the world, marking a significant step in the acceleration of digitalization in shipping. The amendments adopted by resolution FAL.14(46) on 13 May 2022 enter into force on 1 January 2024.

**Task force and working group:** IMO's Facilitation Committee

**Online exchange system:** NA

**Harmonization (standards):** [Guidelines for the use of electronic certificates \(FAL.5/Circ.39/Rev.2\)](#); [Guidelines for the use of electronic record books under MARPOL \(resolution MEPC.312\(74\)\)](#); [Guidelines for setting up a maritime single window \(FAL.5/Circ.42/Rev.3\)](#); [Guidelines for harmonized communication and electronic exchange of operational data for port calls \(FAL.5/Circ.52\)](#); [Guidelines on authentication, integrity and confidentiality of information exchanges via maritime single windows and related services \(FAL.5/Circ.46\)](#).

**Link to other international standards:** NA

**Progress:** Norway provided in-kind and financial support to implement a maritime single window system in Antigua and Barbuda. The project was implemented in 19 months (11 months of development, 6 months of testing and 4 months of transition

since October 2018). The source code developed for the system established in Antigua and Barbuda is available to other interested Member States, in particular, Small Island Developing States (SIDS). This can assist them in complying with the new mandatory requirement for electronic information exchange in the FAL Convention, to reduce the administrative burden and increase the efficiency of maritime trade and transport.

The Single Window for Facilitation of Trade (SWiFT) Project is a collaboration between IMO and Singapore aimed to develop an MSW system to allow electronic submission, through one single portal, of all information required by various Government agencies when a ship calls at a port. The Port of Lobito, Angola, is the pilot recipient port.

**Capacity building:** training, workshops e.g., GISIS Module on MSW

**Cooperation and/or interconnectivity (with other international organizations):** two events organized by the IMO Secretariat in partnership with IAPH and BIMCO to raise awareness of the deadline for implementation of the MSW and to share hands-on experience from Member States in the implementation process.

**Quantitative assessment of implementation cost:** NA

**Quantitative assessment of benefit (expected trade cost reductions):** NA

## 4.7 IPPC: ePhyto

**Convention:** International Plant Protection Convention (IPPC)

**Type of trade-related document/data:** Phytosanitary certificates

**Provision/Annex on the exchange of document/data by electronic means:**

International Standard for Phytosanitary Measures (ISPM)<sup>21</sup> 12 including Appendix 1. The text is available at <https://www.ippc.int/en/publications/609/>

**Overview:**

Convention /Projects	Assessment aspects	Stage of development
<b>The IPPC ePhyto Solution</b>	Development of electronic exchange mechanism or system	Fully developed
	Implementation of electronic exchange mechanism or system	Partially developed
	Dedicated legal instruments	Partially developed
	Institutional mechanism	Partially developed
	Interconnectivity and interoperability	Partially developed
	Capacity building	Partially developed

**Brief description of the working project:** The IPPC ePhyto Solution is a tool that transforms paper phytosanitary certificate into a digital phytosanitary certificate (ePhyto). An ePhyto is the electronic equivalent of a phytosanitary certificate in XML format. All the information contained in a paper phytosanitary certificate is also in the ePhyto. Brief timeline: proposal, preparation, and working group establishment (2006-2013); development of the online system (2013-2017); pilot phase with 4 countries (2017-2019); promoting phase (2019-now).<sup>22</sup>

**Task force and working group:**

[The ePhyto Project Technical Committee \(PTC\)](#) was composed of the [ePhyto Steering Group](#), the [United Nations International Computing Centre \(UNICC\)](#) and the [IPPC Secretariat](#).

[ePhyto Steering Group](#) was established by the 8th session of the Commission on Phytosanitary Measures (CPM) to commence work on key components to assist countries with their implementation of ePhyto. The purpose of the ePhyto Steering Group is to provide oversight, guidance and advice on IPPC efforts to facilitate the international exchange of electronic phytosanitary information among contracting parties.

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<sup>21</sup> ISPMs are standards adopted by the Commission on Phytosanitary Measures (CPM), which is the governing body of the IPPC.

<sup>22</sup> More details of the history of the ePhyto Solution are available at [https://assets.ippc.int/static/media/files/publication/en/2020/11/ePhyto\\_A\\_brief\\_history.pdf](https://assets.ippc.int/static/media/files/publication/en/2020/11/ePhyto_A_brief_history.pdf)

[The ePhyto Project Advisory Committee \(PAC\)](#) has been established to link the ePhyto Project to other international initiatives on electronic certification. The PAC provides advice to the ePhyto Project Technical Committee (PTC) on specific issues raised by the PTC and provides guidance on project implementation. The PAC also monitors the delivery of the project based upon the performance indicators specified in the project plan and evaluates project development by reviewing progress reports.

[ePhyto Industry Advisory Group \(IAG\)](#) has been established to provide practical guidance and advice to the IPPC Secretariat on the design, development and deployment of an ePhyto. The IAG will also advise the IPPC Secretariat on the feasibility of the project and its ability to facilitate efficient and effective trade flows. The IAG meets on an annual basis or by electronic communication. National plant protection organizations wishing to contact the membership should contact the IPPC Secretariat.

**Online exchange system:** Countries can either produce ePhytos and exchange them with the UNICC ePhyto Hub directly via their own national platforms or they can use the IPPC's web-based application, the General ePhyto National System (GeNS).

A central server (Hub) : to facilitate the transfer of electronic phytosanitary certificates between NPPOs, either from and to their own national electronic system or by using the generic system (as described following). Guide to joining and other information are available at <https://www.ephytoexchange.org/landing/hub/index.html>

A Generic ePhyto National System (GeNS): a web-based system that can produce and receive ePhytos, to allow countries that do not have a national electronic system to produce, send and receive ePhytos. Guide to joining and other information are available at <https://www.ephytoexchange.org/landing/gens/index.html>

**Harmonization (standards):** the structure and transmission of ePhytos will follow a harmonized format through the use of standardized mapping, codes and lists. Standards and other technical information are available at <https://www.ephytoexchange.org/landing/harmonization/index.html>

**Link to other international standards:** Use of harmonized international e-business standards between governments (UN/CEFACT)

**Progress:** As of September 2023, 84 countries are successfully exchanging ePhytos through the Hub, abandoning point-to-point connections and adopting the standards, 28 countries are successfully exchanging ePhytos through the GeNs. As of 2022, the system in the last year has seen a monthly average of ~107,000 messages processed, with 92% of them confirmed as readable information from the destination NPPO systems.

