

Republic of Korea

What motivated the establishment of your Single Window?

Background

The Republic of Korea is a very trade-oriented country where 70% of the total GDP is from international trade. Since the country's economy largely depends on trade, the Republic of Korea focuses enormously on trade promotion.

Considering the importance of trade, increasing competitiveness of trade has always been key issue to the Government. The Republic of Korea has achieved remarkable economic development since the 1970s. It is noticeable in the rapid growth of trade volume with an annual growth rate of average 13% and from the export figure of \$1 billion in 1971 to \$65 billion in 1990.



* CAGR: Compound Annual Growth Rate

Because of the speedy expansion of the volume, more trade related documents needed to be produced and circulated. Additional procedures were introduced which made the situation even more complicating. The mass-produced trade documents increasingly became a burden and challenged many industries with limited resources. When the total trade volume reached over 100 billion dollars in the late 1980s, the Republic of Korea predicted that paper-based trading procedures could have negative impact on the growth of our economy. The tremendous amount of paperwork that accompanied each transaction was already overwhelming.

Businesses (Private)	Government (Public)
<ul style="list-style-type: none"> ▪ High Transaction Cost ▪ Long lead time ▪ Error in the process 	<ul style="list-style-type: none"> ▪ Complex regulation ▪ Lack of transparency ▪ Difficult monitoring

Decrease national competitiveness

What year was it established?

The Government wanted to adopt a new technology that enables fast electronic transmission of trade documents to effectively deal with a growing demand of automation and reformation.

It took the initiative to set up a facilitation apparatus to bring paperless trading to the country, but didn't act on its own authority. Both government departments – The Ministry of Commerce, Industry & Energy (MOCIE) and the Republic of Korea Customs Service (KCS) and Korea International Trade Association (KITA) from the private sector were united as partners.

Then in December 1991, MOCIE laid the legal foundation by introducing The Trade Automation Act. Its purpose is to simplify the trading procedures and to rapidly distribute trade information. Simultaneously, KITA established the Korea Trade Network (KTNET) – the Single Window service provider.

In November 1992, shortly after the birth of KTNET, KCS designated KTNET as “Korea Customs Process Automation Agency” to automate customs procedures. KTNET launched Single Window service through EDI in 1994 and upgraded it by introducing the Manifest Consolidation System in 1996.

What is the current status of the facility (study, pilot phase, running)?

As briefly explained above, the Single Window is fully operative and provides actual service. Elaborated functions and services are to be explained in the following sections.

Currently, there are two views towards Single Window (SW) service in the Republic of Korea: the existing SW service ‘Cyber Trade World (CTW)’ provided by KTNET and the future model of the current service, which is the ‘u-Trade Platform.’

The main focus of this case study will be on the CTW, which will be addressed as ‘Single Window’. There will be some explanations of u-Trade Platform whenever they seem applicable.

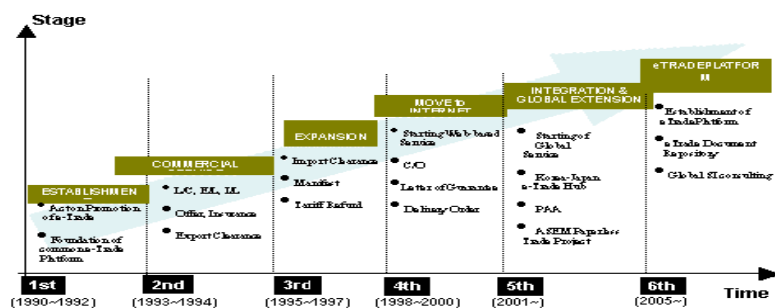
The CTW has been adjusted gradually with upgraded service since its opening in 1994, and if there should be a symbolic momentum, it would be the year 1996 when Manifest Consolidation System (MFCS) finished transforming 100% of the Customs declaration process into electronic format. (The SW before MFCS was generally addressed as the ‘Trade Automation Facility’.)

CTW, the e-trade portal by KTNET, is currently providing various services, which consist of e-Tradeframe, e-Customsframe, e-Logisframe, and c-Tradeinfo, for example.

While CTW does function as a Single Window, we are working on a new system, u-Trade Platform. The u-Trade Platform will provide optimized service with the current IT environment. It is a more sophisticated and comprehensive Single Window, enabling a single submission of electronic documents and the electronic settlement of

payments via internet. The development of the u-Trade Platform is in the second phase of a 3-year plan. It is scheduled to open for service in late 2006.

Evolution of Paperless Trading in Korea



Establishment

How did the SW interface with already established system?

The Single Window system must be interoperable with other existing systems, such as the e-Customs system of the Republic of Korea Customs Service and the bank e-L/C system, in order to function as a real Single Window system from the users point of view.

Generally, the electronic systems of trade-related organizations like banks, the Chamber of Commerce and significantly the Customs Service are connected to KTNET's e-trade system. ERP or the legacy systems in the organizations are interconnected with KTNET's system through EDI. Users have access to KTNET portal solutions and to a variety of services by the connected organizations.

Did any other SW model serve as inspiration or model?

The Republic of Korea's Single Window is not based on a specific model. It was built according to the necessities and requirements of different government organizations and trading companies. In this sense, the country's Single Window is unique and creative. The software and solutions in the infrastructure were developed and improved in functions and design.

What process was followed in setting it up? Was there a pilot project?

In 1989, the Government initiated the Comprehensive Trade Automation Plan. Two years later, the Republic of Korea enacted the Trade Automation Act, and the Ministry of Commerce, Industry and Energy (MOCIE) made an Agreement on Trade Automation with the Customs Service (KCS). That same year, KTNET was established by KITA. The KCS designated KTNET as the sole Trade Automation Service Provider. This is significant when considering the importance of Custom's role in international trade. Before beginning the first service in 1994, KTNET had gone through its development, testing and pilot project.

The Republic of Korea possessed a closely knit wired network environment back in the late 1980s and throughout the 1990s. Value Added Network (VAN) was the principle method of secure communication and service. An individual installation and set-up process was required with most of the computers owned by

companies to enable Electronic Data Interchange or EDI.

