

# GUIDELINES FOR SINGLE WINDOW IMPLEMENTATION IN AFRICA

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# Preface

In spite of an intense crisis affecting most of the major drivers of global economy and, weakening some paradigms hitherto viewed as essential development basics, Africa has paradoxically recorded a sizeable and increasing growth rate over time.

In view of such reality acknowledged by all international bodies, Africa is a continent full of promises and endowed with real potentials that need to be appropriately exploited in order to be among the emerging economies. All efforts must be deployed towards preserving and stepping up this dynamic of growth as long as possible.

However, it is imperious to undertake, in a radical way, some structuring and innovative measures to definitely position Africa as a real hub of global economy. That's why some note-worthy initiatives like the ones undertaken by the African Alliance for E-Commerce (AACE) are to be quoted and supported with vigour and constancy. AACE understands that:

- Trade has become a real development tool, owing to its cross-cutting impact on all areas of economic activities ;
- Regional integration through dynamic inter-African commercial exchanges is an imperative ;
- The implementation of high value-added solutions thanks to Information and Communication Technologies backed by an efficient knowledge transfer is one of the pillars of development;
- The irreversible option for good governance applies to any modern State as a mode of management of public affairs with the involvement of the civil society in all decision-making processes within an organized and dynamic Public/Private Partnership;
- A renewed opening up to the outside world, strengthened by the active quest for new partners is a surety in attracting foreign investors and, an assurance of the evolution and sustainability of existing development policies, etc.

UNECA and ATPC wholeheartedly share these certainties that they advocate and keep promoting throughout the continent.

For these reasons, UNECA and ATPC reaffirm their commitment to accompany and support AACE in all its actions and, expect to initiate an exemplary framework for intense and large-scale collaboration to the legitimate benefit of all categories of stakeholders of African trade.

**UNECA/ATPC**

# Foreword

One of the Alliance's key objectives is to foster collaboration among national Single Windows operated in Africa with the view to favouring the sharing of experiences, progressively setting up an African capacity in terms of Single Windows and, carrying out pilot projects to facilitate cross-border movement of goods. All these actions are very likely to culminate in the establishment of a Regional Single Window that will federate all Single Windows operational at national level.

This Guide for the implementation of Single Windows in Africa is a technical and intellectual contribution of Africa to the concept of Single Windows for trade. It does not exclusively focus on the African

environment. It is made available to all organizations in different regions of the world as a tool to help build a SW vision and undertake the implementation thereof.

Based on its simplicity, value approach and, the richness of the experiences, this guide shows itself as an efficient, pragmatic and, evolution-prone tool intended for all governmental decision-makers willing to implement a Single Window destined to economic operators.

For this purpose, I hereby invite all AACE member states to spare no effort in the promotion of this document in all relevant national, regional and, international bodies where they are represented.

In view of the quality of the work done, I would like to express my heartfelt satisfaction and thanks to those who have contributed to its preparation.

On behalf of the African Alliance for Electronic Commerce, I would like to thank and express my most sincere gratitude to UNECA and ATPC authorities for appropriating AACE vision and ambitions and for their unfailing support.

***Ibrahima Nour Eddine DIAGNE***  
**Chairman of the African  
 Alliance for Electronic  
 Commerce**

# Summary

By producing this Guide with the financial support of ATPC/UNECA, the Alliance gives a concrete expression of its commitment to designing and developing a reference framework for the establishment of Single Windows intended for government of all regions of the world.

This approach seeks to support African and non-African countries willing to establish or upgrade a Single Window built on the basic principles of simplification, facilitation, celerity, security, transparency and profitability in the management and processing of foreign trade-related operations.

This Guide is mainly structured around five (5) complementary sections.

Le présent guide s'articule principalement autour de 5 parties complémentaires :

**The first section** entitled «Context» takes stock of the economic, statutory, institutional and, technological frameworks regarding Single Window implementation. It also deals with the objective of the Guide which is to enable Governments, donors and, stakeholders to have a practical idea on the conditions necessary for the establishment and operation of a Single Window likely to meet its intrinsic vocation which is to reduce trade-related costs and time.

**The second section** tackles the definitions, typology and review of good practices in terms of Single Windows. It represents an opportunity to propose another definition complementing the one formulated under Recommendation 33 of UNCEFACT. The AACE definition is formulated as follows: « The Single Window for trade is a national or regional system mainly built on a computer platform initiated by a Government or an ad hoc entity to facilitate the performance of import, export or transit-related formalities, by offering a single point of submission of standardized data and documents in a bid to fulfil official requirements and facilitate logistics ».

The three models of Single Windows are also addressed: Single Window for clearance formalities (§2.1.1), Single Window for logistics coordination

(§2.1.2), and Single Window for B2B transactions (§2.1.3).

**The third section** deals with the prerequisite strategic options on the institutional, organizational, legal, statutory and technological fronts and also, the different business models, with public/private partnership being the most common option. On the legal front, two models have been noted:

- Single Window without electronic signature: in this case, the SW is a platform ensuring the automation of processes and exchanges of data with no need to change the legal framework as an imperative from project onset;
- Single Window with electronic signature: in this case, the SW accommodates paperless procedures with electronic documents replacing paper-based documents, hence the need to have a legal framework governing this new document format.

**The last two sections** deal respectively with the different implementation practices and performance evaluation and, the consolidation of Single Windows. Reaching the widest possible consensus around a SW project with the mobilization of all parties represents a critical stage. The assessment model of the level of stakeholders' commitment for the success of the project enables to address all the possible cases. Beyond such a consensus, the contribution of public authorities at the highest level of the Government is fundamental. It is also essential to develop a set of tools and indicators to facilitate the monitoring of the SW performance and propose areas of improvement.

In a nutshell, this analysis seeks to lay down:

- A legal framework;
- A methodological approach;
- Technological guidelines and detailed technical orientations;
- A minimal institutional framework;
- Well-thought business models.



In spite of the meticulousness of its approach and the often peremptory opinions developed on some issues deemed strategic, this Guide is aimed at being a framework open to orientations and assistance in the establishment of Single Windows for trade. Owing to the dynamic nature of the analysis developed herein, the multiplicity and diversity of the experiences that have inspired its production and, the international impact of the standards and norms based on which it has been developed, the Guide is a precious tool for decision-makers particularly those in Africa willing to establish a Single Window in the optimal conditions of success.

With its evolving character, the Guide remains open to any constructive critique, observation and, enrichment in short to any contribution likely to optimize it, both in its form and content.



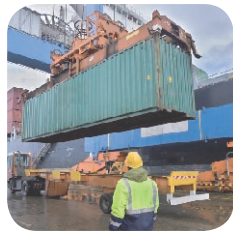
# Abbreviations and Glossary

AACE	African Alliance for Electronic Commerce
ATPC	African Trade Policy Center
BI	Business Intelligence
BOT	Build Operate Transfer
DMZ	Demilitarized Zone
DNS	Domain Name System
EAI	Enterprise Application Integration
FC	Fibre Channel
FTP	File Transfert Procol
ICT	Information and Communication Technology
IP	Internet Protocol
IS	Information System
ISCSI	Internet Small Computer System Interface
LTO	Linear Tape Open
MSMQ	Microsoft Message Queuing
NSW	National Single Window
NICT	New Information and Communication Technologies
WCO	World Customs Organization
PKI	Public Key Infrastructure
PPP	Public Private Partnership
RSW	Regional Single Window
SAN	Storage Area Network
Sentranet	
SPONSOR	From the origins of the term, a sponsor is a physical person or corporate body that provides material or financial support. As part of a project, the sponsor brings funding, supervises the works of experts and, validates the decisions, arbitrations and options.
SW	Single Window
WAEMU	West African Economic and Monetary Union
UNCEFACT	UN Centre for Trade Facilitation and Electronic Business
VPN	Virtual Private Network
VTL	Virtual Tape Library
XML	Extensible Markup Language

# Section 01 #

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## Context



## 1. Economic Context

International trade is the driving force of global economy. Its growth follows the trends of economic indicators. Behind this almost linear alignment conceals a profound transformation that gives a more and more predominant role to emerging economies.

The costs reduction logic essentially fosters the emergence of new hubs of international commerce. However, countries of the South are experiencing an upward demand and are characterized by a vivid capacity of technological appropriation and effective innovation.

Concretely, a prosperous commerce builds on the main factors below:

- **The Market:** Finding outlets;
- **Technology and labour force:** Producing quality at low cost;
- **Logistics and formalities:** Ensuring swift and reliable shipment at low cost.

The concept of Single Window for trade finds its importance in the search for optimized logistics and trade-related formalities. It is significant that the development of this modality is now the main concern of economies that bank on an exponential growth of trade.

## 2. Statutory and Institutional Context

There is no universal statutory and institutional framework proper, which governs Single Window operation. Measures are undertaken at national, at times bilateral or regional level. In fact, the prime vocation of a Single Window for trade is to offer a platform for trade facilitation and high-performance logistics within national frontiers.

However, the international character of trade has brought out some functional requirements that go beyond the national context. To address these requirements, Single Windows have first appropriated the pre-existing standardization instruments and tools, mainly UNCEFACT and WCO papers on international logistics and customs operations during

the last four decades. But, the specific needs peculiar to Single Windows for trade have aroused a rising interest. These include the notion of technological interoperability amongst platforms and the recognition by the country of destination of online formalities performed in the country of origin.