The status of registered, exchanging, or testing countries is being continuously updated at <https://www.ephytoexchange.org/landing/index.html>

**Capacity building:** Apart from guides and technical support, the IPPC Secretariat working with national and regional plant protection organizations have hosted a

number of workshops and Symposias related to the ePhyto Solution. More information is available at <https://www.ippc.int/en/ephyto/ephyto-symposia/>

**Cooperation and/or interconnectivity (with other international organizations):**

The integration of the Hub with the European Union system (TRACES) helps handle the sending and receiving of phytosanitary certificates for 26 EU countries through a single source. Cooperation with Common Market for Eastern and Southern Africa (COMESA) for the development of IPPC-ePhyto amongst Member States of COMESA (ongoing).

**Potential cooperation in the future:** Potential to link with the World Customs Organization “Single Window” initiative and to harmonize codes and processes.

**Quantitative assessment of implementation cost:** NA

**Quantitative assessment of benefit (expected trade cost reductions):** NA



#### 4.8 Montreal Convention: eFreight/eAWB

**Convention:** Convention for the Unification of Certain Rules for International Carriage by Air (Montreal Convention)

**Type of trade-related document/data:** documents of air carriage (air cargo manifest, air waybill etc.)

**Provision/Annex on the exchange of document/data by electronic means:** IATA Resolution 672 on E-air Waybill, also known as ‘Multilateral e-AWB Agreement.

#### Overview:

Convention /Projects	Assessment aspects	Stage of development
IATA eFreight/eA WB	Development of electronic exchange mechanism or system	Fully developed
	Implementation of electronic exchange mechanism or system	Fully developed
	Dedicated legal instruments	Partially developed
	Institutional mechanism	Don't know
	Interconnectivity and interoperability	Pilot stage of development
	Capacity building	Pilot stage of development

**Brief description of the working project:** E-freight is an industry-wide initiative involving carriers, freight forwarders, ground handlers, shippers, customs brokers and customs authorities. E-freight aims to build an end-to-end paperless transportation process for air cargo through a regulatory framework, electronic messages and high data quality. The e-freight roadmap outlines a shared end-to-end industry approach to remove three types of documents:

- 1) Customs documents, engaging regulators and governments worldwide to create an ‘e-freight route network’ where customs procedures are fully electronic and regulations support paperless shipments.
- 2) Transport documents, working collaboratively within the cargo supply chain to digitize the core industry transport documents, starting with the Air Waybill (AWB).
- 3) Commercial & special cargo documents, developing a plan to digitize the commercial and special cargo documents typically accompanying air freight today, in or out of the ‘cargo pouch’.

**Task force and working group:** no detailed information available.

**Online exchange system:** Electronic Air Cargo Manifest are often exchanged through IATA Cargo Interchange Message Procedures (IMP) or Cargo Extensible Markup Language (XML) Electronic Data Interchange (EDI) systems.<sup>23</sup> And eAWBs are often processed through Cargo Community Systems (CCS), which enable various parties in the air cargo industry to exchange electronic documents.

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<sup>23</sup> Electronic flight manifests are transmitted in various formats, depending on stakeholders’ needs and capabilities: 1. IATA Cargo Interchange Message Procedures (IMP) or Cargo Extensible Markup Language (XML) Electronic Data Interchange (EDI) systems 2. Application Programming Interface (API) where airlines and partners have such capabilities 3. E-mail or web portals when better means are not available.

Moreover, since 2018, IATA has been introducing the ONE Record data sharing standard. It aims to replace messaging standards and platforms with a data-centric standard that retains data at its source. This standard creates transport records by linking necessary data for documents like flight manifests to distributed data sources, making air transport data platform-independent.

**Harmonization (standards):** e-Freight, including electronic Flight Manifest: <https://www.iata.org/en/programs/cargo/e/efreight/#tab-1>, the older version of eAWB uses IATA Cargo-XML messaging, which reuses the components from the UN/CEFACT Core Components Library (UN/ CCL). Moreover, the new generation Flight Manifest and Air Waybills are part of the IATA ONE Record initiative: <https://www.iata.org/en/programs/cargo/e/one-record/> The ONE Record standard comprises a data model, API specification, and security measures for streamlined data exchange in the air cargo industry, available on GitHub.

**Link to other international standards:** NA

**Progress:** e-AWB is now the default contract of carriage – 9 years after its introduction in 2010, e-AWB became the default contract of carriage for all air cargo shipments on enabled trade lanes on 1 January 2019.

**Capacity building:** Training

**Cooperation and/or interconnectivity (with other international organizations):** UN/CEFACT has also incorporated e-AWBs in its Multi-Modal Transport Reference Data Model (MMT-RDM) to enhance interoperability in transport information sharing through collaboration with IATA and ICAO.

**Quantitative assessment of implementation cost:** NA

**Quantitative assessment of benefit (expected trade cost reductions):** NA

#### 4.9 Paris Convention: WIPO DAS

**Convention:** Paris Convention for the Protection of Industrial Property (Paris Convention)

**Type of trade-related document/data:** Documents related to the protection of industrial property including patents, utility models, industrial designs and trademarks.

