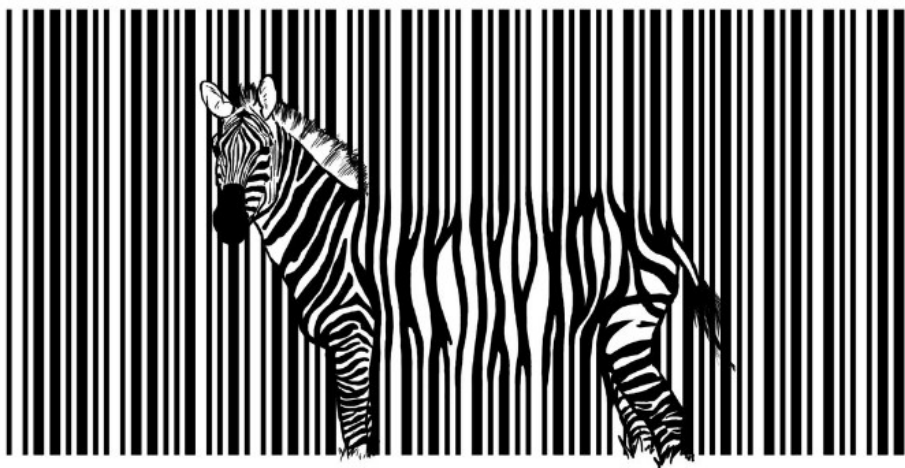




The eCITES Implementation Framework

A Practitioners Guide to implement electronic CITES Permits



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Table of Contents

1 About this Guide	4
2 Introduction into electronic CITES Permit Systems (eCITES)	6
3 The components of an electronic CITES project	9
4 ePermit: Simplified and automated application and issuance of permits.....	11
5 eControl: Integrated Border Agency Collaboration	17
6 eReport: Simplified Annual Reports using electronic permit database.....	24
7 eXchange: Exchange of electronic permits between Management Authorities	25
8 The ASYCUDA eCITES system	29
8.1 The ASYCUDA eCITES software	30
8.2 Hosting and mainlining the ASYCUDA eCITES technical platform	30
8.3 Steps in an ASYCUDA eCITES implementation.....	32
8.4 Sample cost plan of an ASYCUDA eCITES implementation.....	33

1 About this Guide

Electronic CITES permits together with simplified and automated trade procedures will provide business opportunities for compliant traders. It will help governments to better target their inspections and identify those actors that break the law. Designated CITES Management Authorities will be able to save time and resources for checking and issuing permits, dedicate time for other important tasks in implementing the CITES Convention and provide better services to traders. The CITES Stakeholders will benefit from faster and more robust reporting and better data to decide on non-detriment findings. The exchange of electronic permits and information across borders will increase transparency and prevent use of fraudulent permits.

The Guide presents a Framework to plan and manage the implementation of electronic CITES permits. The Framework divides the project into easily manageable sub projects which can be implemented in a stepwise approach. It helps project managers to better plan and oversee the implementation of CITES permitting systems, thus reducing project time, costs and risks.

The eCITES Project Framework is a component of a set of instruments, tools and capacity building activities that the Secretariat and the CITES Working Group on ePermitting provide to Parties. The Secretariat hopes that these tools will lead to fast and wide spread adoption of CITES electronic Permitting systems in the near future.

Target Audience

This Guide is intended to serve project managers and decision makers in national CITES authorities, in particular from Management Authorities, the Scientific Authorities, Customs and other border control authorities and the related national Ministries to design, plan and implement projects for CITES ePermitting systems.

Outline of this Guide

The chapters in this Guide are as follows:

Chapter 1 explains the purpose and the target audience of this Guide.

Chapter 2 presents the context of an eCITES project and the purpose of the Project Implementation Framework.

Chapter 3 describes the four main business areas that the ePermit system shall automate and improve. These four areas are described in further detail in Chapters 5 to 9.

Chapter 4 discusses the tasks for implementation of electronic request for CITES permits, inspection, issuance of (electronic) permits and electronic payment.

Chapter 5 discusses the tasks for exchange of electronic permits with Customs and other regulatory bodies, automated risk management and for improved control and statistics.

Chapter 6 explains the tasks for automated generation of annual trade reports.

Chapter 7 introduces into the current preparations to exchange electronic permit information (EPIX) between Management Authorities of different countries members to CITES.

Chapter 8 provides information on ASYCUDA eCITES, an off the shelf software solution for electronic CITES permits.

Annex 1 discusses strategies for migrating from paper to electronic CITES permits.

References to literature and best practice

This Guide incorporates many international recommendations and best practice for cross border trade as well as guides and training materials. It uses in particular the UN/CEFACT Recommendations for Single Window Implementation¹, data simplification² and consultation approaches between designated national authorities and trade³. UNECE and UNESCAP developed the UNNExT Guide for implementation of UN/CEFACT messages in Agriculture Trade⁴ which provided valuable contributions to this Guide. UNECE also developed a Guide on development of high level project plans for Facilitation Projects⁵. Finally this Guide was reviewed by experienced project managers whose contributions are integrated in this document. The CITES Secretariat plans to update this Guide as new experiences in implementing electronic CITES permits become available.

¹ Recommendation N°. 33 - Single Window Recommendation

² Recommendation N°. 34 - Data Simplification and Standardization for International Trade

³ Recommendation N°. 40 - Consultation approaches Best Practices in Trade and Government Consultation on Trade Facilitation matters

⁴ Implementing UN/CEFACT eBusiness standards in agriculture trade (ECE/TRADE/428)

⁵ Guide to Drafting a National Trade Facilitation Roadmap (ECE/TRADE/420)

2 Introduction into electronic CITES Permit Systems (eCITES)

Objectives of an electronic permitting system

Automation of business processes and information exchange through electronic documents is an important instrument to simplify trade and improve the application of national and international rules and regulations. World-wide national government administrations and traders are implementing electronic business solutions to simplify and automate information exchange in the international supply chain, to better work together using eBusiness technology and to make trade more efficient and safe.

Many countries are now implementing Single Windows to strengthen regulatory control of their national government agencies, to improve collaboration and information exchange and to provide better services to legitimate trade. A major component of a Single Window implementation is the transition from paper documents to electronic documents.

A **Single Window** is a facility to exchange electronic information for export and import clearance. The purpose of a Single Window is to coordinate the activities of national government agencies in import and export control, to simplify procedures, improve regulatory control and to facilitate trade. Single Window is one of the measures that governments are committed to implement under the (draft) WTO Trade Facilitation Agreement.