Not many companies had enough bandwidth and memory space to transmit what seems like a fraction of the information we exchange today, but the trade documents were transformed into electronic templates. And in principle, paperless trading was a reality.

What kind of training for the staff was required in the establishment and how was it organized?

The training program for engineers and management personnel differ according to the role and responsibility of each individual. Newly recruited staff attend extensive training to understand and manage the components of the infrastructure. Even skilled staff are subjected to at least 50 hours of professional training from leading IT companies every year, ranging from programming skills, system management to comprehensive project management.

When new software and solutions are adopted, KTNET staff must receive intensive training from the solution providers.

Selected staff members are sent to overseas institutions to learn and apply up-to-date technology and methodology. Although not mentioned in the question, users in trading companies and linked institutions are summoned for training activities.

How long did it take the facility to become operational?

It took about three years to make the system fully operational after several pilot projects and tests. From 1994, 3 years from the time of inception, SW could provide its services and was obtaining a rising number of customers.

Meanwhile, the current upgrading project to develop 'u-Trade Platform' is a three-year plan. But most of the electronic documents, transmission and database management are nonetheless operational.

Services

What services does the SW provide? What documents/information/processes are covered?

A wide range of trade processes ranging from B2B document exchange to electronic certifications and global transmission exist in the Single Window as below.

Not all of them are interactive directly with the trading companies. Most of the activities are done within the trade service industry and government sector.

KTNET Services *Source: 2005, KTNET*

EDI Services	Trade Administration / Foreign Exchange
	Customs Automation
	Logistics Automation
DB Services	KCIS (Korea Customs Information System), MFCS (Manifest Consolidation System), Cargo Tracking etc
National Certificate Authority	PKI Based Certificate
Global Networking	PAA(Pan Asian eCommerce Alliance, ASEAL(Asia Europe Meeting for Paperless

Service	Trading, GSCM(Global SCM) services
Global Consulting and System Development	Kazakhstan, Dominican Republic etc..

The most significant service would be the electronic submission and management of the trade related documents. No paper document negotiation is necessary for declaration in case of using the Single Window.

Currently, KTNET provides the service of about 300 kinds of electronic documents and 100% automated customs clearance. More than 12 million transactions are handled each month.

e-Docs for companies *Source: 2005, KTNET*

Trade Administration	- E/L, I/L - VISA for Quota Goods - C/O - Quarantine
Foreign Exchange	- L/C Opening/Advice - L/C Arrival Notice - Local L/C opening - Delivery Order - Payment Order - Open Account
Customs	- Export/Import Declaration & its application to Customs Service - Advice of Customs Clearance & Application - Duty Draw Back
Logistics	- Report on Departure / Arrival - B/L Issuance Advice - Manifest Consolidation System (MFCS) - AWB - Cargo Tracking

How many transactions per day are handled? What percentage of total transactions?

About 450,000 trade-related documents are exchanged on a daily basis. Detailed information on the types of documents can be found in the website (www.ktnet.co.kr). Currently, online document transmission covers almost 30% of overall trade-related document transactions.

How many clients does the SW have at the present time?

As of March 2006, nearly 40,000 companies and individuals are registered users (details in the table).

Customers of KTNET *Source: December 2005, KTNET*

Trading Companies	17,876
Banks	82
Customs brokers	947
Forwarders	4,682
Licensing Agencies	161
National Certificate Authority User	38,319

Operational model

How does it work? What is the operational model for the SW (describe the business process model?)

The main business model of the Single Window structure can be described as a document exchange service. Manipulated data for contextual marketing using the trade statistics could be a good example of the 'derivative' explained above. The business model plans to expand into the field of receiving fees for various certifications from the e-Trade Document Repositories or 'TDR'.

Who are the main clients?

The principal clients are mainly trading companies. Other service providers such as banks, customs service, customs brokers, forwarders, airlines, certification authorities, government offices also are clients and users.

Which public and private agencies are involved in the facility?

KTNET is a provider of the crucial system infrastructure. The birth of KTNET is specifically targeted to meet the demands from both the public and private sector. Many government and private sectors are involved in the management and decision-making process of KTNET.

MOCIE, KCS, the Ministry of Maritime Affairs and Fisheries, the Ministry of Construction and Transportation are directly linked government branches. The Chamber of Commerce, banks and insurance companies are also linked to perform various online services in the trade process.

Business model

What is the business model? How is it financed (government, private sector, Private-public partnership?)

In the 1990s, during the initial stage of the Single Window (SW) development, the establishment and operational costs of KTNET were financed indirectly by the government. Upon reaching the break-even point in the year 2000, Single Window and the entire KTNET was sustained with the service charges from the SW alone.

Now, KTNET SW is maintained by various revenues including the EDI service fee, the DB usage fee, Global SI consulting and solution sales.

What were the costs of establishment of the facility?

It is not easy to determine the exact cost factor in the establishment of the Single Window, since it is still under development in a real sense. From 1991 to 2000, approximately 7.5 billion Won were invested. From 2004 to 2007, a budget of 3 billion Won will be used for upgrading the current system into u-Trade Platform (u-TP), previously called e-TP. Development efforts and costs will not cease even after the opening of u-TP.

What are the ongoing operational costs (annual)?

As briefly mentioned above, research and development, system maintenance and upgrading and marketing are the major items of the operational cost.

What are user fees (if any) and annual revenue? Model of payment (fixed price per year, price per transaction,

Both a flat rate system and a meter-rate system is used in the pricing system. The 'Registration fee' or 'Basic fee' is flat-rated for any user and message relaying service. The message transfer service is differently priced according to the usage. The message relaying service is based on the size of the e-Document and is based on per

combination, other model)? kilobyte.

The profit from operating Single Window is 70% of the total profit of KTNET.