**Provision/Annex on the exchange of document/data by electronic means:** Revised framework provisions for the digital access service (in force July 1, 2012), and other [Legal and operational information](#)

#### Overview:

Convention /Projects	Assessment aspects	Stage of development
WIPO DAS	Development of electronic exchange mechanism or system	Fully developed
	Implementation of electronic exchange mechanism or system	Pilot stage of development
	Dedicated legal instruments	Partially developed
	Institutional mechanism	Pilot stage of development
	Interconnectivity and interoperability	Not development
	Capacity building	Pilot stage of development

**Brief description of the working project:** The WIPO Digital Access Service (DAS) is an electronic system allowing priority documents and similar documents to be securely exchanged between participating intellectual property (IP) offices. The system enables applicants and offices to meet the requirements of the Paris Convention for certification in an electronic environment.

**Task force and working group:** The DAS system is the responsibility of the WIPO IP Office Business Division (IPOBSD), working in coordination with the WIPO PCT Sector for questions relating to the IB as an accessing and depositing office. Contact: [das.support@wipo.int](mailto:das.support@wipo.int)

**Online exchange system:** DAS system with access for applicants and IP offices

**Harmonization (standards):** [User guide](#), [DAS Technical Documentation](#)

**Link to other international standards:** NA

**Progress:** participating intellectual property offices from 11 countries, see [list](#).

**Capacity building:** technical support

**Cooperation and/or interconnectivity (with other international organizations):** NA

**Quantitative assessment of implementation cost:** NA

**Quantitative assessment of benefit (expected trade cost reductions):** NA

#### 4.10 PCT: WIPO ePCT

**Convention:** Patent Cooperation Treaty (PCT)

**Type of trade-related document/data:** PCT international applications, WIPO digital certificates

**Provision/Annex on the exchange of document/data by electronic means:** [Annex F: Standard for Filing and Processing in Electronic Form](#)

**Overview:**

Convention/ Projects	Assessment aspects	Stage of development
WIPO ePCT	Development of electronic exchange mechanism or system	Fully developed
	Implementation of electronic exchange mechanism or system	Partially developed
	Dedicated legal instruments	Partially developed
	Institutional mechanism	Pilot stage of development
	Interconnectivity and interoperability	Not developed
	Capacity building	Pilot stage of development

**Brief description of the working project:** ePCT is a secure browser-based system available in the 10 languages of publication offering a wide range of functions for applicants, IP Offices and third parties. Users with the relevant access rights can login to ePCT using their WIPO Account to access the latest bibliographic data and documents on record at the International Bureau (IB), including before publication. Login with strong authentication is required to access confidential information.

**Task force and working group:** contact: [pct.eservices@wipo.int](mailto:pct.eservices@wipo.int)

**Online exchange system:** WIPO ePCT system [ePCT \(wipo.int\)](#)

**Harmonization (standards):** [User guide](#)

**Link to other international standards:** NA

**Progress:** ePCT-Filing accepted by [87 receiving Offices](#)

**Capacity building:** technical support

**Cooperation and/or interconnectivity (with other international organizations):** NA

**Quantitative assessment of implementation cost:** NA

**Quantitative assessment of benefit (expected trade cost reductions):** NA

**4.11 TIR Convention: eTIR**

**Convention:** Customs Convention on the International Transport of Goods under Cover of TIR Carnets (TIR Convention)

**Type of trade-related document/data:** TIR carnet, guarantee, and other information and data for the paperless operation of TIR.

**Provision/Annex on the exchange of document/data by electronic means:** Annex 11 of the TIR Convention. Contracting Parties bound by Annex 11 shall accept the submission of advance TIR data and advance amendment data via the eTIR international system.

**Overview:**

Convention /Projects	Assessment aspects	Stage of development
<b>eTIR</b>	Development of electronic exchange mechanism or system	Fully developed
	Implementation of electronic exchange mechanism or system	Don't know
	Dedicated legal instruments	Fully developed
	Institutional mechanism	Don't know
	Interconnectivity and interoperability	Partially developed
	Capacity building	Fully developed

**Brief description of the working project:** The Contracting Parties to the TIR Convention launched in 2003 the so-called "eTIR Project", aimed at providing an exchange platform for all actors (Customs authorities, TIR carnet holders, and guarantee chains) involved in the TIR system, known as the "eTIR international system". In February 2020, Countries have adopted provisions (Annex 11 and other provisions to TIR Convention) providing the legal basis for the paperless operation of the United Nations TIR Convention (the so-called eTIR) - the only global customs transit system, facilitating trade and the seamless and secure movement of goods across borders. The term "eTIR procedure" shall mean the TIR procedure, implemented by means of electronic exchange of data, providing the functional equivalent to the TIR Carnet. Whereas the provisions of the TIR Convention apply, the specifics of the eTIR procedure are defined in Annex 11.

**Task force and working group:** no detailed information available.

**Online exchange system:** A number of TIR IT tools are available allowing transport operators, IRU and national associations to exchange data with customs, provide advance cargo information and track TIR-related matters such as the guarantee and claims procedure status. Functioning on a real-time basis, these digital TIR tools enable multidirectional data exchange between TIR stakeholders and provide a robust and secure communication platform for all parties involved in TIR transports—helping to promote trade, boost economic growth and make communities stronger.

*TIR Electronic Pre-Declarations (TIR-EPD)*, developed by IRU, enable TIR operators to send advance cargo information and exchange messages with multiple customs authorities throughout a TIR transport, in full respect of all national customs requirements and the format of information to be submitted. This application is used widely by transport operators and their representatives. It saves border waiting time and reduces transport operator costs, while allowing customs to do proper risk assessment.

The *Real-Time SafeTIR system (RTS)*, developed by IRU, allows customs officers to verify the status and validity of each TIR guarantee at any moment in real-time. Besides the status, the tool provides information to customs concerning the holder and the name of the TIR guarantee issuing association, as well as a wide scope of customs messages already exchanged by other customs throughout the transport. It is an effective risk management tool in the automation of the customs routine related to TIR operations. Furthermore, thanks to RTS, information confirming the proper termination of TIR operations is made available quickly and electronically to all stakeholders involved.