The concepts of paperless trade and Single Window are not limited to the introduction of information technology and paperless trade. Rather information technology and paperless trade are considered as means to improve trade procedures and collaboration of stakeholders. The objective is an overall improvement of the trade processes, using information technology as a driver to facilitate trade for legitimate traders and to strengthen trade regulations and control.

Therefore the scope of a project for electronic CITES permits is not restricted to the issuance of electronic CITES permits. The final objective of the implementation of electronic CITES

Definition eCITES

Implementation of electronic CITES permits (eCITES) is a project to simplify and automate business processes and establish collaboration of relevant stakeholders through exchange of electronic information for an improved implementation of the CITES Convention.

permits is to improve and automate all business processes related to CITES permit issuance, exchange, control and reporting.

An electronic CITES permitting system in its final implementation stage should support the following business processes:

- Automated permit request and issuance, including electronic requests of permits by traders, scheduling of inspections, recording of inspection results and issuance of permits to simplify procedures, reduce transaction time and make best use of the resources of the designated national Management Authority.
- Electronic payments of fees to increase revenue and reduce opportunities for corruption.
- Electronic information exchange and workflow between government agencies, in particular between the designated national Management Authority and Customs/any other border control to strengthen controls.
- Implementation of modern risk management methods based on past compliance of traders, which may lead to preferential treatment of compliant traders.
- Exchange of trusted and up-to-date permit information between authorities in the exporting and importing country.
- Automated generation of data for annual trade reports and other relevant reports.

It is evident that such a comprehensive project cannot be implemented in a single, one-time approach. Rather it is advisable to break the overall project into smaller, manageable sub-projects, each with its own objectives and specific value for the stakeholders. Parties can then implement their electronic permitting system in a stepwise approach.

This step-wise approach significantly reduces the implementation risks and required resources and allows the country to adapt the project implementation to the time required for reforms in government agencies and the private sector.

eCITES Project Framework to develop the national Master Plan

Guidance provided in this document is generic in the sense that it will be beneficial in a “typical” eCITES project.

Project managers need to keep in mind that every project is different and needs to respond to the specific requirements and conditions in the implementing country. Therefore the impact of any recommendation given in this Guide should be assessed and validated in the light of the specific situation in the country and adapted as required. The outcome of this

review should be captured in a high level project plan for the eCITES implementation in the country. The Secretariat can provide assistance in developing such a project document.

Recommendation to draft an eCITES Project Master Plan

A **high level project implementation plan** (Master Plan) should be developed prior to the implementation. The master plan shall insure that all stakeholders have a common understanding of the work to be undertaken. The plan should identify the objectives of the project, the project phases and activities, the expected improvements for the stakeholders, Key Performance Indicators to measure implementation success and the envisaged governance structure for the project.

3 The components of an electronic CITES project

Implementation of an electronic CITES permitting system means that all procedures relating to the processing of the CITES permit are supported by the eCITES system: request for a permit, inspection of the consignment, issuance of the permit, checking of the permit during the export and import procedure, cross border exchange with other designated national Management Authorities and generation of CITES annual reports and trade statistics.

An eCITES system should be implemented in a phased implementation approach, where each phase automates a specific area of business processes. The implementation of all areas provides a complete automation of the CITES permit processing.

We have structured the implementation process into four sub projects with related business processes and stakeholders:

1. **ePermit - Simplified permit issuance:** This pillar provides automation mainly between the CITES Management Authority and the exporters and importers. It automates business processes related to request of permits by traders, assessment of risks and scheduling of inspection, logging of inspection results, issuance of permit including electronic records of the permits, and electronic payment of fees.
2. **eControl - Border agency collaboration for better controls:** This pillar implements automated procedures between the Management Authority and other nationally designated CITES control agencies, thus providing automation on the national level. This includes exchange of permit data with Customs and any other nationally designated border agencies, use of electronic risk management techniques, improved data validation and Single Window integration of permits.
3. **eReport ⁶- Automated reporting:** This pillar implements automated exchange of data between a Management Authority and the CITES Secretariat to meet annual reporting requirements.
4. **eExchange – electronic permit exchange with other countries:** This pillar implements automated exchange of electronic permits between CITES trading countries. It automates business processes for cross border exchange of permits for secure and integrated management of the trade transaction between the exporting, importing and transit countries.

⁶ The business processes for eReport and eExchange solutions are currently developed by WCMC and the CITES Secretariat. Therefore we do not provide a description of the implementation of these steps at this moment.