Trade Service *USD1 = 1,000 won

Basic fee	10,000 won / month
Minimum fee	20,000 won/month
Message transfer fee	388 won/KB

Cargo Service

Basic fee	
Airliner	100,000 won/month
Shipping Company	50,000 won/month
Forwarder, Warehouse operator (Airfreight)	50,000 won/month
Forwarder, Warehouse operator (Shipping)	40,000 won/month
Message transfer fee	330 won /KB

Custom Service

Basic fee	50,000 won/month	
Additional service	500won/transaction (Import/Export Declaration)	
Statistics Service	Manifest Consolidation	100 won/transaction, Import/Export Declaration : 500 won/month
	Statistics on Demand Service	A minimum of 20,000won/transaction

Authentication Service

Server authentication service	1,000,000won/year
Corporate authentication service	100,000won/year
Individual authentication service	4,400won/year

How will the SW be sustained over the coming year?

KTNET Single Window service has played a major role as the national Single Window in supporting enhancement of national competitiveness in export/import by providing e-trade services for trading companies and other trade-related organizations. The Republic of Korea's u-Trade Platform is now about to be launched and the number of service users is dramatically increasing. In addition, it is clear that the platform will be continuously developed, since the Government is interested in the promotion of paperless trading.

We expect a large amount of the operation and maintenance cost to be paid with service fees from customers.

Do the revenues generated over operational costs or do they make a profit?

In the early stage following its establishment in 1991, initial investment generated a loss. However, since 2000, an increase in the service users has generated a profit for 5 consecutive years. Now

KTNET is trying to return the profit to customers by improving the service and making the application and middleware more user-friendly and user-oriented.

Are the revenues (if any) reinvested in the SW?

Large parts of profit generated from the system's operation are used for technological and functional upgrading as well as improvement in business efficiency. In particular, KTNET focuses on service education and marketing for its customers.

Technology

What technology is used?

The technology that KTNET uses is mainly J2EE Architecture and also 4GL (Generation Language) and Text UI (User Interface). A unique technology called 'iPlanet' is basically used for the web server and WebLogic6.1 for WAS (Web Application Server). For DBMS, mainly Oracle 9i is used.

As messaging Protocol, FTP (File Transfer Protocol), HTTP (Hyper Text Transfer Protocol), SMTP (Simple Mail Transfer Protocol), JMS (Java Message Service) are used. As Document Format, XML (Extensive Mark-up Language), UN/EDIFACT, KEDIFACT, Flat files, Cargo-IMP (Import) are used in the system.

Officially KTNET uses standard technology such as EDI (Electronic Data Interchange) and XML (Extensive Markup Language) that the Korea Institute for Electronic Commerce (KIEC) designated for paperless trading.

In particular, as the Internet develops, using open message protocols such as FTP, HTTP and SMTP makes transmission of XML documents possible. This is different from the VAN-based EDI service that required users to build their own infrastructure.

How are data sustained (electronically? What type of format /language, paper? What forms combination? What kind of combination?)

All transmitted data via KTNET are stored in the form of binary in KTNET DB or the Trade Document Repository (TDR) beginning in 2007.

Where are data sent and lodged (government or private entity?)

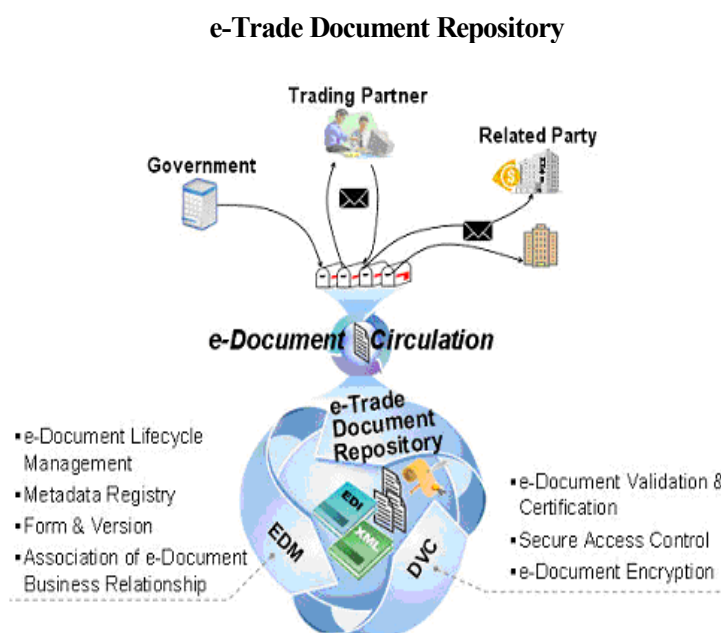
From 1998 to 2002, most electronic documents were sent and received via VAN. From early 2002, KTNET opened a web-based ASP (Application Server Protocol) service, which is more customer-friendly. Customers can request their stored data through a User Interface or they can get the data transmitted in the form of an EXCEL or PDF file by using a reporting tool solution. The original data is stored in KTNET DB and file server. (Data is kept for 5 years)

Trade Document Repository (TDR) in the newly built u-Trade Platform deals with the creation, storage, distribution and disposal of e-documents, so that users can have access to necessary data using a proper identification and authentication process.

Since the Trade Automation Act has been completely revised, the new

law now includes an e-document repository provision or subsidiary. KTNET, as the designated repository related to trade, plays an important role. The newly made e-Trade Facilitation Act states that the e-trade service provider is obligated to keep all document data sent and received for at least 3 years.

With the e-TDR, governmental agencies, trade companies and other trade-related parties will be able to withdraw their required data and documents from the repository.



Who can submit data (importer, exporter, agent, customs broker)?

Trade-related companies or institutions can submit data. Service users vary from exporting/importing companies, banks, insurance companies, the Chamber of Commerce and Industry, Airlines, shipping companies, forwarders, customs brokers and quarantine office to other logistics companies.

How did you promote the facility?

Promotion and communication

In the early stages, KTNET selected companies for pilot project application and promoted it by sending direct mail or visiting the companies in person.

After the services were stabilized, KTNET focused more on the individual service characteristics instead of advertising overall services.