*AskTIRWeb* is the IRU online tool for use by TIR national associations for managing TIR related matters such as issuing guarantees, claims procedure, reconciliation procedure, or the management of TIR transport operators and their vehicles and permits.

The full life cycle of a TIR guarantee, from its issuance by IRU to its termination, is digitised and controlled in real-time with the use of TIR IT tools.

**Harmonization (standards):** [eTIR specifications](#), [WCO DM eTIR Derived Information Package \(DIP\)](#)

**Link to other international standards:** NA

**Progress:** more than 16 Contracting Parties plus the European Commission have expressed interest to interconnect with the eTIR international system and several of them have already initiated the interconnection project.

**Capacity building:** support and training available, see <https://etir.org/support-and-training>

**Cooperation and/or interconnectivity (with other international organizations):** IRU and UNECE partnership, and the UNECE's cooperation with the Organization for Security and Co-operation in Europe (OSCE).

**Quantitative assessment of implementation cost:** NA

**Quantitative assessment of benefit (expected trade cost reductions):** NA

**4.12 UPC: EAD**

**Convention:** Universal Postal Convention (and Regulations to the Convention)

**Type of trade-related document/data:** Electronic advance data (EAD), item data of cargo and mail.

**Provision/Annex on the exchange of document/data by electronic means:** Articles 08-002, 17-107 and 17-216 of the UPU Convention Regulations

**Overview:**

Convention /Projects	Assessment aspects	Stage of development
UPU EAD	Development of electronic exchange mechanism or system	Fully developed
	Implementation of electronic exchange mechanism or system	Partially developed
	Dedicated legal instruments	Fully developed
	Institutional mechanism	Pilot stage of development
	Interconnectivity and interoperability	Pilot stage of development
	Capacity building	Partially developed

**Brief description of the working project:** The roadmap for EAD implementation was a result of the adoption of POC resolution CEP 2/2015.1, which established a steering committee to develop a roadmap, taking into account the need to coordinate the roadmap’s projects with the WCO. Some of the achievements since then include:

- 1) Adoption by the Doha Congress of Convention article 8 on postal security, and adoption by the POC of the associated provisions on EAD contained in article 08-002 of the Convention Regulations;
- 2) Development of the Global Postal Model (GPM) for the Union in response to emerging EAD requirements;
- 3) Adoption of the draft EAD roadmap (document POC 2016.1–Doc 10m) and of the ongoing EAD roadmap steering committee function, followed by the committee’s revisions of the roadmap in 2017 and 2021, as a result of the consultations conducted to develop the POC work assignments needed to implement the GPM during the Istanbul cycle.

One of the guiding principles of the EAD roadmap is to ensure that its efforts help prepare UPU members for the EAD requirements that came into force in 2021.

**Task force and working group:** no detailed information available.

**Online exchange system:** EAD Customs Declaration Mobile App

It provides postal customers and MSMEs an easy means to input any Customs information related to their postal item before sending. This then helps ensure the Post can capture all required data to ensure timely Customs clearance. The process is simple: when the customer hands over the mail item to the Post of origin, the Post can call the draft directly from the CDS database, or scan the QR code on the mobile device of the sender, and retrieve all information for validation before sending.

The benefits of using the App are evident across the supply chain. Having an application right in the palm of their hand saves the customer precious time when depositing their item at the post office. The sending Post also minimizes time spent with each customer in order to key in the necessary data. As a result, Customs receives good quality data monitored and validated within the App itself.

**Harmonization (standards):** The EAD Global Postal Model; Core principles underlying the Global Postal Model; “Do Not Load” guidelines. See more information at <https://www.upu.int/en/Postal-Solutions/Programmes-Services/Postal-Supply-Chain/Postal-Supply-Chain-Integration>

**Link to other international standards:** World Customs Organization and International Civil Aviation Organization (WCO–ICAO) Guiding Principles for Pre-Loading Advance Cargo Information (PLACI).

**Progress:** 32 countries have declared specific customs- or security-based requirements for the mandatory provision of EAD in accordance with 08-002. See list <https://www.upu.int/getmedia/b606dcbc-c9d3-4709-9c1e-2f3e4e0d8db2/mandatoryEadCountries.pdf>

**Capacity building:** Training

**Cooperation and/or interconnectivity (with other international organizations):** WCO, ICAO

**Quantitative assessment of implementation cost:** NA

**Quantitative assessment of benefit (expected trade cost reductions):** NA



#### 4.13 UPU MDSA

**Convention:** UPU Multilateral Data Sharing Agreement (MDSA)

**Type of trade-related document/data:** data necessary for the operations of international postal services

**Provision/Annex on the exchange of document/data by electronic means:** MDSA and data protection, confidentiality, security on the basis of the UPU Convention.

**Overview:**

Convention /Projects	Assessment aspects	Stage of development
UPU MDSA	Development of electronic exchange mechanism or system	Not applicable
	Implementation of electronic exchange mechanism or system	Not applicable
	Dedicated legal instruments	Pilot stage of development
	Institutional mechanism	Don't know
	Interconnectivity and interoperability	Not developed
	Capacity building	Not developed

**Brief description of the working project:** Adopted by the POC in April 2021, MDSA is a legal instrument created to facilitate the exchange of data necessary for the operations of international postal services and to enable the implementation of such exchanges in accordance with the UPU Acts. It is a voluntary agreement to join and accept binding obligations on data sharing. The UPU MDSA provides enhanced data protection within the framework of the UPU Acts. Furthermore, the UPU MDSA is the only DSA approved by the Postal Operations Council and developed on the basis of global needs.

**Task force and working group:** for more information contact [MDSA@upu.int](mailto:MDSA@upu.int)

**Online exchange system:** NA

**Harmonization (standards):** The MDSA incorporates and expands on the substantive provisions of existing and privately established multilateral data sharing arrangements concluded by the DOs of Union member countries. The goal is to better reflect the relevant data-sharing obligations contained in the Acts of the Union and to establish the relevant conditions for a UPU-managed instrument with global reach.