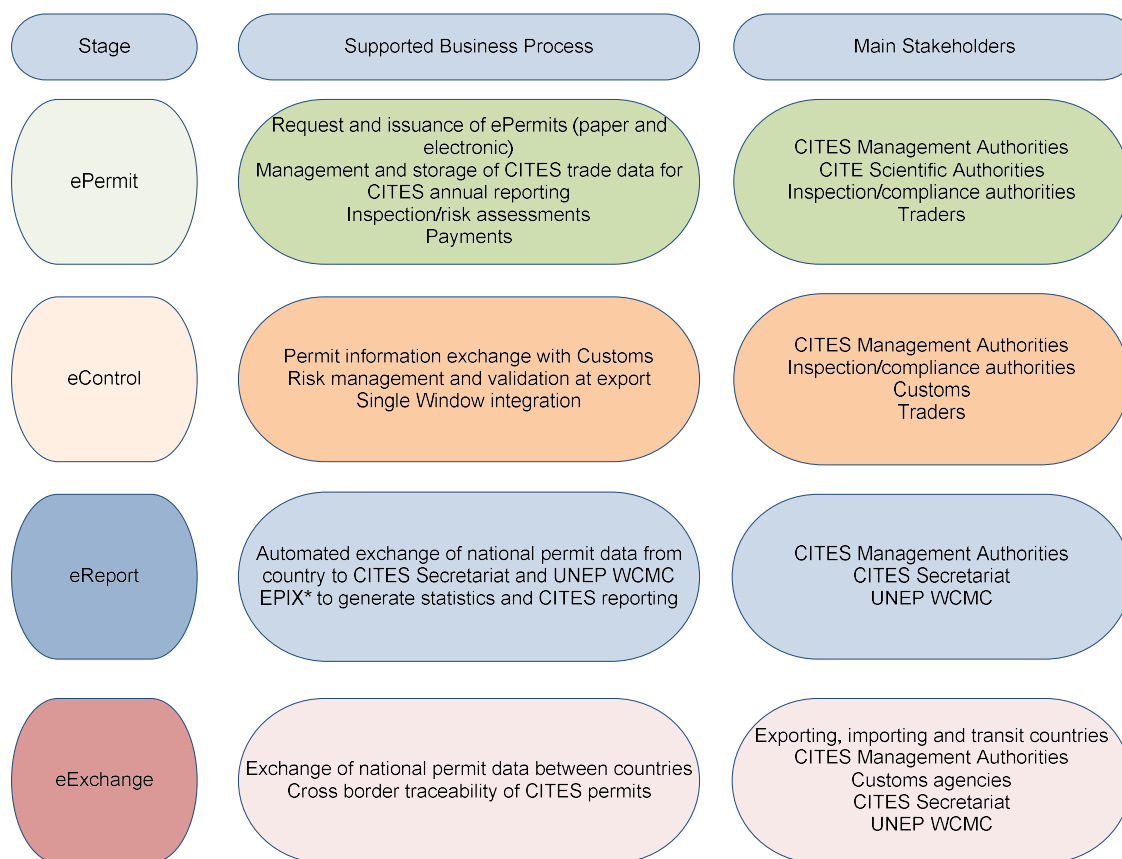


Figure 1 Summary of the main project components in the implementation of a CITES ePermitting system

It is suggested to implement the national eCITES system in the sequence described above, starting with the ePermit and then eControl system followed by the eReport and eExchange systems.

In the following chapters we will describe in more detail each of these four project components. For each component we will start with a short summary of the activities to be implemented. We then group these activities into different steps which can be implemented as sub-projects and discuss important aspects for the project management. We conclude each chapter with a set of recommendations for the project managers both with regard to technical and non-technical (managerial) aspects.

4 ePermit: Simplified and automated application and issuance of permits

The ePermit project component will simplify and automate the business processes and information exchanges between traders, the Management Authority and the Scientific Authority for request and issuance of CITES permits.

Traders can fill in requests for permits using web based applications. These applications provide code lists for structured data input and check the data provided by the traders for completeness and consistency. As a result the Management Authority will receive quality data for permit application that can be used for risk analysis, improved schedule of inspections and recording inspection results.

Improved access to information and documented compliance of traders may also allow the designated Management Authority to analyse risk and implement an "Authorised CITES Trader" scheme⁷: The Management Authority defines a set of criteria for traders to qualify for the scheme. Such defined criteria could, for example, be a low CITES related risk of trafficking for the traded species and, the trader's professionalism and compliance history. Traders that meet the defined criteria enjoy benefits in form of facilitated procedures with inspections carried out on a random basis.

Where national legislation allows electronic payment of fees, the ePermit project component should also provide functionality for electronic payment for issuance of the permit. This will simplify the processes and avoid cash transactions between traders and Government officials.

The main beneficiaries are the Management Authorities and the traders (exporters and importers):

- The Management Authorities receive quality data to decide on permit issuance. They can better schedule and allocate inspectors and focus their controls on higher risk transactions. All permits issued are accessible in an electronic database for control and statistics. The different steps of the permit issuing process are recorded in the system and can be audited. The simplification of procedures and increased transparency of the payment and issuance processes leads to improved regulatory control and revenue tracking of the Management Authority.
- Traders will benefit from streamlined and simplified processes reducing the delays in export and import. This is of particular benefit for export of live and/or perishable goods. Online application for permits and access to information on the current state of approval process helps traders to improve planning and disposition.

⁷ Risk management and Authorized Economic Operators are concepts used by Customs organizations world-wide to focus available inspection resources and to improve compliance of traders. They are not yet commonly used in CITES permit processing.

Example: The introduction of an electronic CITES permitting system in Switzerland reduced the processing time for CITES permits from 10 - 20 days to 5 hours - 3 days. Traders can choose between different guaranteed permit processing times (same day, next day and three days), paying higher fees for expedited permit processing. The system has led to increase revenue for the Management Authority and reduction of resources required for processing. The investments into the Swiss CITES permitting system have been recovered after less than 1 year.

There are two main steps in implementing the ePermit project component:

Step 1 Simplified and automated permit application

Development of an Internet based application that allows traders to request issuance of a CITES permit. The application provides traders with data entry and validation screens, help functions and information on changes in regulations.

The application should enforce use of CITES recommended code lists for permits as specified in Resolutions Conf. 12.3 (Rev. CoP 17)⁸. The application could also interface with the CITES Species+ Application Programming Interface (API)⁹. The Species+ API allows automated updates of the national eCITES system with the latest CITES information on CITES taxonomy, including scientific names and common names of species. This ensures that standard nomenclatures adopted by the Conference of the Parties to indicate the names of species are used in the permit request.

The application should also enforce use of relevant code lists for trade, in particular UNECE recommendations¹⁰ on locations (UN/LOCODE), ISO country codes.

The application should have a tracking functionality so traders are informed about the current status of the Permit approval process, receive notifications on scheduled inspections, and be notified when the permit has been issued.

The eCITES system should allow the submission of supporting documents such as licenses and permits to operate a breeding or nursing facility in electronic format, for example as a PDF attachment.

Step 2 Digital enhanced inspection and permit issuance

Data collected by the Management Authority during the permitting process can be combined with other data connected to the trader (e.g., compliance history) so that Customs can

⁸ <https://cites.org/eng/res/12/12-03R17.php>

⁹ <http://api.speciesplus.net/>

¹⁰ For relevant UNECE Recommendations see https://www.unece.org/cefact/recommendations/rec_index.html

evaluate the risk of the trade transaction to decide whether an inspection is required and if so, assign the inspector and inspection time¹¹.

It is important that relevant information about inspections, in particular inspection time and observations are recorded in electronic format and stored in the system. It might be useful to equip Customs inspectors with portable electronic devices to ensure that all relevant data are readily available in the eCITES system. In reviewing the inspection results the Management Authority may request the trader to submit additional supporting information and documents to approve the import or export.

As of present, all CITES Parties issue their permits in paper format. The eCITES system will keep an electronic record of the permit information in its database and print the paper permit from this data record. This means that the eCITES database holds a complete record of all requested permits, their approval process and the final permits issued.

The trader will be able to access the electronic permit for information through the eCITES application. The electronic permit is also used to exchange permit information with their national Customs authorities and the designated foreign CITES Management Authorities.

The electronic information can also be used to exchange information with other agencies for coordinated inspections, in particular for joint inspection and issuance of CITES and the Sanitary and Phytosanitary (SPS) certificate.