Currently, there isn't any universal approach as far as practices are concerned. This is explained on the one hand, by the electronic Single Window map that does not match the international trade flow map and, on the other hand, by the non-existence of a formal institutional framework to structure and standardize Single Window practices. The ambition to set up such an institutional framework is present notably in Asia (see box 1) and in Africa (see boxes 2 and 3) but, there are some difficulties relative to the diverse nature of Single Windows and their operation mode.

It is worth noting that some essential issues such as the recognition of digital signature and the standard formats for the exchanges of documents and data, are definitely addressed and the related technical and operational recommendations are regularly published.

### Box 1

**The Pan-Asian E-Commerce (PAA)** was founded in July 2000. PAA is composed of twelve members and aims to promote and provide secure, trusted, reliable and value-adding IT infrastructure and facilities to enhance seamless trade globally.

<http://www.paa.net/PaaPortal/PaaContent/About.htm>

In short, we can affirm that at the international level, the statutory and institutional environment is in the making. There is a sound reference basis likely to enable countries to set up a favourable environment of Single Window by appropriating emerging practices.

### 3. Technological Context

The combined use of telecommunications and Information Technologies over the last decades of the 20th century has facilitated the creation of interesting components conducive for the production of multi-function tools. This combination facilitates the definition of the concept of ICT (Information and Communication Technologies).

The advent of micro-computing, network infrastructure (Intranet/Extranet, Internet), virtualization, storage and, archiving solutions have

#### Box 3

##### The Regional Single Window (RSW) of WAEMU

The concept of Regional Single Window has not been defined properly by the different international bodies. It can be defined as a Single Window federating national Single Windows operational in a given region to facilitate cross-border and international transactions and, pool the relevant resources and skills. The Regional Single Window should not be considered to be an entity but rather a data exchange facility and a framework for the adoption and, implementation of international standards in the matter.

The WAEMU Regional Single Window Project sprang up from the meeting of the Council of Trade Ministers held in Dakar, Senegal in 2006 and which recognized that “the establishment of SW Systems can efficiently contribute to the removal of obstacles hindering trade”.

The RSW will be built on a simple organizational model. National Single Windows will exchange data among them via the Regional platform. Then, each NSW is responsible for the exchanges with its local users. Thus, it will not be possible

fostered the interconnection, mutualisation and, consolidation of information systems.

The notions of Information and Communication Technologies (ICT) encompass the techniques used in the processing and transmission of information, Internet and, telecommunications.

In many countries, Telecom operators have invested in innovative technologies to propose services to enterprises with higher capacity at lower price and

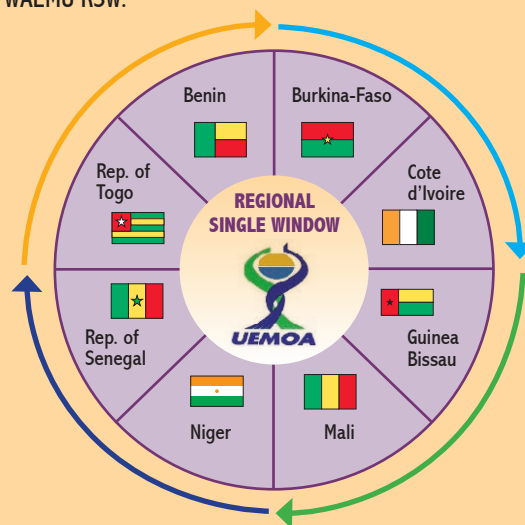
#### Box 2

**The African Alliance for Electronic Commerce (AACE)** is meant to be a framework of exchanges and sharing about trade facilitation. It groups 15 member countries and seeks to promote the SW concept, in compliance with recommendations of international institutions. One of the Alliance’s key projects is the establishment of a Regional Single Window that will interconnect all national platforms (NSW) with the view to smoothening trade and enabling African countries to be more competitive on the global market.

<http://www.aace-africa.net/>

for a customs administration or economic operator to directly connect to the RSW, except otherwise authorized by the national Single Window. Moreover, the Regional SW can be developed and hosted ad hoc, or simply derive from one of its members that has the technical capacity to offer services to the others.

The following diagram describes the organisation of the WAEMU RSW:



exponential level of performance and security.

The last few years were marked by the emergence of a new concept dubbed “cloud computing”. For many users, this concept implies a thorough change of business model. Instead of acquiring at very high prices some hardware (servers, software, etc.) not used to the full of their potentials, these users now outsource or entrust to other companies their IT services that are accessible through high-debit Telecom links via a web interface.

## 4. Objectives

There are many publications and recommendations on Single Windows including the renowned Recommendation 33<sup>1</sup> published by UNCEFACT and which has served as a framework for several governments in their SW implementation projects. After more than a decade of SW development, particularly in Africa and in Asia, there is a new knowledge base that makes it possible to better understand the factors of success and failure.

Produced under the aegis of AACE and with the support of ATPC which has backed the publishing thereof, this Guide is aimed at serving as an efficient and universal instrument for the implementation of Single Windows for trade. It is essentially built on African experiences but also drew on all SW practices world-wide.

The Guide seeks to facilitate the construction of a vision by Governments and stakeholders by laying down elements of scope definition for the implementation. The recommendations formulated herein are not applicable in all contexts and all at once. The objective targeted through the production of this Guide is to enable Governments, donors and stakeholders to have a practical idea on the conditions necessary for the implementation and operation of a Single Window that fulfils its intrinsic vocation which is to reduce trade-related costs and processing time.

This guide is rather practical than dogmatic. Its implementation often bumps into complex elements that require contextual adaptations that such a Guide cannot anticipate.

The classic Project Management approaches, from the identification phase to the evaluation, are not addressed in this Guide.

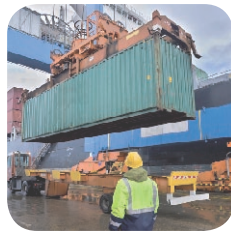
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1 Recommendation 33: Guide published by the UN Centre for Trade Facilitation and Electronic Business (UNCEFACT), ECE/TRADE/352, July 2005-Geneva

# Section 02 #

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## Definitions, Typology and Review of Good Practices



## 1. Definitions

It would be fitting to go back to the primary definition of Recommendation 33 and other subsequent definitions and, to see what needs to be completed or better articulated in the context of reality in 2013.

According to the Recommendation 33 published in 2005: « The Single Window is a facility that allows parties involved in trade and transport to lodge standardized information and documents with a single entry point to fulfil all import, export and transit-related regulatory requirements ». This definition which has become canonical, is a strong one in light of its opening and propensity to accommodate whatever is related to the issue. In 2013, it is useful to reconsider this definition based on the reality on the ground. Today, a definition of the concept of Single Window for trade must include the following precisions:

- What is a Single Window?
- What does a Single Window cover?
- Who implements the SW and whom is it intended to?

By seeking to bring out a practical answer to these questions and by attempting to better present the concept, the Alliance proposes the following formulation to define a Single Window:

« The Single Window for trade is a national or regional system mainly built on a computer platform initiated by a Government or an ad hoc entity to facilitate the performance of import, export or transit-related formalities, by offering a single point of submission of standardized data and documents in a bid to fulfil official requirements and facilitate logistics.»

AACE 2013

This definition conserves the main lines of the one formulated under Recommendation 33, adding however that a SW is a system built around a computer platform and indicating that the initiator is the governmental authority or an ad hoc authority in a national or regional context. In addition to official formalities, this definition integrates facilitation of logistics.

This formulation is the basic definition recommended

by AACE. It will be proposed and discussed with all international bodies to be considered among the reference definitions of the SW concept.

## 2. Typology of Single Windows: Models and Architectures

After the stage of definition of the SW model comes the concrete implementation phase. Today, there are several types of Single Windows accommodating different functions that are distinct, similar or complementary. It is not rare to see in one country several entities that define themselves as Single Windows, operate in a coherent framework notably when this derives from a strategic approach. But more often, SW initiatives are operated in a non-coordinated manner against the backdrop of hidden rivalry among administrative bodies with results that are unproductive for the country.

On the other hand, operation architectures are often dependent on power relations and can be heavy, costly and, non efficient.

### 2.1. SW Models

This Guide deals with the issue related to the typology of Single Windows by laying emphasis on the need for each country to always ensure consistency and coordination of SW operations.

Based on observation and the analysis of Single Windows existing world-wide, there are three (3) categories of Single Windows:

- Single Windows for clearance formalities;
- Single Windows for logistics coordination;
- Single Windows for B2B transactions.

These three categories seem distinct but they can integrate perfectly to one another. Their implementation can be handled either by the same authority or by different entities. In any case, coordination of the operations is essential. In case of a sole authority, it is highly recommended to establish a gradual approach with a maturation time likely to foster the in-depth appropriation of all components of the system.