**Link to other international standards:** NA

**Progress:** [List of countries](#) that signed the MDSA (60 countries).

**Capacity building:** NA

**Cooperation and/or interconnectivity (with other international organizations):** NA

**Quantitative assessment of implementation cost:** NA

**Quantitative assessment of benefit (expected trade cost reductions):** NA

#### 4.14 WOAH (OIE) Agreement: WTO STDF

**Convention:** International Agreement for the Creation of an Office International des Epizooties (OIE)

**Type of trade-related document/data:** veterinary certification

**Provision/Annex on the exchange of document/data by electronic means:** NA

**Overview:**

Convention /Projects	Assessment aspects	Stage of development
UPU MDSA	Development of electronic exchange mechanism or system	Not applicable
	Implementation of electronic exchange mechanism or system	Not applicable
	Dedicated legal instruments	Not applicable
	Institutional mechanism	Pilot stage of development
	Interconnectivity and interoperability	Not applicable
	Capacity building	Not applicable

**Brief description of the working project:** The project ‘Development of a framework to facilitate e-veterinary certification for international trade on the basis of a single window system’ is funded by the WTO Standards and Trade Development Facility (STDF) and has been implemented by the OIE on behalf of the five applicant countries, namely Cambodia, Eswatini, Nigeria, Paraguay and Zimbabwe.

The overall goal of this project is to assist developing countries by facilitating their understanding and potential use of e-veterinary certification to better engage in international trade of animals and animal products through information sharing, country visits by experts, and providing information on what other international organisations are doing in e-veterinary certification. The project included a self-assessment by developed and developing countries (Australia, Chile, Eswatini, France, Japan, Malaysia, Nigeria, Paraguay, Singapore, United Kingdom and Zimbabwe) of their current situation in relation to e-certification and single window through the completion of a questionnaire. In the case of Eswatini, Malaysia, Nigeria, Paraguay and Zimbabwe, they also received a visit from an expert on electronic certification and single window to get a deeper insight into the current situation in these countries. In addition, the project included research on existing work undertaken by other relevant international organisations (including the Codex Alimentarius Commission [Codex] and the Secretariat of the International Plant Protection Convention [IPPC]) in relation to sanitary and phytosanitary (SPS) certification.

**Task force and working group:** The OIE was responsible for implementing and managing the project on behalf of the five applicant countries: Cambodia, Eswatini, Paraguay, Nigeria and Zimbabwe. **The Reference Group** was established by the OIE and consisted of the five applicant Members (Cambodia, Eswatini, Paraguay, Nigeria Zimbabwe) and additional Members that had previously expressed interest in e-veterinary certification (Australia, Canada, Chile, France, Germany, Japan, Malaysia,

Netherlands, New Zealand, Singapore, United Kingdom and United States of America) and the European Union (EU). **The Steering Committee** consisted of six experts from members of the Reference Group (Australia, Japan, Malaysia, Nigeria, Paraguay, United Kingdom) and experts on e-certification in SPS areas or trade facilitation from relevant international organisations (WCO, UN/CEFACT, World Bank, FAO) and the EU as an observer. **The OIE Project team** consisted of personnel from the OIE Headquarters in Paris: Standards Department (project manager) and Financial Directorate (grant manager) under the guidance and supervision of the Head of the OIE Standards Department.

**Online exchange system:** NA

**Harmonization (standards):** The introduction in the Terrestrial Animal Health Code and the Aquatic Animal Health Code of additional guidance on the transition from a paper to an electronic format on the basis of a single window system.

**Link to other international standards:** NA

**Progress:** NA

**Capacity building:** NA

**Cooperation and/or interconnectivity (with other international organizations):** NA

**Potential cooperation and/or interconnectivity (with other international organizations):** One proposal/recommendation made in the project report is that cooperation between the OIE, IPPC and Codex, the ‘three sisters’ recognised by the WTO SPS Agreement and the Customs authorities will help countries more effectively develop e-veterinary certification for international trade on the basis of a single window system.

**Quantitative assessment of implementation cost:** NA

**Quantitative assessment of benefit (expected trade cost reductions):** NA

## 5. Conclusion and the way forward

This paper reviewed 14 international conventions of global scope involving the issuance and exchange of one or more trade-related documents as part of their implementation. A majority of ESCAP members, including existing parties to the CPTA are found to be already parties to most of these conventions. CPTA parties are quite active in participating in digitalization projects under these international conventions. The IATA e-freight, eCMR, UPC EAD and UPU MDSA, and IPPC ePhyto have the most CPTA parties involved in digitalization implementation. Standards, formats, approaches or mechanisms developed for electronic exchange of data or documents under these conventions may inform the implementation of the CPTA.

The stage of development of the 14 conventions toward digitalization was compared across six dimensions, including state of development and implementation of electronic exchange mechanism or system, existence of dedicated legal instruments and institutional mechanism, and attention to interconnectivity and interoperability. The IPPC, CITES, and UPC received the highest overall digitalization scores.

The scoring exercise reveals a significant gap between development of an electronic exchange mechanism under a convention, and its actual implementation and utilization. Further, limited thoughts seem to have been given in many cases about ‘interconnectivity and interoperability’ of the systems developed. Overall, the digitalization efforts under most conventions are still very much “work in progress”, providing ample opportunities for cooperation and systems’ harmonization.

Going forward, the CPTA secretariat may invite experts involved in the digitalization efforts under the conventions reviewed to share their knowledge and experience with each other as well as ESCAP, as well as to contribute to the various guidance documents to be prepared as part of the CPTA regional action plan implementation. CPTA parties may consider undertaking coordinated implementation of digitalization projects under the most relevant and advanced conventions in this area (e.g., ePhyto under IPPC), as part of building trust towards broader and more advanced collaboration on cross-border paperless trade. Digitalization projects identified in this paper may also be added to the ESCAP / ICC Cross-border Paperless Trade Database (<https://digitalizetrade.org>), if not already there.