Step	Activities	Improvements
Electronic permit application	<ul style="list-style-type: none"> • Permit application through Internet • Tracking of permit issuance progress • Latest regulations and codes online 	<ul style="list-style-type: none"> • Simplified process • Quality data for MA • Improved scheduling of inspections and consignments
Enhanced digital inspection	<ul style="list-style-type: none"> • Electronic recording of inspection results • Electronic CITES permit • Electronic payment 	<ul style="list-style-type: none"> • Transparency in the inspection process • Permit and inspection results immediately available • No cash payments involved

Figure 2 The two main steps in implementing the ePermit project component

If possible an electronic Payment system should be implemented to allow traders to pay electronically the fees for permit application and/or inspection services. This reduces incidents of direct financial transactions between traders and Government officials and increases transparency and revenue collection.

The access to information of all pending applications for CITES permits through a database system will allow the Management Authority to plan and coordinate its activities and to

¹¹ Parties have implemented different approaches to CITES inspection. For example, in Brazil inspections are carried out by Customs and only after the permit has been issued. CITES inspections in Brazil are therefore considered part of the Customs clearance process (see discussion on eControl in the next chapter).

improve its regulatory control. To take full advantage of the electronic system, it might be necessary to adapt the workflow and administrative processes of the Management Authority.

Recommendations to Project Managers

This chapter provides general recommendations and guidance for the automation of CITES permits. It is based on experience made in projects for automation of permits around the world and will be updated as new experience from CITES implementations becomes available.

Recommendations for the ePermit project implementation

- The designated national Management Authority has the lead in overseeing the eCITES project implementation. Traders will be the main stakeholders of the future system. They will incur costs to switch to the new system, such as a change in established work procedures, training, investments in ICT and possibly fees for electronic processing of permits. Therefore it is very important that traders have tangible benefits from the new system. The Management Authority should hold regular consultations with traders and may also provide them with the possibility to participate in planning activities to ensure that the project brings tangible net benefits to them.

Implementers from Brazil suggest that the Single Window should take leadership of the CITES project in case a national Single Window exists. Similarly in Thailand the eCITES project was implemented under the national Single Window programme.

- Automation of CITES permits is about improvement of business processes and work flows through automation of procedures. This requires an analysis of the current business processes, and an identification of the areas that should be improved which may lead to changes in the organization of work in the Management Authority and the private sector and the way they work together.
- Change management is a very important part of the project. This requires significant efforts in capacity building, training and consultation.
- The project should increase trust and collaboration between the private sector and the authorities. Traders should be educated to meet the requirements of the Management Authority. The project should exercise pressure on the traders to become fully compliant at all times.
- The system should provide traders with access to the latest regulations and check routines for data consistency to ensure that traders submit compliant permit requests.

- Business processes related to request and issuance of certificates and the inspection need to be documented and well understood. It is recommended to conduct a business processes analysis (BPA) as part of the project implementation. The process analysis helps to identify shortcomings of the current processes and design a new and improved system. The BPA also provides the basis for the eCITES technical implementation. Guidance on how to conduct Business Process Analysis is provided by UNECE and ESCAP¹
- The CITES ePermitting system supports international trade transactions. It needs to fully integrate international business practice for cross border trade and the technologies used for information exchange. The format of the electronic CITES permit should follow the specifications provided in the CITES ePermitting Toolkit.
- The ePermit system needs to be available 24/7. This requires professional support not only during work hours but also on weekends, at night and during public holidays. Management Authorities may not have the resources available to provide this level of support in house. The Management Authority may choose other ways to provide the required system availability, for example through
 - **Joint regional ePermit operation centre:** Several countries host their national ePermitting system in a joint regional support centre. The different national ePermitting systems can share the same physical platform on which completely independent national ePermit platforms are running (virtualization). This allows each Management Authority to own and fully control their own national ePermitting system while benefitting from shared maintenance and technical support.
 - **Hosted by other another government agency:** In particular, national Customs organizations have extensive IT operations and capabilities to provide 24/7 support. Service agreements could be concluded to host the permitting system. This can be of particular interest for countries that use the ASYCUDA both for CITES management and for Customs data management. Both systems share a common software platform (database and operating system, software development system, control tables...), which can lead to significant economies of scale. As in the case of a regional support centre, this arrangement does not prevent the Management Authority from fully owning the system.
 - **Software as a Service:** A service provider will fully host the solution and provide all functionality required for eCITES processing in the country. In this case the Management Authority is not implicated in technical and maintenance issues and pays for the services provided. Different financing models exist, often on a “pay as you go” basis.

5 eControl: Integrated Border Control through Collaboration and electronic Information Exchange

The eControl project component implements the exchange of CITES permit data between the nationally designated CITES Management Authority and the national Customs, and if applicable, to any other designated border control authority to improve import and export control.

The main challenge in implementing the eControl component is to integrate electronic CITES permit information into the business and control processes of Customs and other relevant control authorities. This requires good understanding of both the requirements under the CITES Convention and the rules and procedures of Customs/other designated border control authorities, a joint understanding of the trade related risks and collaboration between the agencies in managing this risk. It is suggested that the designated national Management Authority and the national Customs/border control authorities establish a joint national steering group to supervise the project implementation.

Some countries, for example Georgia, have established domestic control agencies which support the control of trade in CITES listed species. In this case the domestic control agency should participate in the joint national steering group and adequate access to the eCITES system should be implemented.

Overview of electronic CITES permits in Customs declaration processing

To import or export goods traders need to provide all relevant information in a Customs declaration. The Customs declaration is submitted by the declarant which, in most cases, is the importer/exporter or its nominated agent.

Most Customs authorities use the Single Administrative Document (SAD) as the standard layout for their Customs declaration form.

From the point of view of Customs, the CITES permit is a “supporting document”, i.e. it is one of the required documents that need to be attached to the Customs declaration if the consignment includes CITES listed species. The declarant will provide the CITES permit as a paper copy or original together with the declaration¹². The CITES identification number of the permit is entered in Box 44 of the SAD¹³.

¹² National Customs authorities and other border control authorities may implement different rules, for example require paper originals to be submitted or waive the need to submit paper documents all together and instead require that declarants can procure the originals of these documents on request.