### 2.1.1.1. Single Window for Clearance Formalities

See Table 01

### 2.1.1.2. Single Window for Logistics Coordination

See Table 02

### 2.1.3. Single Window for B2B Transactions

See Table 03

Table 01		Single Window for Clearance Formalities	
<p><b>Description:</b> The Single Window for clearance formalities is the form that matches most the definition of Recommendation 33 and AACE. Its implementation is also the most complex, as it requires the trust and collaboration of several entities that are not under the same authority, that do not carry out the same business and, that most often have divergent interests. This Single Window interconnects around a single or integrated platform, all parties involved in pre-clearance, clearance and post-clearance formalities.</p>			
<p><b>Scope:</b></p> <ul style="list-style-type: none"> <li>• Import</li> <li>• Export</li> <li>• Transit</li> <li>• Other regimes</li> </ul>	<p><b>Main functions:</b></p> <ul style="list-style-type: none"> <li>• Request for authorisations or permits</li> <li>• Routing of permits/authorisations to customs</li> <li>• Electronic payment of customs duties and taxes</li> <li>• Online monitoring of the processing</li> </ul>	<p><b>Areas where applicable: all frontiers</b></p> <ul style="list-style-type: none"> <li>• Ports</li> <li>• Airports</li> <li>• Land borders (road, river and railway)</li> <li>• Others (postal, economic zone...)</li> </ul>	<p><b>Key stakeholders:</b></p> <ul style="list-style-type: none"> <li>• Customs</li> <li>• Private professionals</li> <li>• Government agencies</li> </ul>
<p><b>Results:</b></p> <ul style="list-style-type: none"> <li>• Drastic reduction of processing time</li> <li>• Marked reduction of formalities' indirect costs</li> </ul>			
<p><b>Conditions of success:</b></p> <ul style="list-style-type: none"> <li>• High level governmental leadership</li> <li>• Consensual approach</li> <li>• Strong involvement of customs</li> <li>• Appropriation by users</li> </ul>		<p><b>Risks to handle:</b></p> <ul style="list-style-type: none"> <li>• Leadership rivalry</li> <li>• High costs of the services</li> <li>• Low impact on the processing time (notion of involvement or commitment)</li> <li>• Ineffective change management</li> <li>• Duality of manual and electronic systems</li> </ul>	

02 #

Table 02		Single Window for Logistics Coordination	
<p><b>Description:</b> This type of Single Window concerns logistics mainly in port operations. It focuses on the swiftness and reliability of logistics from the announcement of vessels' arrivals to the physical delivery of the goods to the consignees. Several European ports have embarked on the Single Window dynamic through the use of such a system also known as Cargo Community System or Port Community-based System. Its impact on logistics is all the stronger as the volumes are huge, the infrastructure available and stakeholders endowed with appropriate facilities. Thus, this tool is rather intended for big ports even though some of its components can have a positive impact on ports of a lesser size.</p>			
<p><b>Scope:</b></p> <ul style="list-style-type: none"> <li>• Logistics (transport, offloading, storage, delivery etc.)</li> </ul>	<p><b>Main functions:</b></p> <ul style="list-style-type: none"> <li>• Data exchanges amongst various parties involved in logistics</li> <li>• Facilitation of transactions</li> <li>• Electronic payment of logistics fees</li> <li>• Electronic monitoring of the processing</li> </ul>	<p><b>Areas where applicable:</b></p> <ul style="list-style-type: none"> <li>• Port stakeholders</li> <li>• Airport stakeholders</li> <li>• Logistics professionals</li> <li>• Customs</li> </ul>	<p><b>Key stakeholders:</b></p> <ul style="list-style-type: none"> <li>• Port stakeholders</li> <li>• Airport stakeholders</li> <li>• Logistics professionals</li> <li>• Customs</li> </ul>
<p><b>Results:</b></p> <ul style="list-style-type: none"> <li>• Improved performance of logistics in terms of processing time and reliability</li> <li>• Drastic reduction of indirect costs</li> <li>• etc.</li> </ul>			
<p><b>Conditions of success:</b></p> <ul style="list-style-type: none"> <li>• Consensual approach</li> <li>• Favourable predisposition of logistics stakeholders</li> <li>• Upgrade of the environment to maximize the potential</li> <li>• Appropriation by users</li> </ul>		<p><b>Risks to handle:</b></p> <ul style="list-style-type: none"> <li>• High costs of services</li> <li>• Low impact on the processing time (notion of involvement or commitment)</li> <li>• Ineffective change management</li> <li>• Duality of manual and electronic systems</li> </ul>	

**Table 03** Single Window for B2B Transactions

**Description:** This is the less common form of Single Window. It has actually gained acceptance owing to the business aspect in the logistics chain. This business aspect relates to the letter of credit and the order of logistics services. The Single Window for B2B transactions is more often used as a complement to the two previous models, than in standalone mode. Actually, it is difficult to envisage operating it in a context deprived of any platform of service federating trade stakeholders. Therefore, it's about a platform facilitating the conduct of commercial transactions related to international trade. Some of these transactions <sup>2</sup> can have a mandatory character in some countries <sup>3</sup> while the bulk of them are free.

<b>Scope:</b> <ul style="list-style-type: none"> <li>• Import</li> <li>• Export</li> </ul>	<b>Main functions:</b> <ul style="list-style-type: none"> <li>• Opening of letter of credit or documentary remittance</li> <li>• Service offer</li> <li>• Purchase of logistics services</li> <li>• Other B2B services</li> </ul>	<b>Areas where applicable:</b> <ul style="list-style-type: none"> <li>• Without restriction</li> </ul>	<b>Key stakeholders:</b> <ul style="list-style-type: none"> <li>• Banks</li> <li>• Insurance companies</li> <li>• Clearing agents</li> <li>• Logistics stakeholders</li> <li>• Economic operators</li> </ul>
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**Results:**

- Strengthened efficiency, swiftness and reliability of the logistics chain

**Conditions of success:**

- Existence of a SW
- Strong motivation of B2B parties
- Technical, legal, and professional predispositions of stakeholders
- etc.

**Risks to handle:**

- High costs of services
- Low impact on the processing time (notion of involvement or commitment)
- Ineffective change management
- Duality of manual and electronic systems

## 2.2. SW Architecture

Due to the rapid evolution of technologies during the last decade and the exponential rise in the possibilities of exchange and storage, it is not recommended to build a SW architecture based on constraints of the existing environment or pre-existing solution. It is highly recommended to have an open architectural vision geared to the future. The main questions to ask are the following:

- How can we ensure interconnection with customs and entities having autonomous systems?
- How can we exchange with partners not having computer systems?
- To what extent can we consider automated exchanges to have good results?
- How can we compensate for the absence, the poor quality or the high costs of Telecom links?
- How can we ensure continuity of the service?

There are no universally relevant responses for any of these questions. In each country, the technological and legal contexts, the financial means and the relations of power determine the most adapted type of architecture.

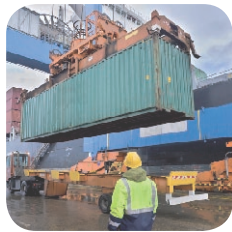
<sup>2</sup> The term commercial transaction refers to payable services for which the client has the freedom to choose the service provider, the latitude to negotiate and, decide on the form of the service.

<sup>3</sup> The resort to clearing agents and the subscription to a local insurance policy at imports are mandatory transactions in some countries, notably in Africa.

# Section 03 #

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## Prerequisite Strategic Orientations



**The establishment of a Single Window requires the validation of major strategic choices. These choices are key elements conducive for the success of the project.**

## 1. Institutional and Organisational Prerequisites

Reaching a consensus is an essential condition for the success of a project. Such a consensus might be difficult to reach given the multiplicity of stakeholders reporting to different Authorities or Ministries.

### 1.1. Steering of the SW implementation

In the implementation of a SW project, the following situations are generally encountered in terms of leadership: *See Table 04.*

Experiences have shown that the level of involvement of these authorities is very important and is often

a decisive factor in the success of the project implementation.

A Single Window requires close and intelligent cooperation amongst all public and private authorities and administrative bodies participating in the improvement of the clearance chain in a bid to foster facilitation in the business circles.

### 1.2. Management of the SW Operation

On the organisational and operational front, a Single Window requires the existence of an entity in charge of operating the platform and the services offered. This responsibility must be vested in an autonomous management body that is assigned clear-cut missions.

Table 04		Steering of the SW implementation	
N°	STEERING LEVEL	SW LEADER	COMMENTS
1	High Government level	Office of the Head of State or Prime Minister hoc bodies	When a SW Project is steered under the leadership of the President of the Republic or the Prime Minister, adherence of public administrative bodies is almost guaranteed.
2	Ministerial level	Ministry of Finance	The Ministry of Finance to which customs report, is the department most likely to ensure the steering of a SW Project.
		Ministry of Commerce	The vision of a high-performance trade without constraints is more often built at the Ministry in charge of Commerce.
		Ministry of Transports	When the Single Window is oriented to port logistics, this Ministry can be on the forefront in the implementation.
3	Public Administration or ad hoc Entity	<b>Customs, Port, Department</b> in charge of trade, other ad hoc bodies	When an administrative body is on the forefront, there is a high risk of low adherence by other administrative entities.

The management of a Single Window by an autonomous entity makes it possible to better focus on the activities proper and the operation of the platform, both operationally and technologically.

The most appropriate time to create or appoint the management entity varies from one context to another and is dependent on the capacity of the SW implementation champion.

The following table presents the advantages and

drawbacks of each approach:

*See Table 05.*

Table 05 Advantages and drawbacks of each approach		
Approach	Advantages	Drawbacks
<b>Case I: Establishment of the entity at the onset of the project phase</b>	<ul style="list-style-type: none"> <li>• The resources are associated early to the project implementation activities.</li> <li>• Progressive integration of stakeholders.</li> </ul>	<ul style="list-style-type: none"> <li>• Poor planning of activities likely to cause a floating of these resources. In addition, the profiles of the staff might not be well defined.</li> </ul>
<b>Case II: Establishment of the entity during project implementation</b>	<ul style="list-style-type: none"> <li>• The SW operator starts defining the modes of operation.</li> <li>• The resources are operationally involved in the planning of activities.</li> </ul>	<ul style="list-style-type: none"> <li>• An early recruitment of the management team members can generate additional costs without operation.</li> </ul>
<b>Case III: Establishment of the entity at the end of the project and at the beginning of the operation</b>	<ul style="list-style-type: none"> <li>• Assurance to have the right profiles and limitation of start-up costs.</li> </ul>	<ul style="list-style-type: none"> <li>• Operation teams do not have a proper understanding of SW operations.</li> <li>• The training of operating officers and assistance team is longer.</li> </ul>

## 2. Legal and Statutory Prerequisites

The legal and statutory framework encompasses all the laws, decrees, rulings, conventions and memorandums likely to govern the procedures to be applied as part of trade-related operations.