Further research will also be needed to verify the robustness of the information presented in this paper and make the analysis more comprehensive. Indeed, the analysis has so far relied only on desk research and would benefit from direct expert feedback from those involved in the implementation of the 14 conventions identified. In addition, further efforts may be needed to sharpen the criteria used – and their application - in selecting conventions and agreements most relevant to cross-border paperless trade implementation. Analysis of digitalization efforts and practices under selected regional trade-related agreements may be particularly beneficial in the context of the CPTA implementation.

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## Annexes

### Annex 1: Other global conventions promoting paperless trade and signed by ESCAP members

There are several global conventions that provide legal basis for the use and exchange of electronic documents in international trade, five of which are listed below. These conventions are not included in the analysis presented here as they do not require exchange of a specific document(s), but rather provide guidance and set out commitments for exchange of a wide range of documents and information as part of the international trade process. Among these, the Revised Kyoto Convention is particularly relevant as it contains specific annexes dedicated to certain types of documents - the WCO also has developed standards that are applicable to facilitate the implementation of the Revised Kyoto Convention. It is worth noting that nearly all parties to the Framework Agreement on the Facilitation of Cross-Border Paperless Trade in Asia and the Pacific (CTPA) are also parties of the Revised Kyoto Convention, with clear synergies between the implementation of the CPTA and that of the Revised Kyoto Convention.

**Table A1. International conventions supporting the exchange of trade-related documents electronically (other than the CPTA and the WTO TFA)**

Convention	Host Organization	Number of Parties	Number of ESCAP Members	Number of CPTA Parties	Legal basis for digitalization
<b>International Convention on the Simplification and Harmonization of Customs Procedures (Revised Kyoto Convention)</b>	WCO	133	43	14	Commitments on standardization and simplification of the goods declaration and supporting documents, maximum use of information technology. WCO developed the Framework of Standards on cross-border e-commerce.
<b>UN Convention on the Use of Electronic Communications in International Contracts</b>	UN	18	12	8	This is an enabling treaty whose effect is to remove formal obstacles (in some former treaties) by establishing equivalence between electronic and written forms. Also, the Convention is intended to strengthen harmonization of the rules regarding electronic commerce and to foster uniformity in the domestic enactment of UNCITRAL model laws relating to electronic commerce.
<b>International Convention on the Harmonization of Frontier Controls</b>	UNECE	58	16	8	It encourages contracting parties to reduce reliance on paper documents and to simplify documentation procedures by using electronic systems.

<b>of Goods (Harmonization Convention)</b>					
<b>UN Convention on the Carriage of Goods by Sea (Hamburg Rules)</b>	UN	35	7	1	It allows the signature on the bill of lading in different formats (i.e. including by electronic means).
<b>UN Convention on Contracts for the International Carriage of Goods Wholly or Partly by Sea (Rotterdam Rules, not in force)</b>	UN	5	0	0	It includes several provisions on the use of electronic transport records and documents (namely on the authenticity of negotiable electronic transport records).

*Note: 'CPTA parties' in this table counted Armenia and Cambodia which have yet to ratify the CPTA but are signatories of the treaty.*

*Source: ESCAP*



## **Annex 2: Paperless trade in selected trade agreements signed by ESCAP members**

ESCAP member states have made commitments to implement paperless trade through regional trade agreements. This annex provides a comparative review of provisions on paperless trade in the WTO TFA, the CPTA and in selected key trade agreements signed by ESCAP members. As there are hundreds of preferential trade agreements signed by ESCAP members, the review is limited here to the major plurilateral trade agreements which contains paperless trade related commitments: the two mega-regional agreements – the Comprehensive and Progressive Agreement for Trans-Pacific Partnership Agreement (CPTPP) and the Regional Comprehensive Economic Partnership Agreement (RCEP); the dedicated agreement on digital economy Digital Economy Partnership Agreement (DEPA) which is expanding as it is open to more countries to join; the Agreement to Establish and Implement the ASEAN Single Window (ASW Agreement) which established the ASEAN Single Window and provides concrete mechanisms for exchange of trade documents and data; and the Pacific Agreement on Closer Economic Relations Plus (PACER PLUS).

### **a. Comparing paperless trade commitments in plurilateral trade agreements among ESCAP member states and the CPTA**

Table A2 below provides a comparative overview of the commitments to paperless trade in the key agreements listed above and the CPTA. All the key agreements recognise the validity of trade related documents in electronic form and require parties to accept electronic documents. Nevertheless, only DEPA makes a clear distinguishment between ‘trade administration documents’ and ‘electronic records used in commercial trading activities’, as well as the exchange between authorities and businesses. This makes the scope of commitments clearer and also to some extent gives a reminder: when interpreting other agreements without this distinguishment, ‘trade-related documents and data’ may have a broad scope and should cover public-public, public-private, and private-private exchange of documents and data. Therefore, when implementing those agreements, more clarification is needed and different mechanisms may be needed for the implementation of different types of exchange. The ASW and CPTA provides the most specific arrangements for facilitating cross-border paperless trade, and ASW is the only instrument that establishes an integrated single window system. Notably, there is an emerging coherence of paperless trade commitments. Especially, the acceptance of trade-related data and documents in electronic format and the harmonization of standards for trade-related documents and data are included in almost all the plurilateral trade agreements with paperless trade provisions signed by ESCAP members – This again underline the importance of the existing standards and mechanisms for the implementation of paperless trade commitments in trade agreements.