¹³ Box numbers may vary in different countries. We make referent here to the EU SAD
https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/374245/c88_1-8_.pdf

44 Additional information/ Documents produced/ Certificates and authorisations						40 Summary declaration/Previous document	
						41 Supplementary units	
						A.I. Code	
						46 Statistical value	
47 Calculation of taxes	Type	Tax base	Rate	Amount	MP	48 Deferred payment	49 Identification of warehouse
B ACCOUNTING DETAILS							

Figure 3 SAD Box 44, European Union Single Administrative Form

Based on the information provided in the declaration, Customs will:

- Identify whether a CITES permit is required
- Assess the regulatory risk of the export/import. This decision is often made by an automated risk assessment module that is part of the Customs/other border control authority's data processing system
- Decide whether the goods are automatically cleared, undergo a documentary check or are physically inspected. This decision is usually made by the risk assessment module
- Check the validity of CITES permits and the consistency of data between the Customs declaration and the CITES permit
- Update the information in the CITES permit and submit the updated permit to the designated Management Authority.

From the perspective of the CITES convention Customs/border control authorities support four important business processes¹⁴:

1. Customs/designated border control authorities assess **whether a CITES permit is required for the import or export of this species**. This is not a straight forward task. On the Customs declaration form, goods are classified according to the Harmonised System (HS) code while CITES species are classified by another classification scheme. Therefore the Customs data management system has no means to decide in an automated manner whether the export of the declared goods requires a CITES permit if the declarant has not listed the CITES permit number in box 44.

For the automation of the CITES permit process, it is very important that the Management Authority works together with Customs on national level to identify the most important CITES species that are traded by the country and to include references

¹⁴The CITES training module *Introduction to CITES for Customs* <https://cites.unia.es/course/view.php?id=6> describes the CITES permit processing form a Customs perspective.

in the HS table¹⁵ used by the Customs data management system. This way the Customs data management system can alert the Customs inspection services if a declaration is submitted with an HS code that may relate to CITES controlled species.

2. Customs checks **the validity of the CITES permit**. Checking the validity¹⁶ of the permit includes two aspects:
 - Validity of the permit itself, for example whether the permit is not expired and has not been used before.
 - Cross check between the data in the Customs declaration and the CITES permit, i.e. whether they match for description of the species (CITES) and goods (Customs), countries of origin and destination, quantities, etc.
3. Customs needs to **amend box 14 and 15 of the CITES permit** with details on the export/import process (permit endorsement):

Place	Date	Security stamp, signature and official seal
14. EXPORT ENDORSEMENT:		15. Bill of Lading/Air Waybill Number:
		69304-13670
Block	Quantity	
A	2	
B	3	
C		
D		
Budapest	14/10/2000	<i>Dimitris Kary</i>
Port of Export/ Re-export	Date	Signature
		Official stamp and title
CITES PERMIT / CERTIFICATE No. WE - 772/2000		

Figure 4 CITES permit boxes 14 and 15 to be filled in by Customs

Box 14 relates to the actual quantities that are exported/imported. These quantities may be lower than the maximum quantities authorized in the permit. It is highly important for the designated Management Authority to receive this information to know whether the permit has been used and also to generate statistics that are needed for effective protection of the species.

Box 15 contains the identification of the transport document¹⁷ and the information on the date and location. Again, this information is highly relevant for the implementation of the convention.

¹⁵ Custom will refer to this table as the *Tariff*. The Tariff is a table that includes the classification of the goods, the duty rates and links to relevant legislation. It is organised by HS code.

¹⁶ For information on practice for documentary checks of CITES permits see <https://cites.unia.es/mod/resource/view.php?id=694>. A step-by-step verification chart is provided at <https://cites.unia.es/cites/file.php/6/files/pvc.pdf>

¹⁷ Typical international transport documents are Bill of Lading (sea), Waybill (sea and air), CIM/SMGS Consignment Note (railway) and CMR (road)

4. Customs needs to **inform the Management Authority** that the permit has been used and transmit the data in box 14 and 15. Customs should also inform the Management Authority on any relevant findings, in particular rejected declarations and permits.

The three main steps in implementing the eControl Project Component

There are three main steps in implementing the eControl project component. The first two steps provide Customs/designated border control authorities with access to the electronic permits and the national designated Management Authority with information on the permits processed by Customs/other designated border control authorities. These two steps are essential and should be implemented in full. The third step implements integrated risk management and improved CITES controls by Customs/other border control authorities and should be implemented after the first two steps have been completed.

Step 1 Use of electronic CITES permits in the Customs declaration process

The declarant will provide the CITES permit number in the Customs declaration in the field for supporting documents. If Customs needs access to the permit, for example for documentary control, the Customs system will need access to the database of permits of the Management Authority.

The data standard for the electronic CITES permit exchange is defined in the CITES ePermitting toolkit. This standard is harmonised with the WCO Data Model¹⁸, a standard used in the Customs world.

Step 2 Update of permits in the Permit database

When clearing the goods, Customs should update information in the CITES permit box 14 & 15. The electronic permit is updated through an electronic message sent by the Customs data management system to the CITES permit database. This message will update fields related to box 14 and 15 of the electronic permit and mark the permit as being used. It is important that the Management Authority can rely on the consistency and quality of the Customs data updates as this information is important for CITES reporting and decision making.

For the implementation of this step, a joint technical team should be formed that conducts formal testing of the data transfer and updates procedures. The technical team should also

¹⁸ The WCO data model is a standard for electronic documents recommended by the WCO. Further information is available at http://www.wcoomd.org/en/topics/facilitation/instrument-and-tools/tools/pf_tools_datamodel.aspx

define and test fall-back procedures in case of system failures. This is of particular importance for operations in remote border posts.

Given the importance of this process for CITES permit handling, an audit of the effectiveness of the data exchange should be made on a regular basis.

Step 3 Risk Management for Improved Customs Control

Availability of electronic CITES data provides new opportunities for automated and improved checking of the permits and the Customs declaration. It is important that Customs takes advantage of these opportunities by changing from manual CITES permit processing to automated procedures where possible. Automation should include inter alia:

- Automated checking against the database of the Management Authority to see whether the permit is still valid. These checks can be fully automated.
- Automated consistency checks between the data in the CUSTOMS declaration, the CITES permit and other supporting documents available in electronic format such as transport manifests.
- Use of information from the electronic CITES permits to set parameters in the risk assessment system used by Customs/border control authorities. For example if the declaration contains CITES Appendix I species, the risk management system could increase the evaluated risk. Customs and any other designated border control authority should work together with the Management Authority to identify CITES relevant parameters for the Customs risk management system.