Depending on the induced operational changes, requirements of the statutory framework can be more or less high. Basically, the Single Window can operate based on two different legal models:

- **Model 1:** Single Window operations without electronic signature (the SW being a platform for automated processes and data exchanges);
- **Model 2:** Single Window operations with electronic signature (the SW accommodates paperless procedures).

In the case of Model 1, it is not necessary to change the legal framework at the beginning of the project. For example, most of the customs management systems have been established in many countries without any need to change the law. What is necessary in this case is that stakeholders should agree to receive requests lodged electronically and process them online. Customs can be connected to the SW platform and receive the authorizations/permits without signature.

However, in the case of Model 2, the electronic documents replace the paper-based document.

It is therefore necessary to have a legal framework governing this new document format. It is also necessary to have in place the right infrastructure likely to accommodate electronic signature and archiving. These laws might exist as they are not specific to Single Windows only, but pertain to all electronic transactions.

In the case of a Single Window integrating paperless formalities, it might be necessary to enact the laws listed below to sustain the new operational procedures. These laws are:

- Law on the protection of personal data;
- Law on electronic transactions;
- Law on cybercrime;
- Law on cryptography.

Besides, the fact of one country belonging to a given Economic Community can also cause restrictions that have to be considered as constraints for the application of some rules.

As to the international documents, their validity beyond the national frontiers can be challenged because of the non-recognition of electronic documents or the electronic signature in the country of destination.

Lastly, the strong involvement at the highest level of the Government, as mentioned above, is essential to enact laws, rules and memorandums that will govern the new SW procedures.

### 3. Technological Prerequisites

There is no preset standard technology-wise. Actually, the big editors of customs management software and Single Window systems have each a technological orientation hinged on the technical strategy of the company.

However, it is worth noting the need for an **interoperability**<sup>4</sup> of the applications but also for the standardization of the information to be exchanged. When different administrative bodies issue permits and authorizations, the latter must integrate security components that are essential in an online environment.

A well-carried out feasibility study will make it possible to identify the strengths and weaknesses of the country's technological environment. The different SW experiences show that there is often a major gap between the needs initially identified in terms of infrastructure and the requirements of implementation on the ground.

The establishment of technological prerequisites must be the subject of a thorough financial evaluation. In fact, the technological upgrade absorbs a sizeable part of the project budget but facilitates a proper assessment of the level of automation of each of the administrative bodies concerned.

“Ideally”, administrative agencies and stakeholders might have a minimal **level of automated facilities** in order to receive and process online the requests for authorizations submitted by economic operators. However, this could not in any case be a brake to the Project.

The Single Window might integrate the principle of accommodating all the functions necessary for these administrative agencies as well as the technical hardware with the view to a global performance of the system and a better technical integration among stakeholders.

Like the legal and statutory prerequisites, when the SW integrates paperless procedures, the following

<sup>4</sup> Capacity to exchange data or information between two heterogeneous applications.

technological **components** are significant:

- Electronic signature;
- Electronic archiving of documents;
- Integration of some key standards and norms (UNCEFACT, WCO Data Model).

In a paperless trade context, we talk about « **electronically native document** ». An electronic document must integrate the following attributes:

- Sustainability;
- Integrity;
- Security;
- Traceability;
- Legibility;
- Imputability or authentication of the author.

### 4. International Standards and Norms

It is important to note that the integration of standards is a strong recommendation but does not represent an essential technological prerequisite

### 5. Definition of the Business Model

A SW Project basically seeks to bring a major innovation in the trade environment that must be transformed into an economic value. The SW covers a complex ecosystem bringing on board public and private agencies with economic logics that are often different. It is worth articulating at the beginning of the project, on the option of business model, the acceptance of which by all parties, might represent a strong federating stand that makes it possible to march towards the attainment of the objectives assigned to the Project. This decision will then determine the choices as to the funding of the project, the strategy for the management of operation-related charges and then, the transformation of the created value into income in order to ensure the sustainability of the SW operation.

In other words, it's about clearly defining the following aspects:

- **The value created by the project:** The SW must help meet the expressed needs or bring about innovations to step up the foreign trade environment. In any case, it's about generating value for stakeholders and users of trade-related formalities;
- **Sources of funding for the project:** These include donors, the private sector, the Government or the fruit of PPP;
- **The project's implementation budget:** This must be the subject of a proper estimate, which will help avoid an inadequacy of resources for the proper execution of the project and the starting of the operation thereof;
- **Prices applied to benefit from the services:** These shall be set in a way to cover all operation charges and, guarantee the upgradability of the system.

## 6. The different SW Business Models

The business models for Single Windows are heavily dependent on the initial conditions in the host environment (political, economic, social and technological conditions) but also on a proper identification and management of the prerequisites at project onset.

A thorough estimate of the SW implementation costs is imperative. This will be based on an inclusive approach targeting all stakeholders for an accurate identification of the needs in terms of infrastructure, hardware, human resources, training, communication, etc.

The aim is to have a model likely to ensure equilibrium in the funding of the three sequences of the project: implementation, operation and upgrade of the Single Window.

On the whole, three business models have been identified:

- Non-charge model;
- Balance models (PPP);
- Profit-making model.

### 6.1. The Non-charge Model

This model is applied in cases where the funding for the implementation, operation and evolution of the Single Window is entirely provided by the

Government or secured from donors.

What motivates a Government to provide funding for the different stages of a SW Project is the resolve to improve the business environment through the facilitation of trade-related formalities and the proper management of the Single Window (*e.g.: Finland, Republic of Korea, Sweden, U.S.A., Macedonia, Azerbaijan, Philippines, Tunisia*<sup>5</sup>).

The major risk in a strong involvement of a Government in the funding of all stages of a SW Project lies in the possible absence of adequate resources to ensure its upgradability particularly in developing countries and Least Developed Countries (LDCs). This situation can adversely impact the performances of the Single Window and hence, the option to associate the private sector and donors can be envisaged.

Very often, donors support the implementation of the Single Window and, the Government takes over to provide funding for its operation. However, donors can come on board ultimately to support the SW upgradability needs.

### 6.2. The PPP Model

This model concerns mainly the Single Windows implemented as part of a PPP that brings on board the Government and the private sector. This PPP model is limited to the management and steering of the project. The logic of stepping up the competitive foreign trade environment is at the heart of this mutually beneficial partnership (*e.g.: Ghana, Hong Kong, Japan, Malaysia, Mauritius, Senegal, Singapore, Cameroon, Morocco, Congo, etc.*).

Generally, SW services established under PPP are payable. But the tariffs are often negotiated or approved (*Senegal*), the objective being to ensure equilibrium in the operation. In some cases, the use of the SW is optional (*Germany, Hong Kong, Japan, Malaysia, Sweden, U.S.A., Republic of Korea*), whereas in other countries, it is mandatory (*Finland, Ghana, Guatemala, Mauritius, Republic of Korea, Senegal*).

The PPP model presents the advantage of being complementary to the other types of funding available as it gives the latitude to call on to the Government or donors, if need be, depending on the opportunities or the context.

<sup>5</sup> Taken from «Part 1 : UN/CEFACT Single Window Repository» 2009

### 6.3. The Profit-making Model

When the private sector provides funding for the different stages of the SW Project (*e.g.*: *Germany, Guatemala*), it integrates its prime motivation which is the quest for profit, hence the option to offer payable services.

Thus, the profit-making logic can result in high costs of the services offered through the SW. To avoid this, the Government must ensure the quality/cost balance in the SW operation by providing grants if need be, but also by mobilizing donors to provide funding for SW investment and upgrade programme.

The SW business models are synthesised as follows:  
*See Table 06.*

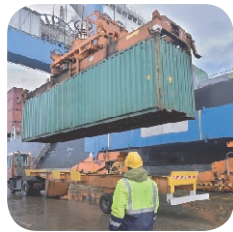
Table 06		SW Business Models		
BUSINESS MODELS	FUNDING OF THE IMPLEMENTATION	FUNDING FOR THE OPERATION	FUNDING FOR UPGRADES	
Non-charge model	Donors	Government	Donors/Government	
	Government	Government	Government	
Profit-making model	Private sector	Ad hoc entity	Ad hoc entity	
PPP model	Donors/Government	Ad hoc entity	Ad hoc entity	



# Section 04 #

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## Practical Implementation Steps



## 1. Mobilisation of Stakeholders

Stakeholders, those in the public sphere in particular, generally find it difficult to accept any evolution of operational procedures, even if the said evolution is likely to step up the efficiency of their daily operations. On the whole, private stakeholders (Banks, Insurance companies) are not resistant as they do identify quickly the operational and economic benefit of such an evolution like the implementation of a Single Window. The difficulty lies in public stakeholders and, it is recommended

to properly unveil the stakes of the SW project to all parties in a bid to reach consensus and proper appropriation.

To this end, it is important to conduct an objective analysis of the level of stakeholders' commitment all along the project with the view to defining a strategy for the mobilization of all.