Now KTNET concentrates on managing existing customers by upgrading the services and improving the image of the company and the services.

How were all stakeholders kept informed about the facility's progress?

Stakeholders of the CTW or u-Trade Platform could be classified into four groups. Details of the constituents, the communication process and the information are explained as follows:

Shareholder: The operator of CTW is KTNET, a subsidiary

company of Korea International Trade Association (KITA). KITA owns 100% of the shares. KTNET makes various periodic reports on the progress of the facility, its financial and management status.

Users: Most of the 38,000 and above users are trading companies. They receive weekly newsletters on the updates and changes made to the system and KTNET.

Clients: Many organizations and institutions in the trade service industry are linked to KTNET system. Sub-Committees were organized to hold regular meetings and are used as a communication channel. Currently, the only remaining committee that maintains regular offline meetings concerns the financial sectors. Progress of the facility is reported via various channels and troubleshooting is reported automatically and on time.

Government: Although not a direct investor, the government sector is also an important stakeholder. It is even more important since KTNET was designated as the authorized e-Trade service provider to maintain the database of Trade Document Repository or 'TDR'. The status and progress of the facility are regularly reported to the government sectors including the Ministry of Commerce, Industry and Energy or the Customs Service.

What kind of training was provided for users?

Users are classified into two groups: the trading companies and the trade service providers. As for the trading companies, the initial education on the use of the service is provided through training courses designed for new users. They are conducted monthly. Individual training is provided through KTNET engineer's direct visits to the company. Both an online and a printed manual are provided for all users.

KITA operates a simulation training site (<http://ediedu.kita.net>). It provides simulated services of e-Trading free of charge. Through this site, users can practice filling out e-documents, as well as sending and receiving documents with trade service providers and certification agencies such as banks and the Chamber of Commerce, without the worry of actual data being sent to these parties. The user has a programmed response. The user can also keep his dummy documents and data in his own account for later practice and updating.

Do you provide any helpdesk or customer service?

KTNET offers its customers a 24-hour Help Desk on using its services.

Judicial aspects

Is use of the facility obligatory or voluntary?

The use of an electronic document exchange service in Customs clearance is absolutely mandatory with 100% e-Customs clearance support. Other service usage such as Trade Commerce and Logistics related services are not mandatory.

However, the current statistics show that many companies are putting their documents into digital format not only to cut cost but also to compete in the high-speed business world. The centralized service by the national SW system is helpful as it keeps enterprises from needlessly duplicating investments. Also, standardized e-Trade

documents increase work efficiency.

These efforts motivated the companies to subscribe to the SW service creating a near-obligatory atmosphere in the trade industry. Various governmental organizations also try to reduce official trade business procedures by using EDI services.

Do participants need to sign a contract with provider/agency in order to participate?

Customers or users of KTNET service must submit an online registration form, which is equal to a legal contract. There is also a separate Individual Agreement (IA) between the partners and entities of electronic document exchange.

Every process of the contract is finalized electronically through digital signatures. Most of the services differ in price and access level, but the Single Sign On (SSO) solutions enable users to avoid redundant attempts for logging into service.

Was specific legislation (or change of old legislation) necessary?

Back in 1989, the Government initiated the “Comprehensive Trade Automation Plan” to innovate the trading environment with an electronic method. In 1991, the country enacted the “Trade Automation Act,” and KITA established KTNET to provide trade automation related services. And in 1992, The KCS designated KTNET as single customs automation service provider. In 1996, Korea realized 100% of its electronic customs clearance through KTNET.

In 2005, the Republic of Korea took another meaningful step: it’s National Assembly passed the ‘e-Trade Facilitation Act’. The new law will go into effect in 2006.

The background of the overall amendment is adjusting to the paradigm shift from old “trade automation” to latest “e-Trade.” The following explains the difference.

Trade Automation (Trade Network)	e-Trade (e-Trade Platform)
<ul style="list-style-type: none"> ▪ VAN/EDI Network system ▪ Electronic exchange documents via VAN service provider (KTNET) ▪ 1:1 Networking <ul style="list-style-type: none"> - Broken online process flow - Submission of same documents repeatedly to related parties - Limited to connecting agencies 	<ul style="list-style-type: none"> ▪ Open Internet ▪ One-Stop service through e-Trade Platform ▪ N:N Networking <ul style="list-style-type: none"> - Seamless Service on SW - No multiple submission of same on-line documents - Guaranteed originality using e-Trade Document repository ▪ National representative Hub for global networking

The newly enacted e-Trade Facilitation Act is now the crucial law that supports paperless trading, along with the Electronic Transaction Act and the Foreign Trade Law. Key features of the law are listed below.

- Change the title of the law
- Designate ‘KTNET’ as a ‘sole Infra (e-Trade Platform)

operator?

- Institutionalize “National e-Trade committee”
- Introduce legal base for circulation of e-Trade documents
- Foster service providers specializing in e-Trade
- Enforce trade-related institutions to submit 10 kinds of documents to TDR (e-Trade Document Repository)

* 10 documents are listed below.

Certificate of Origin	Letter of Credit
Local Letter of Credit	Letter of Guarantee
Delivery Order	Insurance Policy
Import License	Export License
Trade Approvals	Purchase confirmation

How is the privacy of information protected?

An intelligent system will track and record every activity concerning electronic documents from their birth, circulation and eventual termination. The system is constantly watching for any attempts of illegal entry and use of the stored data.

As a designated Trade Document Repository, the policy and the system itself is strictly managed and supervised. Government directly has control over the general security policies.

Information is encoded before being stored in the database. Information is accessible only through verification of both bio-metric and PKI methods. The network is guarded through a series of firewalls, DMZ (Demilitarized Zone) and IP filtering.

Besides technological solutions to maintain the privacy of the information, strict legal measures are applied to prevent any possible attempt to utilize the information or penetrate the system. During the second stage of the u-Trade Platform, significant changes will be made to every aspect of the project from security to creating a user-friendly web interface.

For security, we are working to fulfill requirements for Information Security Management Systems to achieve ISO 27001, the most highly recognized compliment given to a security system.