Step 3 is mainly affecting Customs/border control authorities internal workflows and must be implemented by themselves. Nevertheless, it is important for the Management Authority to understand the level of automated controls that Customs/other border control authorities has implemented as this will impact the enforcement of the Convention. Thus, the level of automated controls and their effectiveness should be reviewed on a regular basis and discussed in the joint national steering committee.

Step	Activities	Improvements
Electronic permit	<ul style="list-style-type: none"> • Customs access to trusted permits • Permit data is used in declaration clearance • Single Window integration 	<ul style="list-style-type: none"> • Access to trusted data and less fraud • Fully electronic process • Permit data available for controls
Endorsement	<ul style="list-style-type: none"> • Update Boxes 14 & 15 • Update permit in trusted database 	<ul style="list-style-type: none"> • Up to date information about export/import movements • Better statistics • Sustainable use of species
Risk management	<ul style="list-style-type: none"> • Check validity of permit • Cross check between permit and declaration 	<ul style="list-style-type: none"> • Targeted inspections • Reduced fraud

Figure 5 Steps and activities when implementing the eControl project component

Recommendations for the eControl project implementation

- The main challenge in this step is to achieve integration of relevant business processes between the Customs/other designated border control authorities and the Management Authority using electronic information exchange. This requires continuous cooperation between both sides, strong leadership and high level managerial support.
- It is recommended that the Management Authority, Customs and any other designated border authority establish a joint national steering committee on the level as seen appropriate. The committee should meet on a regular basis to identify issues and continuously supervise and improve the eControl component.
- For collaboration with stakeholders, it is important that both sides understand each other's work procedures, legislative frameworks and constraints. Analysis of business processes on both sides and capacity building will contribute to this objective.
- The eControl pillar can be carried out as a component of the national Single Window system as it automates use of certificates in cross border trade. However, even when a national Single Window exists it may be preferable to exchange data directly between Customs or any other designated border control authority and the Management Authorities and ensure that the national Single Window has access to the permits for submission to other national authorities.
- All data exchange procedures need to be thoroughly tested by joint technical teams. There needs to be a continuous dialog on the progress of implementation on each side. It is also very important to have a common understanding of how the exchanged information is used in the business processes on both sides. To achieve this it is important that both groups frequently work together and frequently organise site visits.
- The technical team should report regularly to the steering committee on the implementation status.
- Management Authority and Customs/any other designated border control authority should work together to define rules for validity checks of permits during the Customs declaration.
- An important part of the technical work is the harmonization of code lists used in the Customs declaration and in the CITES permit. This also requires synchronization of updates to these code lists for both organizations. Decisions on code lists should follow international best practice set by the UN and the WCO.
- Management Authority and Customs/any other designated border control

6 eReport: Simplified Annual Reports using electronic permit database

After ePermit and eControl components are implemented the designated Management Authority will have a database that contains information on all CITES permits requested and issued. This information provides a complete picture of all trade events and can be used to build the annual reports¹⁹ that are submitted to the CITES Secretariat through an automated programme.

The eReport project component develops a set of database queries that extract and aggregate the relevant information from the national permit database and produce the required tables of information. The output of such a query could be, for example a spreadsheet or PDF report.

The development of a set of queries is a one-time task and can be done with very modest software development costs.

After the generation of the report the Management Authority should review the information provided in the report for inconsistencies.

¹⁹ See also Guidelines for the preparation and submission of CITES annual reports
<https://cites.org/eng/notif/2006/E-ARguide.pdf>

7 eXchange: Bilateral Exchange of electronic Permits between Management Authorities

Some Parties are preparing studies and pilot projects for electronic CITES permit information exchange (EPIX) between designated Management Authorities from different countries. As these projects are work in progress and different approaches are discussed the focus of this chapter is limited to providing an introduction into EPIX.

Parties interested in EPIX are advised to participate in the CITES Working Group on electronic systems and information technologies and to contact the CITES Secretariat for an update on the latest state of development.

What is Electronic Permit Information Exchange?

The objective of EPIX is to

- allow safe, secure and reliable exchange of information of Permits between CITES Parties
- reduce costs and effort of CITES Parties for implementing, testing and maintaining electronic exchanges
- ensure conformity with the provisions of the CITES Convention
- ensure compatibility of systems implemented by the CITES Parties for permit information exchange
- ensure that permit information exchange is compatible with international standards and complements standards already included in the CITES ePermitting toolkit.

Definition: Electronic Permit Information Exchange (EPIX) is the exchange of electronic information related to CITES permits between designated national authorities belonging to different countries using standards recommended by CITES.

EPIX will provide a global mechanism for countries to verify legal permits and more easily detect illegal permits for international trade in species listed under CITES. Exchange of electronic permit information will prevent the use of fraudulent documentation, reduce illegal trade in wildlife and increase transparency and sustainability of legal international wildlife trade.

Document workflow in permit exchanges

There are fundamental differences in the cross border exchange of paper and electronic permits. Information in an electronic permit can be easily changed using an XML editor, while changes in a paper permit will leave some form of trace. In addition, an electronic permit that has been used for an export operation cannot be stamped by Customs like a paper

permit. Therefore it could be used many times. To overcome these difficulties, the document workflow for electronic CITES permits is different from the paper Permit workflow.

Document workflow for CITES paper permits

Figure 5 describes the workflow of a paper permit. The exporter requests a paper permit from the designated Management Authority (Step 1). The designated Management Authority for the issuance of a permit creates a record in its permit database and issues a paper permit (Step 2). The exporter sends the paper permit to the Importer (Step 3). The Importer presents the Permit to Customs/any other designated border control authority and/or to the Management Authority (Step 4).