See Table 07

<b>Table 07 Model of evaluation of the level of stakeholders' commitment for the success of the project</b>				
<b>LEVEL OF COMMITMENT</b>	<b>PROJECT SPONSORS</b>	<b>PROJECT TEAM</b>	<b>STAKEHOLDERS FOCAL POINT</b>	<b>END USERS</b>
<b>4- Total commitment</b>	Optimal	Optimal	Optimal	Optimal
<b>3- Adherence to the project with a constructive attitude</b>	Satisfactory	Satisfactory	Satisfactory	Satisfactory
<b>2- Understanding of the project with low mobilisation</b>	Fair	Insufficient	Fair	Satisfactory
<b>1- Awareness of the project stakes without due interest</b>	Insufficient	Critical	Insufficient	Fair
<b>0- Rejection of the project</b>	Critical	Critical	Critical	Insufficient

**Caption:** **4-** Total commitment: Wholehearted appropriation of the project and proactive participation in the works.  
**3-** Adherence to the project with a constructive attitude: Faith in the project and availability to contribute to the works.  
**2-** Understanding of the project with low mobilisation: Proper understanding of the project, but not coupled with a strong involvement.

**1-** Awareness of the project stakes without due interest: Understanding of the project and its impacts but without a manifested refusal to be involved.  
**0-** Rejection of the project: Refusal to adhere to the Single Window and to collaborate with the Project Team.

In a bid to have all guarantees of success of a SW project, it is essential to fathom, on a permanent basis, the level of commitment of stakeholders. This level must ideally remain all along the project, in the green section of the table above, if we want to gather all the conditions of success. Actually, a Single Window is usually perceived by stakeholders as simply prompting a loss of influence and control in the daily operations, to the benefit of other entities.

In a bid to step up the level of mobilization, it is important to communicate regularly on the project

by highlighting the tangible and quantifiable gains and, the future roles devolved on each party in the new system.

In addition, integrating stakeholders in the project cycle is a good practice that helps anticipate and mitigate the risks and problems that might spring up and, maintain a high level of commitment.

However, if this approach appears to be inadequate after many attempts, the resort to the Governmental authority for arbitration might be necessary.

## 2. Commitment of Public Authorities

The commitment of decision-makers at the highest level of the Government is a key factor of success in a Single Window Project. In fact, it is suitable that the main sponsor of the project be a senior official of the public administration.

In a bid to ensure a proper appropriation of the project and a wholehearted commitment of public authorities, it is essential to demonstrate the Single Window's added value. The following benefits can enrich the arguments:

- Improvement of interactions amongst the agencies involved;
- Strengthened reliability of the information diffused by the administrative bodies;
- Celerity in public service delivery ;
- Reduction of human and financial costs related to trade procedures;
- Redirection of human resources thanks to the reduction of costs for redeployment towards activities with a higher added value;
- Reduction of corruption thanks to transparency on transactions ;
- Secured revenue collection if a payment system is integrated ;
- Overall improvement of the business environment, its impact for the country in international rankings and, the political gains resulting from these rankings.

Actually, the contribution of public authorities at the highest level is crucial. During the deployment phase, it can be decisive to:

- Make available the most qualified human resources to integrate the Project Team;
- Mitigate and, even eliminate the resistance to change manifested by some stakeholders ;
- Ensure a large-scale communication during the deployment phase ;
- Handle the pressure relative to the «teething problems» inherent in the deployment of any Single Window system.

## 3. Mobilisation and Proper Use of Financial Resources

The establishment of a Single Window requires from initiating countries a precise indication on the financial resources necessary to fund the project and, this should be performed ahead of the project implementation. It is important to conduct a feasibility study that will help have a clear idea on the possible solutions, assess them to come up with the most suitable solution and, estimate the resources to be mobilized and the expected spin-offs.

Moreover, the financial resources are mobilized from key parties included donors, the Government and/ or the private sector notably under a Public/Private Partnership.

It is important to conduct a feasibility study coupled with a Business Plan, the advantage of which is to formalize the company's evolution prospects. It also represents an efficient tool for the search and mobilization of the funding from institutional or private donors.

The Business Plan must be of a refined quality with thoroughly assessed figures which confers credibility to the document and offers a framework of trust between donors and the SW project itself.

On the whole, securing the financial resources is ensured through a proper management of the Cost/ Time/Deliverable triptych in a way to minimize the gaps between projections and achievements. This is all the more important as the stakes relative to SW implementation are high and require substantial financial means.

The requisite funds may be mobilized from institutional donors (World Bank, AFDB etc.) and from the Governments (*Tunisia*) or as part of a PPP (*Ghana, Senegal, etc.*).

## 4. Establishment of the Project Team

The skills and experiences of Project Team members are essential for the design and successful implementation of a Single Window. It is recommended to have team

members **exclusively dedicated to the project** with a proper command of the stakes. Furthermore, the decision-making chain, hierarchy and, responsibility of each member and modalities of communication must be clearly defined.

In fact, the main challenge of a SW project is more organizational than technical. Aside from the technical dimension of the project, the Project Team must therefore have a proper command of the business processes of all parties involved, participate in the drafting of the functional scope statement, perform the acceptance tests and, assure the training of end-users. On this business aspect, it is recommended to develop close relations with each of the stakeholders by identifying focal points that are experts in their domain.

Yet, one of the essential roles of the Project team is to ensure that the Project Management Team fully comprehends the business processes and, incite the latter on a permanent basis, to respect the Single Window implementation schedule with the expected quality and planned budget while meeting users' expectations. In the absence of a focal point of the Project Team, the chances of successful implementation might solely depend on the capacities and willpower of the Project Management.

In carrying out their mission, it is important to make sure that the identified resources have the required skills and aptitudes to lead the project to successful completion. If necessary, capacity-building can be useful as part of training sessions (project management, business process reengineering, functional studies, etc.), or immersion in a country with a similar context that has a note-worthy experience in SW implementation.

For more assurance, the recruitment of a Consultant to accompany the Project Team in the methodological and business aspects can step up the chances of success. However, the Project Team should not rely only on the Consultant's work and let its involvement dwindle. To this end, it is important:

- At the individual level: regularly measure the contribution of each member of the Project Team and assess their level of commitment;
- At the global level: the Project Sponsors assess,

based on specific criteria defined beforehand, the performance of the Project Team and its capacity to attain the set objectives.

**Depending on their involvement in the project and their motivation, a good practice is to recruit at the end of the deployment phase, the members of the Project Team who will form the backbone of the entity that will be in charge of operating the Single Window.**

## 5. Establishment of Steering and Project Ownership Bodies

A *Project Champion* must be clearly identified after consensus of all parties involved.

The Project must be structured around bodies that ensure the steering and control of deliverables during the implementation phase:

1. A Steering Committee that is a decision-making and arbitration body;
  2. A Project Committee in charge of carrying out the project activities.
- **The Steering Committee** is the body validating the decisions related to the project and monitoring the milestones. Its meetings are sanctioned by minutes recording the orientations to be carried out by the Project Committee. It is essentially composed of top managements of the Project's key stakeholders;
  - **The Project Committee** is the body executing the project implementation. It proposes to the Steering Committee an action plan and ensures the execution thereof once the plan is validated. Under the leadership of a Project Director, the Project Committee convenes at a close frequency in order to address all issues in time to avoid any deviation from the initially-defined project scope.

Other committees/commissions might be put in place, but will only operate on specific technical aspects: Technical Committee (management of the technical aspects of the solution) or the Administrative

Commission (evaluation of service offers or financial offers for the acquisition of the hardware).

## 6. Business processes analysis and reengineering

Processes form the basis of the operation and performance of any system. Thus, it is important to properly analyze the processes and define possible improvement channels.

In addition, it should be noted that the main purpose of a Single Window project is essentially the migration of manual procedures into an optimized and secured channel of information that does not aim to challenge or disrupt prerogatives of any institutional party.

The analysis of business processes is a study of the existing processes within the targeted organizations. The creation of a Single Window without any analysis and reengineering of these processes will simply result in the reproduction of the existing loopholes and, possibly minimize the expected gains. Business process analysis consists in capturing the attributes of processes and their interrelations but also clearly identifying the role of all players of the system.

The modelling of the processes is a technique facilitating the documentation of the business processes whereby each element of the process is represented by graphical notations to illustrate the points listed below:

- Activities flowing in a specific order and points of decision;
- Players carrying out these activities;
- Inputs and outputs of each activity and, associated criteria and rules;
- Interrelation among parties;
- Circulation of the information throughout the company;
- Quantitative indicators such as the number of stages as well as the time and costs necessary to complement a specific business process.

Organisations such as UNCEFACT propose

methodologies for the analysis of processes based on the UN Modelling Methodology (UMM).

**The UN/CEFACT Modelling Methodology (UMM)** is a modelling approach to design the business services that each business partner and stakeholder ought to provide in order to facilitate collaboration.

“UMM makes it possible to capture business knowledge independent of the underlying implementation technology, like Web Services or ebXML. The goal is to specify a global choreography of a business collaboration serving as an “agreement” between the participating partners in the respective collaboration. Each business partner derives in turn its local orchestration, enabling the configuration of the business partner’s system for the use within a service-oriented architecture (SOA).” *Wikipedia*

A UMM business collaboration model comprises three main views: the Business Domain View (BDV), the Business Requirements View (BRV) and, the Business Transaction View (BTV). The three top level packages of any UMM model are usually stereotyped.