Standards

E-Trade facilitation in the Republic of Korea is strongly supportive and complies with UN/CEFACT’s recommendations and standards.

KITA is actively participating in the UN/CEFACT activities in the Republic of Korea and globally. KITA is also the Chair of the national trade standard committee where many governmental organizations participate, and has been making numerous revisions of the codes and standards according to UN/CEFACT recommendations.

What is the role of international standards (UN/EDIFACT, UNLK, UN LOCODE, UN/CEFACT, Single Window Recommendation, etc) in your SW?

Benefits

What are the benefits to clients and to participating agencies?

While service users pay a service fee in return for using the e-trade system, the effects in cost and time reduction are quite remarkable. Given the variety of customers, benefits are generated for the private and public sector.

The effects of cost and time reduction in carrying out trade business procedures are seen below.

Cost reduction from e-trade service

	Business Cost per Case of Export or Import		Reduction Effect	
	Before EDI (won)	After EDI (won)	Reduced cost (won)	Reduced Rate (%)
EXPORT	119,700	23,148	96,552	81%
IMPORT	79,800	16,682	63,118	79%

Time reduction from e-trade service

EXPORT		IMPORT	
L/C reception	3 days → 0.3 days	L/C open	3 days → 0.4 day
Export certificate	1 day → 0.3 days	Import Certificate	1 day → 0.3 day
Export clearance	2 days → 0.3 days	Import clearance	3 days → 0.3 days
Others	18 days → 4.8 days	Others	17 days → 4.2 days
Sum	24 days → 5.7 days	63,118	79%

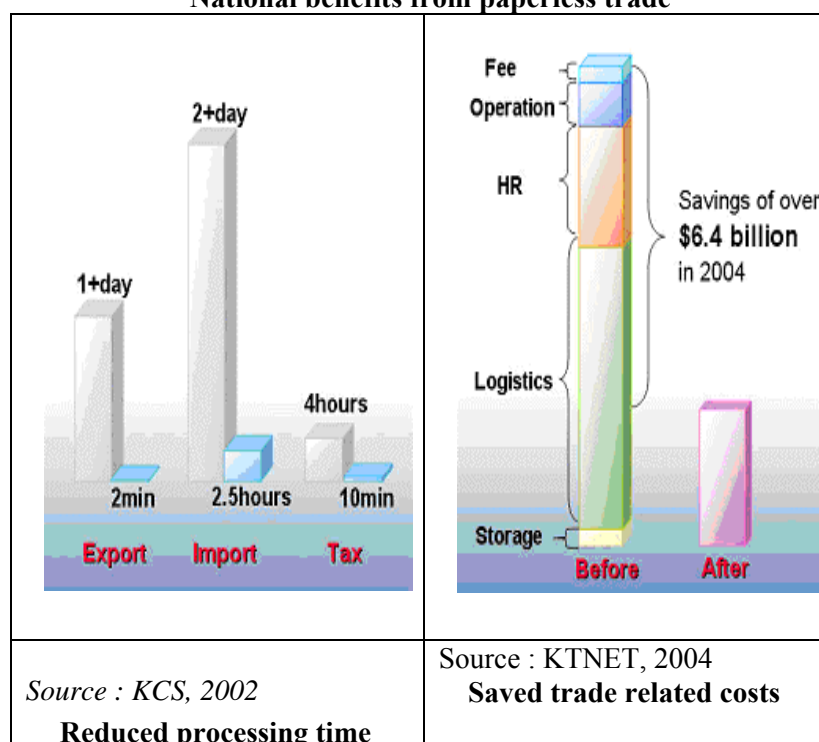
More specifically, taking electronic certificate of origin (e-C/O) as an example, the issuing fee of C/O is cut by 50% from 5,000 won to 2,500 won. Such results naturally drive customers (users) to voluntarily subscribe to the e-C/O service, although it is true that some companies still cannot overcome conventional business practice of offline networking. In reality, since 2001, e-C/O transactions have increased by 200%~300% each year.

How did it benefit trading community and the Government?

Making use of an e-Trade service definitely strengthens national competitiveness. The Republic of Korea's dependency rate on international trade is as high as 70% (2004) of the total GDP.

Through reduction in business processes, actual time and cost, the public and private sector involved in international trade can enjoy quantitative benefits as explained in the following illustration.

National benefits from paperless trade



In particular, the public sector's benefits are directly reflected on the entire trading cost in the Republic of Korea because the trade-related organizations are effectively linked to the entire trade process system. Private companies can take much benefit from paperless trading. For example, below we can see how a renowned electronics company in the Republic of Korea showed a decline in cost and time by using EDI.

	Case	Cost down	Conversion Into USD
Efficiency	Purchase amount/1 person	4.5→20 (million)	114 million
	Procurement Lead Time	4 weeks→12 weeks	
	Purchasing and Logistics employees	6,894→1,072	
Cost save	Document management cost	26 million sheets (A4)	0.2 million
	Inventory management	65 days→ 18 days	550 million

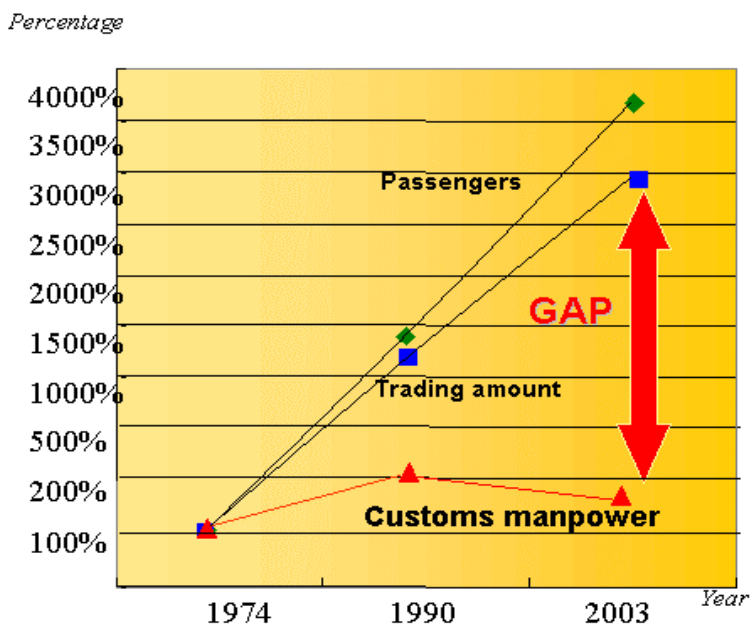
	Fund Raising cost down	3.5%→0.8%	280 million
	Purchasing cost down	20%	
Increase value	Punctuality (errors in documentation)	6.5%→100 ppm	
	High responsiveness	10 days→ 2 days	
	Supply chain visibility		
	RFQ to contract cycle time (MRO)		

What was the impact on Customs revenues?