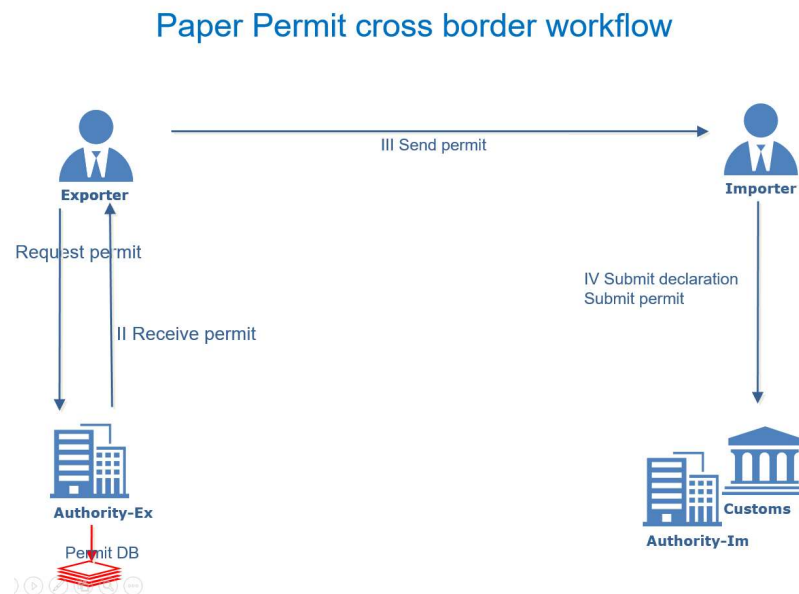


Figure 5 Cross border document flow of paper permits. Electronic components are marked in red

Document workflow for electronic CITES permits

Figure 6 describes the workflow of an electronic permit exchange. The exporter requests the issuance of a permit from the designated Management Authority (Step 1). The Management Authority creates a record in its permit database and issues a permit identifier²⁰ (ID) (Step 2). The Management Authority may also print a hard copy of the electronic permit. However, this copy will be marked as “COPY” and cannot be used for official use. The exporter sends the permit ID to the importer (Step 3). The importer sends the Permit ID to Customs/any other designated border control authority and/or to the Management Authority (Step 4). The Management Authority in the importing country sends an electronic request for the permit data to the issuing Management Authority (Step 5). The issuing Management Authority sends an electronic message with the permit data to the importing country (Step 6).

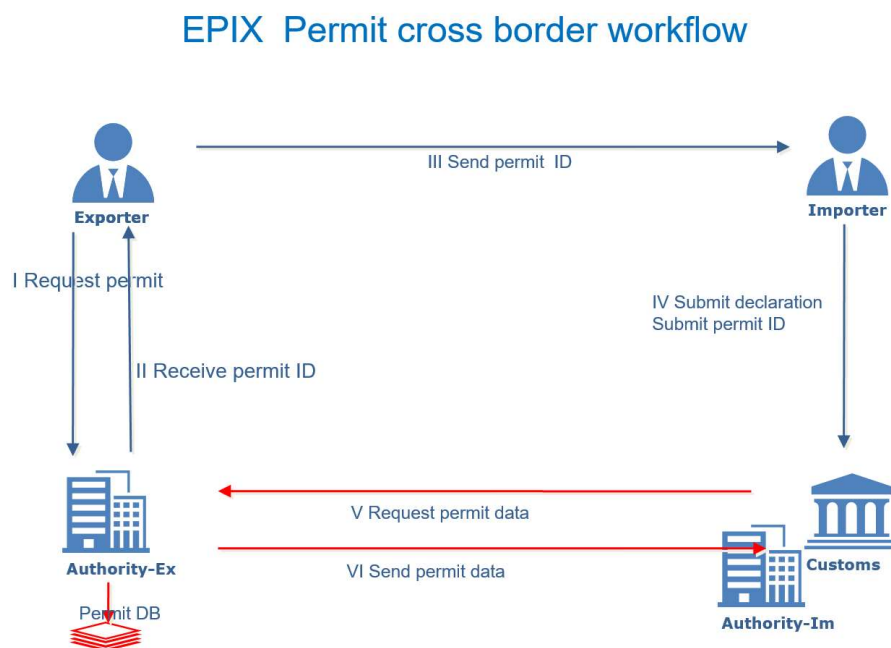


Figure 6 EPIX electronic permit workflow Electronic components are marked in red

This workflow is substantially different from the paper workflow as the permits are now exchanged between the different countries Management Authorities. The exporter and importer exchange only the permit ID.

²⁰ On CITES permits the ID is referred to as the “PERMIT/CERTIFICATE No.”, printed in box 1 of the permit.

This means that responsibilities for procuring and exchanging the permit and for data confidentiality now lie with the designated Management Authorities in both countries. The Management Authorities are responsible to the trader for the success of the exchange.

As a result, electronic permit information exchanges will create direct message exchange and collaborative processes between designated national CITES authorities of different countries. This will significantly improve control of trade in CITES listed species.

8 The ASYCUDA eCITES system

The CITES Secretariat and UNCTAD have signed a Memorandum of Understanding²¹ for the development of ASYCUDA eCITES, an electronic system to use electronic CITES permits. The software is an out-of-the-box CITES e-permitting system that can be configured to the specific needs of the country. It is implemented through a joint technical cooperation project between the designated, national CITES authority, UNCTAD and the CITES Secretariat.

About ASYCUDA

The Automated SYstem for CUsoms DAta (ASYCUDA) is a programme of the United Nations Conference for Trade and Development (UNCTAD). ASYCUDA provides an automated Customs Data Management System which implements all functions of modern Customs management for international trade, including declaration processing, risk management, scheduling of inspections, automated calculation of taxes and fees, electronic payment, reporting and Single Window development.

ASYCUDA has over 30 years' experience in supporting administrations around the world. It is installed in over 95 countries. The system has been continuously enhanced and integrates with state-of-the art information and communication technologies. In particular it is adapted to meet the challenges of developing countries when implementing automated procedures in their administrations.

The system takes into account international codes and standards developed by International Organisation for Standardisation (ISO), World Customs Organization (WCO), World Trade Organisation (WTO) and the United Nations, including those guiding the development and implementation of Single Window environments: WCO and the UN Economic Commission for Europe (UNECE). ASYCUDA applies standards set by CITES for electronic permits (CITES ePermitting Toolkit²²) and FAO IPPC recommendations on electronic SPS.

The ASYCUDA software is developed by the UNCTAD ASYCUDA Programme and is provided free of charge to the interested countries, in the framework of technical assistance and training projects. For costs that will be incurred at the implementation stage see 8.4.

²¹ <https://cites.org/eng/disc/coop.php>

²² <https://cites.org/eng/prog/e/e-permitting-toolkit.php>

8.1 The ASYCUDA eCITES software

The latest version of the system is ASYCUDA World. This version has been specifically developed to meet the requirements of all national authorities in charge of processing licenses and permits for international trade. The ASYCUDA eCITES has been developed using ASYCUDA World.

ASYCUDA eCITES is based on a client - server architecture. The Client is an application that runs on a standard office computer. The Client application provides all functionality to the user such as entering a CITES permit request or browsing the list of approved permits. The server is a computer with a UNIX operating system that holds the data in a relational database. The server provides the clients with central access to all information relating to the CITES processing. For ASYCUDA eCITES a high end office computer with a backup system is sufficient as a server. ASYCUDA client and server can run with different database and operating systems including free of charge Open Source based solutions²³.