For example the following is the description of the BDV: “The BDV is used to gather existing knowledge from stakeholders and business domain experts. Through interviews, the business analyst tries to get a basic understanding of the processes in the domain. The use case description of a process is done at a high level. One or more business partner types can be involved in a process knowing that they might have, or not, an interest in the process. The BDV results in a process mapping, i.e. the business processes are classified...”

The results of the business process analysis will serve as a starting point for the implementation of trade facilitation measures in line with the establishment of a Single Window such as:

- Simplification of procedures;
- Simplification of the documentary requirements and their alignment with international standards;
- Automation of foreign trade transactions and creation of electronic documents for the Single Window.

## 7. Definition of the Implementation Strategy

This stage consists in defining the implementation mode. There are three implementation modes generally practiced throughout the world:

- Development of the solution and internal operation capacity;
- Option for a solution provider and internal operation capacity;

- Choice of a service provider in the form of franchise or BOT contract.

Each formula has advantages and drawbacks, the extent of which varies from one context to another. The following matrix addresses the issue and enables decision-makers to find the best formula suitable to their country: *See Table 08.*

<b>FORMULAS</b>	<b>ADVANTAGES</b>	<b>DRAWBACKS</b>	<b>CONDITIONS OF SUCCESS</b>
<b>OWN SOLUTION AND INTERNAL OPERATION</b>	Independence and capacity to upgrade the solution depending on the needs.	High cost, long timeframe and excessive maturation time. It takes at least 4 to 5 years to have a stable and operational solution.	<ul style="list-style-type: none"> <li>• A well-trained team and a judicious choice of the technologies.</li> <li>• Prescribe comfortable schedules in order to avoid delay in production.</li> </ul>
<b>EXTERNAL SOLUTION AND INTERNAL OPERATION</b>	This is the most common approach, as it makes it possible to save time and facilitates a gain as to the maturity of a solution proven efficient elsewhere.	Technological dependency on the service provider for upgrades.	<ul style="list-style-type: none"> <li>• Ensure that the chosen solution operates satisfactorily in the same conditions elsewhere.</li> <li>• Require knowledge transfer if possible.</li> </ul>
<b>ACQUISITION OF SERVICES UNDER FRANCHISE OR BOT</b>	The funding does not pose any problem, and there is no risk related to the project management.	Services are often low and costly as the provider seeks to cover the risks and generally refrains from engaging in specifications.	<ul style="list-style-type: none"> <li>• Produce clear specifications and ensure that the service provider comply with them with measurable results.</li> <li>• Refrain from focussing only an obligation of wherewithal</li> </ul>

The table below sums up the different options analysed in the perspective of the National Champion appointed to steer the Single Window implementation: *See Table 09.*

	<b>CHARACTERISTICS OF THE NATIONAL CHAMPION IN CHARGE OF THE IMPLEMENTATION</b>		
	<b>STRONG CAPACITY</b>	<b>AVERAGE CAPACITY</b>	<b>LOW CAPACITY</b>
<b>OWN SOLUTION AND INTERNAL OPERATION</b>	Risky	Very risky	Not to envisage
<b>EXTERNAL SOLUTION AND INTERNAL OPERATION</b>	Favourable	Favourable	Risky
<b>ACQUISITION OF SERVICES UNDER FRANCHISE OR BOT</b>	Limited interest	Limited interest	Favourable

## 8. Development of Specifications

Specifications or scope of statement can be defined as follow: «**Scope statement is a document detailing the needs, requirements and constraints to be taken into account when implementing a Project.**», *source Wikipedia.*

It would be risky to only focus on technical specifications as a Single Window is more than a mere automation project. There are different aspects that need to be addressed:

- Technical aspects;
- Organisational aspects;
- Operational aspects (including the franchising model).

Therefore, it is essential to draft the specifications for each component while taking into account the interrelations in the different aspects.

The content of the specifications often adapts to the political, legal and, economic context. The following box lists a set of questions that will help put together a sound scope statement.

What type of architecture? Centralised or decentralised?  
 What do we need in terms of infrastructure and hardware?  
 What is the existing infrastructure?  
 What are the existing automation facilities? If not, what can the existing infrastructure support?  
 What is the existing legal framework? Is it enough?  
 Are there any improvement projects?  
 What is the time set to develop the project?  
 What are the most critical processes?  
 What are the bottlenecks?  
 Who are those adhering to this project?  
 What are the targets?  
 What is the level of technological maturity of stakeholders?  
 What are the processes to be adjusted or rewritten?  
 What is the level of risk in change management?  
 How can we bring on board the maximum of stakeholders?

## 9. Project Implementation and Deployment

In terms of methodology, the implementation of a Single Window follows a classical scheme of information system integration project management. The Project Team must however agree upstream on a method and tools likely to help monitor the state of progress, the budget, the points of attention and the risks. It is important to define a clear communication strategy targeting all stakeholders and facilitating the mitigation of possible resistance to change at each stage of the project implementation.

However, the specific constraints to take into account are the availability of the resources (human, financial and, technical resources, etc.), the nature of the needs and the interest in change which might vary depending on the public or private agencies involved. To ensure the success of a Single Window, a special emphasis should be laid on the following elements:

- The sequencing of the deployment;
- The change management strategy;
- The management of specificities of public agencies;
- The modalities of deployment and transition to operation.

### 9.1. Project Scheduling

In a SW Project, it is essential to have an ambitious vision but also, start with intermediate objectives that can be attained reasonably with tangible results that will raise the project's level of attractiveness.

In addition, starting the project with a wide scope might raise the risks of failure as in the one hand, users will not have time to absorb the change, and on the other hand, the Project Team might be undermanned to suitably accompany each party. To avoid this, it is important to prepare the deployment by finding a happy medium between the following two factors:

- The phasing of deployment with reasonable intervals for a better appropriation ;
- The rescheduling of the scope in simple and coherent functional releases that will be deployed at each phase.

However, even if the adopted deployment pace is progressive, it is necessary that the infrastructure due to support the Single Window be sized adequately right from onset in the target configuration, which will help avoid costly readjustments during project implementation.

## 9.2. Change Management Strategy

The change management system, as part of a SW implementation, must integrate the essential components below that need to be well addressed from the beginning of the project and carried out progressively:

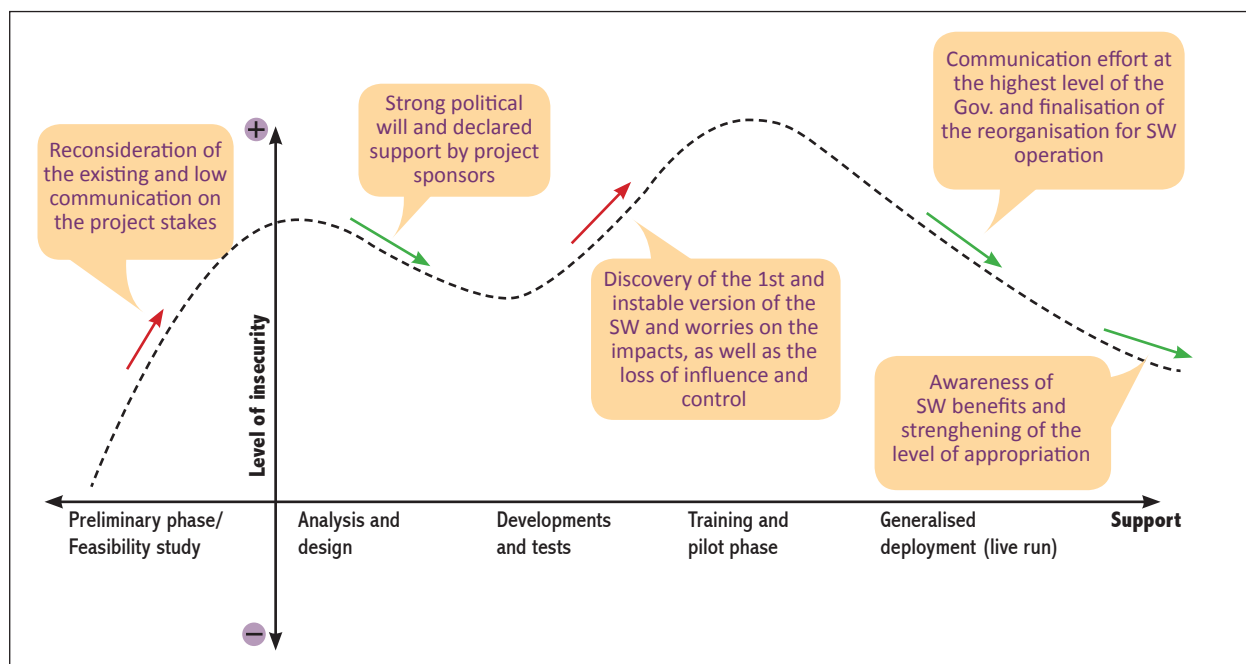
- Involving stakeholders from the beginning of the project with the creation of user groups comprising the respective focal points that will come on board right from the analysis phase;
- Communication strategy with transmitters, messages and, information channels with a

frequency adapted to the specificity of each party;

- Training of trainers that integrates the focal points of the different agencies to foster appropriation of the Single Window and for them to serve as relays to their colleagues;
- Functional and technical assistance;
- Coaching of users on the ground.

The expectations and preoccupations of parties must be handled in a proactive manner to facilitate their adherence. In fact, the changes resulting in the implementation of a Single Window can be perceived as a source of insecurity regarding the working methods, the acquired gains and even, career opportunities.