Not as much direct influence is achieved on the Customs revenues since customers can take no discount nor be charged more customs duty when using e-customs service. Efficiency and convenience of the system contributes to a rise in trading activities, which lead to an increase of overall customs revenue.

However, customers can save time and labor in customs clearance through CTW (Cyber Trade World) service and easily get necessary information through CtradeInfo in CTW.

The following graph shows improved productivity by cutting labor costs in Customs after trade automation.



What problems did it solve?

Companies tend to establish their own IT infrastructure to reduce production cost and raise business efficiency. It undoubtedly remains a substantial amount of resources and budget that many small and medium sized companies find difficult to afford.

A National e-trade hub like KTNET's Single Window System can help trading companies and governmental organizations by partly

supporting or substituting the building of the legacy systems. It will enhance corporate competitiveness in general and also prevent duplicated investments in individual e-trade infrastructure.

In addition, KTNET's 15 years of experience in e-trade service can help other private companies to avoid 'trial and error' in the initial stage of their investment. Moreover, it is convenient for service users to subscribe to KTNET Single Window service when their operation is not a large one and the data are not frequently exchanged enough to build their own infrastructure.

What were the crucial success factors?

Lessons Learned

1. Leadership

During the initial facilitation stage, the most important success factor turned out to be the 'strong will of the Government'. Strong leadership is a critical factor in the successful implementation. Public and private cooperation is nonetheless important.

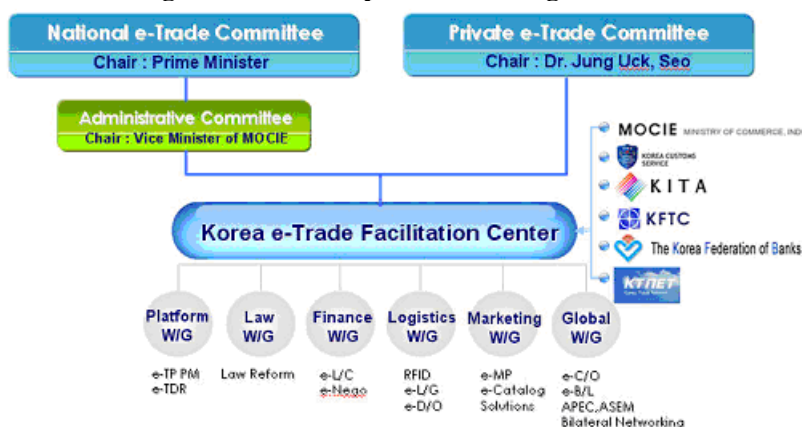
Public Sector

A powerful government department or organization should lead the facilitation. It is the main reason why in September 2003, the Republic of Korea organized the 'National e-Trade Committee' chaired by the Prime Minister.

Private Sector

Single Window is mainly made for the convenience of trading companies, which means the opinions of the beneficiaries of SW are important. Korea also needed wise leadership to integrate different voices from various parties related to the trade process. As a result KITA, which represents private sectors, has been a major role player in building Single Window from the beginning of the development process.

Organization of Paperless Trading Promotion



In January 2005 after the completion of the BPR/ISP project, the e-Trade Facilitation Center was launched in KITA for the future Single Window project. The Center is composed of multiple organizations from both the public and private sector. It implements tasks from the 'e-Trade 2007 roadmap' as a project management office. It also serves as the secretariat for the National e-Trade Facilitation Committee.

Another collaborating model is the organization of several working groups belonging to the e-Trade Facilitation Center. Related agencies, advisory groups and trade companies participate in each working group to deal with many issues that rise from the project.

2. Support

Consistent support from the administrative policy and legislative act is equally necessary.

Legal Support

Reforming related law is a key factor to innovating trading procedures. The Government has amended its former Trade Automation Act into the e-Trade Facilitation Act.

Administrative Support

The e-Trade Facilitation Center has been meeting regularly with administrative departments and representatives of the private sectors for better cooperation during the streamlining trade process. The departments related to the trading and e-government project include the Ministry of Commerce, Industry and Energy, the Customs Service, the National Computerization Agency, the Ministry of Government Administration and Home Affairs, the Chamber of Commerce and Industry, among others.

3. Competence

Know-how and coordination at the working level is essential. The Republic of Korea has used competent manpower since the Single Window first began its service.

Knowledge

Understanding both IT technology and the trade process is needed. The business concepts such as BPM (Business Process Management), SCM (Supply Chain Management), and marketing skills can be applied to the Single Window. The Republic of Korea also knew the importance of creativeness in innovating required for a more efficient SW system.

Coordination skill

Trading is a complicated process conducted by various interest parties. The Republic of Korea's approach was skillful to adjust each party's interests for the common goal of paperless trading. Listening

to voices from the business community has been crucial, since paperless trading was not only a technical but also a cultural issue.

4. Global Strategy

Finding a global partner to complete cross-border paperless trade needed a detailed global strategy.

1:1 collaboration between neighboring countries

We realized the limitation of the efforts of a single country. The Republic of Korea has tried to expand e-Trading partners gradually beginning with Japan and China who are the major trading partners.