8.2 Hosting and mainlining the ASYCUDA eCITES technical platform

The ASYCUDA eCITES implements business functionality for automated processing of CITES permits. It 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, depending on the preferences of the country. The system can be implemented in any country, including countries that do not use ASYCUDA for Customs data processing.

The modularity of ASYCUDA and its compatibility with the Customs system provide the possibility to adapt the technical implementation to the requirements of the country and the state of its implementation.

For example, in the early phases of an implementation the main focus is the adaptation of the eCITES system to the business requirements of the Management Authority and the training of the users. At this phase the implementation of a reliable technical backend server with 24/7 availability would be an additional complication for the project. By applying a modular implementation approach it is possible to separate technical implementation issues from the

²³ Further information on the system requirements can be found on the ASYCUDA web site; <https://www.asycuda.org/awtechnology.asp>

business requirements and to focus on the technical implementation after the business needs of the Management Authorities have been met.

In the following we outline two major technical implementation choices that countries have:

- **Hosted Service:** eCITES ASYCUDA server is provided and maintained by the ASYCUDA project. All maintenance and configuration is provided by project experts. The server is configured to meet the specific requirements of the national eCITES implementation. The server is physically located either in the ASYCUDA Gibraltar training centre or in another regional centre.
This solution allows the designated Management Authority to focus on the business requirements of the implementation first and avoid getting distracted by technical issues. As the implementation progresses the Management Authority can decide to build up a technical operations centre and transfer a fully functional technical solution.
- **eCITES Technical Operations Centre:** The system is hosted and maintained by a technical group under the responsibility of the Management Authority. The main tasks of the eCITES Technical Operation Centre are to ensure availability of the system, maintenance of hardware and software, security, data backup, installation and testing of new versions, and technical support for client implementations. This requires extensive training of the technical experts in the operations centre.

It should be noted that combinations of the two approaches are possible. For example, in countries that use ASYCUDA for Customs there will be already a technical operations centre for ASYCUDA in the Customs administrations that provides 24/7 availability for the Customs system. The technical requirements for eCITES support are essentially the same as for Customs support. If a service agreement with Customs can be reached, this Centre could also provide an eCITES Technical Operations Centre resulting in significant synergies.

From a technical perspective, ASYCUDA eCITES and ASYCUDA Customs are based on the same software development platform and hardware requirements. Countries that use ASYCUDA World for Customs may initiate a service level agreement with their Customs department to provide technical support and maintenances for eCITES.

ASYCUDA eCITES Software License

The ASYCUDA license agreement provides countries with all rights to use the software including access to the source codes and the right to change and further develop the system.

The eCITES software is available to all UN member states for free in the framework of a technical assistance/training project. The technical assistance project will include components such as system analysis and configuration, implementation support, training and

maintenance assistance. These services are made available on a cost recovery basis where countries pay for staff salaries and costs associated with travel.

8.3 Steps in an ASYCUDA eCITES implementation

Each implementation of ASYCUDA eCITES consists of four major components: Project preparation; analysis of business processes; system configuration and implementation; capacity building of rollout; and post implementation support:

1. Stakeholder consultation, project scope and project launch

The project is presented to the relevant stakeholders in the country. The objectives and the scope of the project is discussed with the stakeholders and approved.

2. Functional requirements , system configuration and implementation

CITES business processes and workflows that will be automated are analysed and documented. The methodology used in Business Process Analysis (BPA) is a formal methodology to document a workflow. BPA is described in a Guide²⁴ developed jointly by UNECE and ESCAP and widely used for automation of trade procedures. During a BPA, a team of analysts conduct interviews with relevant stakeholders and document user requirements, information flows and legal and administrative requirements to specify the functional requirements of the system.

The ASYCUDA eCITES module is configured to meet the functional requirements. This includes configuration of control tables and development of national code lists, testing of software with live data, implementation in pilot sites and rollout.

3. Capacity building and training

Automation of business processes will always require adaptation of new procedures and a change of workflows. Along with the system implementation the project will provide capacity building and training of users to facilitate the integration of the new system into the existing work processes of the Management Authority.

4. Post-implementation support

Occasional support is required to address issues encountered and to adapt the system to changes.

²⁴ UNNEXT Business Process Analysis Guide http://unnex.unescap.org/tools/business_process.asp

In a stepwise implementation project these three tasks will be required for each project phase. However, the time and resources required may greatly diminish as the project advances.

8.4 Sample cost plan of an ASYCUDA eCITES implementation

The estimated cost of a specific country project could vary significantly depending on the scope of the implementation, the number of agencies that will be integrated in the eCITES system, the CITES processes that are automated and the requirement of capacity building and support. There may be also opportunities to synergies to significantly reduce costs, such as with existing ASYCUDA projects in the country, ASYCUDA Regional Support Centres and Centres of Excellence.

The following table contains a sample cost plan for a medium sized implementation focussing on implementation.

Activity	Outcomes	Cost type (calculated at UN rates)
1. Project preparation, functional requirements and stakeholder support <ul style="list-style-type: none"> Stakeholder awareness raising workshop Initial stakeholder consultation High level project implementation plan Launching workshop 	<ul style="list-style-type: none"> Launching workshop High level project document Stakeholder support and project start 	Return airfare and DSA for ASYCUDA and CITES staff 2 week on site (ASYCUDA)
2. Rollout and implementation <ol style="list-style-type: none"> Business Process Analysis (<i>as-is</i> and <i>to-be</i>) ICT installation, customisation, piloting, integration, rollout and associated technical training of the national team Training of the Management Authority, Customs and traders 	<ul style="list-style-type: none"> Process and workflow description Agreement on new procedures and workflows ICT implementation Pilot completed Local experts trained 	Length of period very much depends on specific conditions/environment <ol style="list-style-type: none"> Travel and 1 month staff DSA Travel and 1-2 months' staff DSA , Travel and 1.5 - 2.5 months' staff DSA on site
3. Utilization and annual report preparation: Dedicated technical assistance and support		1-2 weeks' staff DSA on site
4. Post-implementation: remote technical assistance and support		No cost associated (free of charge)

Duration and cost of the project

The initial rollout and support of the project (including installation, customisation in the national language/environment, configuration and training of end-users) should take between 6 months to one year. Based on the above, the cost of a standard eCITES project is estimated at around 200,000 USD for a medium sized country.