Graph 1: Evolution of the level of users' insecurity depending on the project phases



In a bid to raise the chances of success, change management efforts must be undertaken as illustrated in the graph above, right from the project onset and all over the implementation, rather than being limited to the pilot and deployment phases.

## 9.3. Management of Specificities of Public Agencies

The extent of the efforts to be deployed to integrate specific constraints of a given public agency must not be underestimated. In fact, the integration of every new agency in the Single Window workflow can be considered as a full-fledged project since it requires:



- Analysis of the existing facilities and reengineering of specific processes ;
- Integration with existing systems and possibly their modification ;
- An adapted change management strategy.

In some developing countries, the low means are such that additional efforts are necessary to address the needs in order to deliver the processing expected through a Single Window system.

#### 9.4. Management of Transition to Live Run Operation

The most important part in a SW Project starts during the deployment which is one of the key risk period when any critical incident might jeopardize all the efforts carried out earlier. The recommendations described below might reduce the risks inherent in this stage:

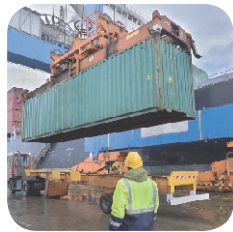
- Start the deployment phase in a scope under control ;
- Space out the releases to facilitate a progressive appropriation ;
- Stimulate performances of stakeholders by stepping up their capacities;
- Progressively continue the deployment up to the overall coverage of the scope.

At the end of the deployment, the Project Team shall handover to the entity in charge of the SW operation. This entity will be in charge of the management of daily operations of the deployed scope at steady speed. With performance monitoring indicators, this entity will oversee the running of the Single Window by carrying out change management and technical assistance actions and, identifying the necessary upgrades to be integrated into the application.

# Section 05 #

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## Performance Evaluation and Consolidation



**To step up the overall performance of a SW and make it value added, it is essential to set up a mechanism to measure and control the improvement of the services. A range of tools and indicators have to be set up in order to facilitate the monitoring of the SW performance and identify improvement areas towards boosting its consolidation.**

## 1. Evaluation Mechanisms

Like for any Information System, there are essentially two forms of evaluation: the first one is performed during the project implementation and the second one, after the operation per se:

- **Evaluation of the methodology used in implementing the SW:** It's about the final evaluation of the project; it seeks to measure the efficiency and effectiveness of the system. It is generally materialized through :
  - o The assessment of the level of commitment of authorities that generally results in the issuance of law, orders and application decrees on the use of the Single Window as a unique platform of exchange and validation of the requests;
  - o The verification of change management and sensitizing efficiency: workshops, seminars, signing of performance pacts, training and user coaching.
- **Evaluation of the results obtained and the effects produced by the SW:** This must be done on a permanent basis in order to measure the SW performance and propose areas of consolidation. This evaluation is conducted based on indicators that make it possible to monitor:
  - o The reduction of time : the processing time in terms of timeline (24/7) and duration ;
  - o The reduction of costs : savings from reduced movements, reduction of printouts ;
  - o The improvement of transparency in stakeholders.

## 2. Availability Management

The SW performance must be sustained by a good availability management policy meant to ensure that the level of services matches or even goes beyond the needs agreed under profitability logic.

Like for any Information System, the basic parameter that must be defined to restore services after a period of unavailability is the Mean Time to Restore Service (MTRS). This parameter can be assessed depending of the assistance means and tools at the disposal of the technical support team.

Other variants can be defined as part of the technical operation with the view to addressing any default.

## 3. Performance Management

To maintain the level of commitment of stakeholders of the Information System, it is necessary to put in place a certain number of dynamic levers:

- Define precisely key indicators as units of measure aimed at assessing the performance;
- Optimally use statistics standards that are easily interpretable and communicated, to quantify the observations;
- Exploit the different sources of information such as the SW production data, the data relative to stakeholders and, indicators prior to the advent of the SW;
- Define the periodicity of the reports and, lay emphasis during each production on the needs for improvement;
- Identify the main recipients of the reports: trade unions, authorities, managers, stakeholders, and other high-level decision makers;
- Draw up a scoreboard to constantly monitor the gaps from the indicators and, alert the stakeholders that are below the defined performance threshold.

## 4. Assistance, Monitoring and Consolidation System

- **Assistance Centre:** It's about a Service Centre

set up as the unique Point of Contact for the management of requests, incidents, hitches and events;

- **Performance monitoring tools:** A set of tools at the disposal of the Service Centre for the effective monitoring of the performance;
- **BI support tools for decision making:** It's about decision support tools based on Business Intelligence and using analytical databases (OLAP).

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# Annexes

**Best Practices World-wide  
International Standards  
Technology**

## Best Practices World-wide

### BEST SINGLE WINDOW PRACTICES IN ASIA

#### The TradeNet System of Singapore



The experience of Singapore is considered as a pioneer in terms of Single Window platform. Built on an EDI solution, the system was established in 1989 before being integrated, in October 2007, in a wider web platform dubbed “Tradexchange.”

The TradeNet System came to replace the cumbersome paper-based formalities that operators had to handle in their requests. It operates as a “Customs Single Window” and ensures the coordination of inspection services performed by multiple bodies.

The change brought about by TradeNet has enabled the country to replace operations of multiple organisms, each of which having a set of rules and prescriptions concerning documentation processing, with a single system built on rules common to all stakeholders.

TradeNet has followed a phased implementation. At the beginning, the system only dealt with requests concerning items that were not submitted to inspection and customs duties. Subsequently, the system was extended to inspected items (weapons and explosives,

food products and medication), taxable goods (strong alcohols, tobacco, vehicles and petroleum products) and certificates of origin.

Access to TradeNet is possible by telephone or via Internet. The needs in hardware and software are minimal owing to the fact that enterprises willing to access the system by phone only need to have a computer, a land line, a modem, a client software and a printer.

Access via Internet requires a computer, a land line, a modem and a browser. In this system, the enterprise can appoint an officer or declarant to lodge the request on its behalf, or ask the TradeNet Service Centre to do so.

#### The U-Trade system of Rep. of Korea



South Korea boasts a long experience in terms of paperless procedures aimed at improving trade-related formalities. Thus, a Single Window System has been set up in this country, interconnecting the customs management system and the systems of 56 public agencies. This system made it possible to halve the waiting

time for procedures at the border concerning goods submitted to clearance confirmation for the protection of public health, social security and environment.

#### The DTTN system of Hong Kong



The Digital Trade and Transportation Network (DTTN) System operational in Hong Kong is a paperless platform dedicated to exports and which processes 17 million transactions per year, federating thousands of users of all sorts: buyers and importers (over 53,000 enterprises), clearing agents, transporters (air, sea, road, river), port terminals, administrative agencies, banks and financial institutions, and insurance companies. DTTN has also automated

inspections on imported and exported goods, thus operating as a virtual Customs Single Window owing to the fact that it also facilitates the coordination of actions of different bodies in charge of the inspection of goods.

### BEST SINGLE WINDOW PRACTICES IN AFRICA

#### The TradeNet system of Mauritius



Mauritius’ Cargo Community System (CCS) is a Single Window that optimizes, manages and automates port, airport and logistics processes through a single point of entry by connecting the logistics and transport chains. CCS enables the logistics community and customs to handle

the flow of inward and outward goods in real time.

Initially developed by SOGET, the CCS AP+ has been adapted to Mauritius needs and is operated by MACCS.

## MEILLEURES PRATIQUES DE GUICHET UNIQUE EN AFRIQUE (SUITE)

### The TradeNet system of Mauritius (suite)

This system is a web-based application that facilitates electronic exchanges of logistics data belonging to different stakeholders of the logistics community: maritime companies and airlines, handling companies, clearing agents, customs brokers and transporters. The data emanating from various information systems are standardized and transmitted to customs authorities by CCS through the TradeNet interface.

Beyond the transmission of standardized data to customs, CCS can also receive and synchronize customs approvals, with logistics transactions such as the submission of manifests, offloading

of goods, access to and delivery of containers in port premises. CCS enables the port authority to comply with the provisions of the ISPS code, and Mauritius customs to keep in line with the provisions of the SAFE framework of the World Customs Organization by modernizing their CMS and risk management system.

Furthermore, CCS has facilitated the automation of customs processes with a 24/7 operation, the reduction of paper-based transactions, the streamlining of transactions, particularly those related to transshipment, an important activity in Port Louis.

### The TTN system of Tunisie



Tunisia Tradenet (TTN) is a web-based automated system accessible from a PC, against the payment of a subscription. It provides for a single trade documentary platform connecting the main stakeholders of foreign trade. TTN is a tool that facilitates exchanges of trade-related and administrative documents, and the e-payment of documentary credits and customs duties. Tunisia TradeNet is also a trade transactions tool facilitating the processing of purchase, shipment and delivery orders, invoices

and transfer orders. As part of the international financial transactions, TTN facilitates the exchange of delivery invoices between Tunisian and European banks. Moreover, this tool is a hub for the offer and the demand and is fitted with functions for the settlement of transactions.

### The ORBUS system of Sénégal



The ORBUS Single Window interconnects all public and private entities involved in trade-related formalities, to facilitate the collection and electronic transmission of clearance documents in Senegal. It is integrated with the customs automation system, operating upstream and downstream of the latter, with the e-manifest management and the goods release management modules.

ORBUS puts at the disposal of users a web interface whereby they can lodge a request, based on the invoice data and other accompanying documents (certificate of origin, deed of transport, importation document, etc.), with all public agencies and private entities connected to the system.