Regional connection

Considering the volume of trade in the Asia region, cooperation among Asian countries can be an effective way to realize global e-Trade. PAA, APEC and ASEM have been great opportunities to share the purpose of global paperless trading.

What were the greatest obstacles?

There were several distinctive groups of obstacles. Strangely enough, technology and hardware were never the problem.

Initial Investment

A very high initial investment and the absence of know-how on the management of the Single Window proved to be major obstacles to the development and operation.

Application

The application or web page turned out to be too complicated and unfriendly. For inexperienced users, this posed a critical barrier. Not only companies but organizations and institutions as well questioned the safety of sharing and transmitting information through Trusted Document Repositories and Single Window.

Service Charge

The cost or service fee was still regarded too high for some users although it is known to be more competitive than other similar commercial services throughout the world. Pricing of the services was a proven headache factor.

Culture

Many users still preferred to work offline. Employees who are the majority of the users often enjoyed the opportunity to directly contact and socialize with their counterparts in banks, shippers, insurance companies and government offices.

Cooperation from within

The most difficult problem arose from within the trade service

industry. Many organizations that benefited from the offline services expressed different opinions about the possible reduction or abolishment of the service charge and offline procedures. Custom brokers were concerned for their roles and jobs. Banks were opposed to new regulations and order.

Leadership or Ownership

Leadership and ownership of a service such as the Trusted Document Repository was also disputed. Who should own it and under what authority? Who should develop it? Who should be responsible for its maintenance and security? Every issue seems to have a question mark.

What are the main lessons learned?

Infinite Networking

Never leave anybody out. The information age could be described as infinite networking. Organizations need to sacrifice some of the vested rights and sometimes profit. Sometimes responsibility comes up that was never expected. Do not leave out any organization or users who are part of the trade procedure.

User Perspective Application

Always look to the practical side. Think from the user's perspective. Maintain close contact with all the relevant parties. Keep open eyes and ears to the potential users. Talk to them. Find out their needs. Technology without safety, information without reliability, education without reality is a sure factor for failure.

The Republic of Korea's experience: from EDI to u-Trade Platform

For 15 years, the Republic of Korea has accumulated know-how for managing Single Window. The country also initiated the next generation platform through 'trade process renovation', taking advantage of its IT infrastructure and its prevalent use.

Proceed step by step with a 'Roadmap'

There is no paperless trading at one try. After establishing a proper roadmap, the Republic of Korea built its infrastructure by stages and cooperated with other countries.

Future Plans

What are the plans for further development of the SW?

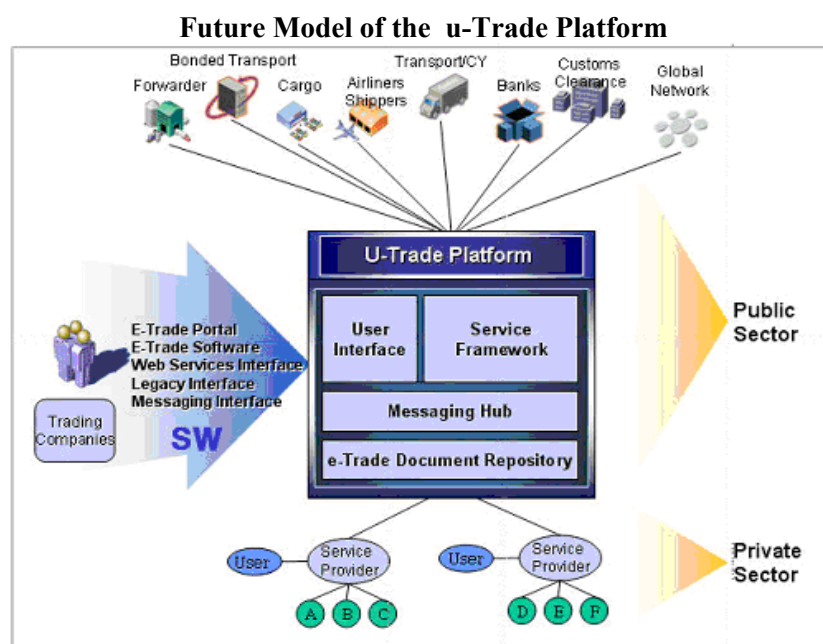
Until the development of its u-Trade Platform, which is the Republic of Korea's version of Single Window, the complex processes of trade, foreign exchange, distribution, customs compliance and settlement were conducted through electronic data interchange (EDI) on a 1:1 basis.

Because of the incompatibilities of applications and strategies, the same set of documents, be it online or offline, quite frequently would be prepared and submitted multiple times. The u-Trade Platform is

designed to get over this limitation.

The philosophy behind the u-Trade Platform is based on the construction of a system that makes use of the internet to connect enterprises around the world in an environment where trade can be conducted in the most economic and effective manner possible.

The u-Trade Platform is designed in such a way that it will become an integral part of the existing enterprise infrastructure by providing all the necessary trade operations.



1) Exchange of major services need to be expanded into B2B data and B2B2G work. The Republic of Korea's Single Window, the u-Trade Platform, plans to expand into the field of marketing, foreign exchange and settlement.

2) Streamline and accelerate the trade process with the advancement in circulation of e-Trade documents.

3) Make use of Internet technology to provide a range of user-friendly trade processes that alleviate the complexities of offline networking between government and trade-related organizations. Enable the execution of one-stop trade transactions from market establishment to payment settlement.

The development history follows.

1. Background

- Entering year 2000, the Republic of Korea's advanced IT infrastructure and technology gave the new opportunity to

reform the whole trade process.

- The Government's blueprint of e-Government included realizing seamless e-Trade service by connecting effectively with the government and related organization.

2. National e-Trade Committee and e-Trade

- The Republic of Korea organized "National e-Trade Committee" chaired by prime minister to promote national e-trade activities. (The first National e-Trade Committee meeting was held in December 2003) MOCIE, KCS of the public and KITA from private sector collaborated together and agreed to initiate new project to upgrade SW for the new digital economy.
- The Committee established a 3 year plan which is called "e-Trade Korea, Innovation 2007"



- The plan has 3 stages as follows.