**Table A2. Paperless trade commitments in trade agreements involving more than 3 ESCAP members and the CPTA**

Commitments on cross-border paperless trade	ASW Agreement (2005)	WTOTFA (2017)	PACER PLUS (2017)	CPTPP (2018)	RCEP (2020)	DEPA (2020)	CPTA (2016)
Making trade administration documents available to the public in electronic form	NA	shall endeavour	NA	shall endeavour	shall endeavour	mandatory	NA
Acceptance of trade-related data and documents in electronic form	mandatory	shall endeavour	NA*	shall endeavour	shall endeavour	mandatory	shall endeavour
Enabling domestic legal environment for paperless trade	NA	NA	NA	NA	NA	NA	shall endeavour
Developing systems for submission/exchange of trade-related data and documents in electronic form	mandatory	NA	Should	mandatory	NA	shall endeavour	shall endeavour
Allowing cross-border transfer of information by electronic means	NA	NA	NA	mandatory	mandatory**	mandatory*	NA
Mutual recognition of trade-related data and documents in electronic form	NA	NA	NA	NA	NA	NA	mandatory* #
Harmonization of standards for trade-related data and documents in electronic form	mandatory	encouraged	NA	shall endeavour	encouraged	encouraged	shall endeavour
Increasing interoperability of data/document exchange systems	mandatory	NA	NA	NA	NA	shall endeavour	encouraged

<b>Development of national single-window systems</b>	mandatory	shall endeavour	NA	shall endeavour	NA	mandatory	encouraged
<b>Development of integrated regional single-window systems</b>	mandatory	NA	NA	NA	NA	NA	NA

'Should' and 'Shall endeavour' are not binding language in trade agreements but usually indicating stronger commitment than encouragement.  
\*PECAR PLUS only requires the acceptance of electronic documents covering all goods contained in a shipment to expedite the clearance.  
\*\*RCEP and DEPA provide carve-out to the obligation.  
\*#CPTA only requires mutual recognition of documents of “substantially equivalent level of reliability”, which has to be separately negotiated and determined; actual operationalization exchange of documents is subject to separate bilateral/multilateral arrangements

Note: WTO Agreement on Trade Facilitation (TFA), Comprehensive and Progressive Agreement for Trans-Pacific Partnership Agreement (CPTPP) and the Regional Comprehensive Economic Partnership Agreement (RCEP), Digital Economy Partnership Agreement (DEPA), Agreement to Establish and Implement the ASEAN Single Window (ASW Agreement), the Pacific Agreement on Closer Economic Relations Plus (PACER PLUS)  
Source: ESCAP

## b. Good practice for implementation: the ASEAN Single Window<sup>24</sup>

The ASEAN Single Window (ASW) is a regional initiative that connects and integrates National Single Window (NSW) of ASEAN Member States (AMS) to exchange electronic trade-related documents. Although the ASW agreement is different from the international conventions reviewed and discussed in Section 2 as it is regional and preferential, the assessment aspects and methodology can still be applied to the implementation of ASW. The digitalization score of the ASW agreement reaches 15, higher than all of the global conventions reviewed.

### Overview of assessment:

Convention /Projects	Assessment aspects	Stage of development
<b>ASW</b>	Development of electronic exchange mechanism or system	Fully developed (3)
	Implementation of electronic exchange mechanism or system	Partially developed (2)
	Dedicated legal instruments	Fully developed (3)
	Institutional mechanism	Fully developed (3)
	Interconnectivity and interoperability	Pilot stage of development (1)
	Capacity building	Fully developed (2)

Source: ESCAP

<sup>24</sup> Information under this part is summarised from <https://asw.asean.org/>

## Detail information about the ASW:

<b>Development of ASW system</b>	The system enables a single submission of data, a single synchronous processing of information and a single decision-making for Customs release and clearance among AMS and participating countries.
<b>Implementation of ASW system</b>	<b>ASEAN Trade in Goods Agreement electronic Certificate of Origin (ATIGA e-Form D):</b> all AMS since 2019, AMS have exchanged more than 900,000 of the ATIGA e-Form D through ASW in 2021.
	<b>ASEAN Customs Declaration Document (ACDD):</b> the exchange of ACDD has started since December 2020 among Cambodia, Myanmar, and Singapore. Malaysia and Thailand joined in 2021 while the Philippines joined in January 2022.
	<b>Electronic Phytosanitary (e-Phyto) Certificate:</b> the exchange of this document is targeted in Q3 2022 by Indonesia, Malaysia, and Thailand;
	<b>Electronic Animal Health (e-AH) and Electronic Food Safety (e-FS) certificates</b> are under the discussion.
<b>Dedicated legal instruments</b>	<a href="#">Agreement to Establish and Implement the ASEAN Single Window (ASW Agreement)</a> , <a href="#">Protocol to Establish and Implement the ASEAN Single Window (ASW Protocol)</a> , <a href="#">Protocol on the Legal Framework to Implement the ASW (PLF)</a> , <a href="#">Memorandum of Understanding on the Implementation of the ASEAN Single Window Pilot Project</a> .
<b>Institutional mechanism<sup>25</sup></b>	<b>ASW Steering Committee (ASWSC)</b> was established to promote the construction of ASW. <sup>26</sup> <b>Working Group on Legal &amp; Regulatory Matters (ASW LWG)</b> focuses on business process analysis and Information and Communication Technology (ICT) system development. <b>Working Group on Technical Matters (ASW TWG)</b> was established to assist in the construction of the legal framework for the establishment, operation and expansion of ASW.
<b>Interconnectivity and interoperability</b>	To expand the scope of the ASW, AMSs are discussing with China, Japan, the Republic of Korea, and the United States focusing on the exchange of electronic Certificate of Origin (e-CO), electronic Phytosanitary (e-Phyto) certificate, and Customs Declaration Information. A workshop was organised in 2021 to align the data structure of ASEAN e-Phyto certificate with the latest version of the IPPC e-Phyto Guideline.
<b>Capacity building</b>	The ASW symposium and other workshops

Source: ASEAN

<sup>25</sup>More details are available at <https://asean.org/our-communities/economic-community/asean-single-window/>

<sup>26</sup> The ASWSC oversees the overall coordination and required synchronisation of actions at the national level and regional level policy to promote effective implementation and operation of the ASW and considers the needs of future development of the ASW. The ASWSC would also provide guidance to the issues at the TWG and the LWG, particularly on policy-related issues, when required.