Once a request is created, the system proposes the requisite permits thanks to an embedded engine that identifies the permits needed for each type of request. By validating the proposed permits, the user (importer/exporter or their clearing agent) sends the request to all stakeholders involved in the import/export transactions for the processing thereof.

The ORBUS System transmits to all entities concerned the documents they need to properly process the request and issue the relevant permits or authorizations. Upon collection

of the permits, the electronic documents are consolidated in a file and transmitted online to the customs management system dubbed GAINDE INTEGRAL for the purposes of declaration processing.

Paperless trade formalities have become reality in Senegal since 20th February 2012, with the progressive establishment of the following platforms:

- Platform of exchange of international documents and data;
- Platform of logistics services integrating the downloading and sharing of e-manifests, and the management of goods release operations;
- The e-payment platform;
- The e-signing module;
- The e-archiving module.

These platforms enable economic operators to carry out all trade-related operations in an all-round paperless environment.

## BEST SINGLE WINDOW PRACTICES IN AMERICA

### The ITDS system in the U.S.A.



The International Trade Data System (ITDS) Single Window has been designed and implemented in the USA to accelerate clearance formalities at the borders for all means of transport.

It's about a secured system integrating all public agencies and aimed at meeting the conditions set by the private sector and federal agencies in terms of online collection, use and diffusion of standardized data related to trade and transport.

ITDS has been established by US customs under the leadership of a Commission composed of officials of various departments including the Department of transports. The system handles the electronic collection, use and distribution

of data as part of the customs' Automated Commercial Environment (ACE), the verification of driver's licenses and commercial permits, the control of immigration or the compliance with various regulations.

The US Single Window is hosted by the customs ACE System, an option aimed at avoiding the appearance of distinct parallel systems that might cause duplication of works. ITDS interconnects the main categories of stakeholders including public bodies, commercial operators, public inspection authorities and customs.

### The SEADDEX system of Guatemala



Guatemala is one of the first countries of Central America that have successfully launched (in 1986) a first Single Window initiative aimed at reducing the export license delivery time (SEADDEX - Servicio Electrónico de Autorización de Exportaciones).

In 2000, another operation with an electronic pilot and a more modern single interface was set up to cover the entire foreign trade process, including exportation procedures and even the management of phytosanitary certificates.

A duality of single interfaces is established in this country, one structured materially, the other

electronically. This evolution has been achieved thanks to the commitment of the private sector, which has been the main initiator.

The results have been so conclusive that the private sector and public services have recorded a marked improvement in the swiftness of goods movements at the borders.

This conclusive experience has inspired neighbouring countries (El Salvador and Costa Rica) that have also adopted this formula by calling on the same company that had developed the system operational in Guatemala.

## BEST SINGLE WINDOW PRACTICES IN EUROPE

### The SEAGHA Solution of Belgium



The system supported by the SEAGHA Company is composed of several systems structured around a communication platform. The type of solution handled through this system is an EDI platform coupled with a web system whereby forms are populated via a web interface. The SEAGHA offer lies on 4 pillars including goods management, linkage with customs,

management of vessels (announcement to the port authority and waste management), and the management of dangerous goods. For its part, the communication platform makes it possible to exchange any type of messages and use standards of international trade (UN-CEFACT).

### The AP+ Solution of France



Established in 2005, the national system AP+ is the fruit of a close connection between the ports of Le Havre and Marseilles. The AP+ System is under a public/private partnership set between the port communities of Le Havre and Marseilles represented by SOGET and MGI respectively.

The AP+ System is a workflow system that facilitates the monitoring of the logistic activity in a chronological and structured manner,

coupled with a platform designed for the exchanges of any type of message and the use of international trade standards (UN-CEFACT). This solution uses the latest technologies (J2EE, XML, RUP development methodology).



## International Standards

The importance of Single Windows is reflected in the existence of several works or recommendations by various organizations on the international scene. Mainly, the WCO and UN/CEFACT ISO boast an abundant literature in this connection. Interventions can be categorized in three types:

1. Recommendations or high-level vision issued by WCO, UN/CEFACT, IATA, FIATA, IMO etc.;
2. Recommendations for the reengineering such as the reference document : Rec. 1 UN/CEFACT;

3. Standards of common use such as the country codes, the units of measure found in the operation phase. ISO is the most active organization in this domain

The following table recapitulates the different standards:

<b>WCO</b>	Data models V3.0
<b>ISO</b>	6346 Container Codes
<b>UN/CEFACT</b>	<p>Recommendation N° 1: «United Nations Layout Key for Trade Documents »</p> <p>Recommendation N° 3: «Code for the Representation of Names of Countries »</p> <p>Recommendation N° 5: «Abbreviations of INCOTERMS»</p> <p>Recommendation N° 7: “Numerical Representation of Dates, Time and Periods of Time”</p> <p>Recommendation N° 9: “Alphabetic Code for the Representation of Currencies”</p> <p>Recommendation N° 10: “Codes for the identification of ships”</p> <p>Recommendation N° 16: «LOCODE - Code for Trade and Transport Locations»</p> <p>Recommendation N° 17: “PAYTERMS - Abbreviations for Terms of Payment”</p> <p>Recommendation N° 19 : «Codes of modes of transport «</p> <p>Recommendation N° 20: “Codes for Units of Measure Used in International Trade”</p> <p>Recommendation N° 21: “Codes for passengers, types of cargo, packages and packaging materials”</p> <p>Recommendation N° 23: «Freight Cost Code - FCC Harmonisation of the description of cargo price and other charges”</p> <p>Recommendation N° 28: “Codes for Types of Means of Transport”</p> <p>Recommendation N° 33: “Single Window Recommendation»</p> <p>Recommendation N° 34: “Data Simplification and Standardization for International Trade”</p> <p>Recommendation N° 35: “Establishing a legal framework for international trade Single Window”</p> <p>Recommendation N° 36: «Interoperability amongst Single Windows» (in progress).</p> <p>Recommendation N° 36 « Interopérabilité entre Guichets Uniques » <i>En cours de rédaction</i></p>

## Technology

There is no preset standard in terms of technology. In fact, Single Window software editors have each a technical orientation based on the company's strategy.

A survey of the existing facilities will make it possible to identify the automation needs, draw up an

automation plotting plan describing the guidelines in terms of sizing and expected performance

### A. Hosting

The following principles must be observed by the

platform hosting a Single Window:

- o Centralisation of the platform hosting the Single Window without having to multiply the physical or logical environments;
- o High availability of the platform to ensure a 24/7 operation and a recovery in case of incident within 15 minutes without loss of data;
- o The platform must have a backup system with a redundancy of the servers and other hardware as well as the production and backup databases synchronised in real time;
- o The platform must be endowed with a system for consolidation (Servers), mutualisation (database) and storage by using the virtualization technology depending on the needs ;
- o Upgradability in terms of capacity and performance to ensure adequacy between the technical performances and the evolution of the traffic and deployment ;
- o Establishment of a strong authentication system (based on a PKI) and an electronic signature mechanism;
- o Interoperability to exchange with information systems of other platforms.

In this regard, the architecture and the technology proposed for the Single Window must be proprietary (controlled with specifications peculiar to the context) and must be built on state-of-the-art standards.

### 1. Single Window Components

The Single Window operates on sub-systems. All these sub-systems are integrated around the same database and the same Enterprise Application Interface (EAI):

- o A sub-system: platform of data and documents exchange amongst trade partners. This platform is integrated around an EAI and supports all workflows ;
- o A Single Window (via Internet) for the access and diffusion of information in trade-related electronic formats ;
- o A computer application for the monitoring of

the management of trade files ;

- o A web portal for the presentation of the Single Window for trade ;
- o Utility applications for operation including invoicing and user monitoring tools ;
- o Applications for the exploitation of statistic data.

### 2. Connectivity

There are two cases to be considered by SW member organizations:

- o The organization does not have computer applications to handle the data it will exchange with the Single Window. In this case, the Single Window must provide for web interfaces whereby the forms are accessible ;
- o The organisation has its own automation system and, interactions with the Single Windows are done through exchanges of files in various formats: EDIFACT, XML, flat files etc. In this case, the user can utilize the web Single Window. The Single Window must accommodate the functions of data conversion, translation and transmission in different EDI formats.

### B. Estimate of the Implementation Costs and Time

*See Table 10.*

Table 10		Estimate of the Implementation Costs and Time							
COUNTRY	TYPE OF SW	DATE OF Operation	Costs	DURATION OF THE DIFFERENT PHASES (months)				TOTAL	YEARS
				CONSENSUS	STUDY	DEVELOPMENT	PILOT		
GHANA	General SW	2002	\$6 Million	12	8	7	3	30	2,50
BURKINA FASO	General SW	NOT YET		12	6	6	6	30	2,50
LIBYE	General SW	NOT YET		3	6	12	14	35	2,92
MALI	General SW	NOT YET		6	12	12	12	42	3,50
MADAGASCAR	General SW	2008		12	12	12	12	48	4,00
SENEGAL	General SW	2004	\$12 Million	12	12	24	6	54	4,50
COTE D'IVOIRE	Port SW	2008		36	18	18	2	74	6,17
CAMEROUN	General SW	2002	\$6 Million	12	24	24	36	96	8,00
CONGO	Port SW	NOT YET	\$7,4 Million	60	36	36	18	150	12,50
MOROCCO			\$5 Million						
<b>AVERAGE</b>			<b>6,4</b>	<b>18</b>	<b>15</b>	<b>17</b>	<b>12</b>	<b>62</b>	<b>5</b>

Source : AACE Task Force