Phase 1: Building core infrastructure (2005~2006)

Phase 2: Enhancing infrastructure (2006~2007)

Phase 3: Upgrading User environment (2007)

3. Launching Korea e-Trade Facilitation Center after BPR/ISP

- Through BPR/ISP project (Dec 2003~Jun 2004), the future model of national e-Trade Platform was designed.

In December 2004, MOCIE, KCS and KITA founded the e-Trade Facilitation Center to undertake the core tasks for the e-Trade Plan. The Center manages the country's e-Trade project.

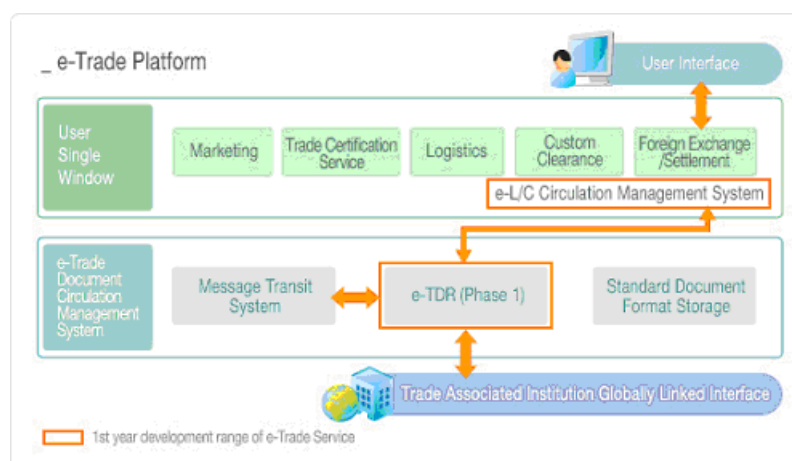
The Republic of Korea e-Trade Platform Project

Goal	To upgrade the present paperless trade system to cover the Republic of Korea's growing trade volume with the latest IT technology <i>Trade volume in 2004: USD 478 billion</i>
Period	2004 ~ 2007
Budget	About USD 30 million
Involved Parties	Ministry of Commerce, Industry and Energy (MOCIE) Korea Customs Service (KCS) Korea International Trade Association (KITA)

	KTNET, KOTRA, The Korea Federation of Banks, KFTC
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4. 1st e-Trade Service Project (Dec 2004~ Jun 2005)

- 1st project opened the first e-L/C service by developing e-L/C circulation system and e-Trade Document Repository.
- Advising bank advises L/C to exporting company and registers and stores the L/C. Negotiating bank provides service without paper document L/C



Service Category	L/C Advice	L/C Transfer	Negotiation	L/C Balance Management
Detail	<ul style="list-style-type: none"> - L/C search - L/C amendment search - L/C rejection - L/C confirmation request 	<ul style="list-style-type: none"> - Total L/C transfer request - Partial L/C transfer request - Transfer cancellation request 	<ul style="list-style-type: none"> - Negotiation request - Cancelling negotiation request - Negotiation result view 	<ul style="list-style-type: none"> - L/C balance view
Remarks	e-L/C search and reject	Overseas T/S excluded	Simple negotiation request ability	Manages L/C balance automatically after Amendment, Negotiation, and T/S

5. 2nd u-Trade Service Project (Oct 2005~present)

- This on-going project is going to open new Single Window portal site after upgrading TDR. The development covers upgrading existing e-L/C service as well as launching more services of paperless documents. Advanced technology such as BPM (business process management) to assist individual handling of the complicated trading processes will be applied.

- The title of Single Window is also changed from e-Trade Platform to u-Trade Platform encompassing ‘ubiquitous’ to cover future application of mobile devices.

What are the biggest obstacles to further development of the SW?

There are other government and private sectors that seek Single Window of their own which encompass the functions already being developed in the current Single Window service provided by KTNET and the government. There is a central decision making apparatus called ‘National e-Trade Committee (est. Jul 2003)’ lead by the Prime Minister. But the coordination and authority over individual government branches and private sectors is limited. There needs to be some consensus and efforts to eliminate redundant investment and inefficiency.

How best can UN/CEFACT help with the development of the SW facility (standards, capacity building etc.)?

UN/CEFACT can organize more bilateral or multi-lateral capacity building projects that concentrate not only in standard development, but also project management and establishing a working business model. The Republic of Korea hopes to participate more actively with such capacity building projects under UN/CEFACT.

Do you intend to make agreements concerning SW cooperation on the regional level?

Global Single Window cooperation is a major interest area and common goal of KITA, KTNET and MOCIE, the government sector. There are number of bilateral and regional cooperation already ongoing and more cooperation is on the way. All these cooperation involve connecting Single Windows of the respective countries.

Korea is a member of the Pan Asian e-Commerce Alliance or PAA, which is consisted of 9 service providers in 9 countries. Korea is also a member of the ASEAL (Asia Europe Meeting for Paperless Trading) formed by the Republic of Korea, Germany, France, the United Kingdom and Taiwan Province of China.

In APEC, the Republic of Korea is involved in electronic Certification of Origin pathfinder project with Taiwan Province of China and Singapore.

Are you planning to have agreements for exchange of data with SW running in other countries?

Currently, the Republic of Korea does not plan to integrate or share the repository information with other Single Windows. There are on going plans to seek possibilities to serve as a hub repository or find a way to link the systems so as to achieve equal effects of an integrated system. As mentioned above, PAA, ASEAL and GSCM Hub projects are examples seeking such possibilities.

Source for further information

Website:

<http://www.kita.net>

Contact Details:

Main contact person: Mr. Jung, Hee-Chul
 Address: Korea e-Trade Facilitation Center
 604 World Trade Center, 159-1, Samsung-dong, Gangnam-gu
 Seoul, Republic of Korea
 Phone : +82-2-6000-5437
 Fax : +82-2-6000-2307
 Email: jesus@kita.net