### Annex 3: Membership of ESCAP member states in international conventions governing certain trade-related documents

Table A3. Status of membership of ESCAP member states in international conventions governing certain trade-related documents

	ATA & Istanbul C.	Basel C.	Chicago C.	CITES	CMR, eCMR	FAL C.	IPPC	Montreal C.	Paris C.	PCT	TIR C., eTIR	Universal Postal C.	UPU MDSA	WOAH (OIE)
Afghanistan		x	x	x	x		x		x		x, e	x		x
Armenia**	i	x	x	x	x		x	x	x	x	x, e	x		x
Australia	x&i	x	x	x		x	x	x	x	x		x		x
Azerbaijan*		x	x	x	x, e	x	x	x	x	x	x, e	x	x	x
Bangladesh*		x	x	x		x	x	x	x			x	x	x
Bhutan		x	x	x			x		x			x		x
Brunei Darussalam		x	x	x				x	x	x		x		x
Cambodia**		x	x	x			x	x	x	x		x	x	x
China*	x&i	x	x	x		x	x	x	x	x	x, e	x		
Fiji			x	x		x	x	x	x			x	x	x
France	x&i	x	x	x	x, e	x	x	x	x	x	x, e	x		x

	ATA & Istanbul C.	Basel C.	Chicago C.	CITES	CMR, eCMR	FAL C.	IPPC	Montreal C.	Paris C.	PCT	TIR C., eTIR	Universal Postal C.	UPU MDSA	WOAH (OIE)
<b>Georgia</b>	i	x	x	x	x	x	x	x	x	x	x, e	x		x
<b>India</b>	x	x	x	x		x	x	x	x	x	x, e	x		x
<b>Indonesia</b>	i	x	x	x		x	x	x	x	x	x, e	x		x
<b>Iran*</b>	x&i	x	x	x	x, e	x	x		x	x	x, e	x	x	x
<b>Japan</b>	x	x	x	x		x	x	x	x	x		x	x	x
<b>Kazakhstan</b>	i	x	x	x	x		x	x	x	x	x, e	x		x
<b>Kiribati</b>		x	x						x			x	x	
<b>Korea (DPR of)</b>		x	x			x	x			x		x		
<b>Korea (Rep. of)*</b>	x	x	x	x		x	x	x	x	x	x, e	x	x	
<b>Kyrgyzstan*</b>		x	x	x	x, e		x		x	x	x, e	x		x
<b>Lao PDR</b>		x	x	x			x		x	x		x		x
<b>Maldives</b>		x	x	x			x	x				x	x	x
<b>Marshall Islands</b>		x	x			x								

	ATA & Istanbul C.	Basel C.	Chicago C.	CITES	CMR, eCMR	FAL C.	IPPC	Montreal C.	Paris C.	PCT	TIR C., eTIR	Universal Postal C.	UPU MDSA	WOAH (OIE)
<b>Micronesia</b>		x	x				x							x
<b>Mongolia*</b>	i	x	x	x	x		x	x	x	x	x, e	x	x	x
<b>Myanmar</b>		x	x	x			x					x	x	x
<b>Nauru</b>		x	x									x	x	
<b>Nepal</b>		x	x	x			x	x	x			x		x
<b>Netherlands</b>	x&i	x	x	x	x, e	x	x	x	x	x	x, e	x		
<b>New Zealand</b>	x	x	x	x		x	x	x	x	x		x	x	x
<b>Pakistan</b>	i	x	x	x	x		x	x	x		x, e	x	x	x
<b>Palau</b>		x	x	x		x	x							
<b>Papua New Guinea</b>		x	x	x			x		x	x		x		x
<b>Philippines*</b>	i	x	x	x			x	x	x	x		x	x	x
<b>Russian Federation*</b>	x&i	x	x	x	x, e	x	x	x	x	x	x, e	x		x
<b>Samoa</b>		x	x	x		x	x		x	x		x	x	

	ATA & Istanbul C.	Basel C.	Chicago C.	CITES	CMR, eCMR	FAL C.	IPPC	Montreal C.	Paris C.	PCT	TIR C., eTIR	Universal Postal C.	UPU MDSA	WOAH (OIE)
<b>Singapore</b>	x	x	x	x		x	x	x	x	x		x		x
<b>Solomon Islands</b>		x	x	x			x					x	x	x
<b>Sri Lanka</b>	x	x	x	x		x	x	x	x	x		x	x	x
<b>Tajikistan*</b>	i	x	x	x	x, e		x		x	x	x, e	x	x	x
<b>Thailand</b>	x&i	x	x	x		x	x	x	x	x		x		x
<b>Timor-Leste*</b>			x									x	x	x
<b>Tonga</b>		x	x	x		x	x	x	x			x		
<b>Türkiye</b>	x&i	x	x	x	x, e	x	x	x	x	x	x, e	x	x	
<b>Turkmenistan</b>		x	x		x, e				x	x	x, e	x		x
<b>Tuvalu*</b>		x	x				x					x	x	
<b>United Kingdom</b>	x&i	x	x	x	x, e	x	x	x	x	x	x, e	x		x
<b>United States</b>	x	x	x	x		x	x	x	x	x	x, e	x		x
<b>Uzbekistan</b>	i	x	x	x	x, e		x		x	x	x, e	x		x



	ATA & Istanbul C.	Basel C.	Chicago C.	CITES	CMR, eCMR	FAL C.	IPPC	Montreal C.	Paris C.	PCT	TIR C., eTIR	Universal Postal C.	UPU MDSA	WOAH (OIE)
<b>Vanuatu</b>		x	x	x		x	x	x				x	x	x
<b>Viet Nam</b>	i	x	x	x		x	x	x	x	x		x		x

*Note: C.=Convention, i=Istanbul Convention, countries with \* are current CPTA parties, countries with \*\* are signatories of the CPTA. This table does not include ESCAP Associate Members. 'e' refers to additional amendments/annex for digitalization, namely the Additional Protocol on eCMR and Annex 11 on eTIR to TIR Convention.*

*Source: ESCAP*