



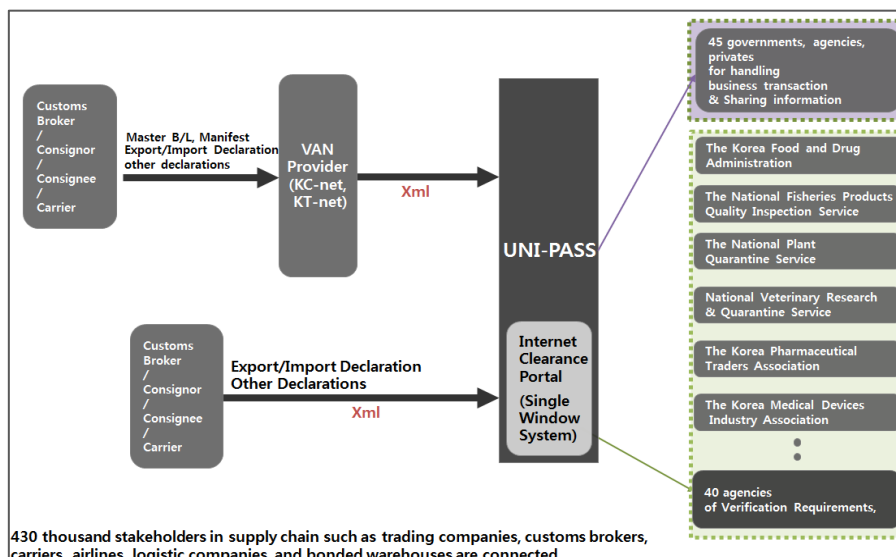
Case Study

Performance management of Korea's Single Window

Korea's Single Window environment

Korea's electronic clearance system was established in 1974. Initially based on a simple statistical system, all Customs processes were computerized in the 1990s. Following the computerization of the Korea Customs Service (KCS), the KCS has sought, since the 2000s, in addition to the establishment of additional systems for efficient work processes, to facilitate logistics and clearance processes, and to implement risk management based on the fully automated, computerized Customs environment of the KCS. The establishment of the Single Window System was initiated in 2004 and launched in 2006. The Single Window System is a user-centric system for import/export processes. It is a system that enables declarants to process their business transactions related to import/export clearance through a single channel without having to contact other related government agencies for specific requirements or use other systems. Declarants can submit a range of applications for import/export requirements to clearance-related entities via the Single Window System; the application information is then transmitted and processed via channels linking the Single Window System to the systems of other entities. The KCS proceeds with the import/export clearance in line with the outcome of each application.

However, the Single Window environment of the KCS does not consist of a single system that processes import/export clearance operations in connection with the relevant entities. This Single Window System cannot be considered to be a standalone system, since it operates systematically in connection with other UNI-PASS systems (since 2006, Korea's electronic clearance system has been given the brand name UNI-PASS), including import/export clearance systems. In addition to the Single Window System, other UNI-PASS systems that are used in various areas of Customs work are also linked to other entities through information exchange to expedite and secure the clearance of goods. In this respect, the KCS Single Window environment consists of not only the Single Window System, but also all the UNI-PASS systems that are systematically interlinked.

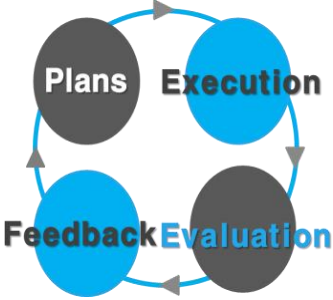


<Composition of Korea's Single Window System>

Balanced Scorecard for change management in Customs administration

The ultimate goal of a Single Window System is to ensure trade security and facilitation. To that end, the process of establishing the Single Window System is implemented through both the simplification of trade-related work procedures and computerization. The KCS undertakes performance management of the Single Window System, combining overall performance management of the organization in order to implement efficient Customs administration with performance management of the Single Window System itself. Through its performance management at organization level, the KCS can effectively improve the organization by simplifying Customs procedures, including import/export clearance, audit and investigation. Furthermore, any changes in Customs work processes are realized through the various systems in place.

The KCS has adopted the BSC (Balanced Scorecard) for the purpose of performance management and measurement. The KCS uses the BSC to set its missions, visions and strategies, and identify the means to achieve them, and uses KPIs (Key Performance Indicators) to measure, manage and improve their effectiveness. Through this process, improvements to be made to Customs administration are identified based on an analysis of the current situation, and objectives are achieved by means of key activities. This process furthermore follows a cyclical pattern in which new KPIs are formulated on the basis of KPI results.



KPIs are newly identified, measured and maintained each year with a view to improving Customs administration.

2017	2018
Overall satisfaction level of UNI-PASS	Progress rate of use of new technologies in setting up informatization strategy
Indicators of service improvement activities for the 4 th generation of UNI-PASS	Progress rate of new technologies related to R&D and pilot projects
Compliance level of cyber security	Levels of training for Big Data Experts

The above are examples of KPIs that were set for 2017/2018 and aim to improve the IT environment of the KCS. While the focus in 2017 was on enhancing the quality of services and security in the Single Window environment, the 2018 KPIs were set to apply new technologies and related key activities. KPIs are formulated in connection with activities to set ISPs for the development of new technologies, propel new technology-based research projects, and focus on the training of future talent. These KPIs are set and managed each year with a view to achieving new improvement goals.

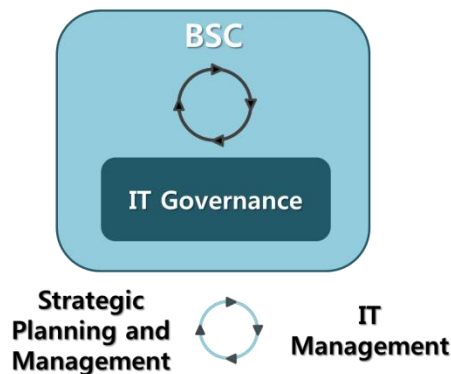
The above-mentioned indicators are purely IT-related; however, indicators regarding activities aimed at enhancing Customs administration are also set and managed in the Single Window environment in connection with changes and improvements in a number of operational areas. Work-related changes are linked to changes made in the IT environment in order to ensure their effective implementation. The KCS currently sets and manages KPIs for improvements in the areas of clearance, audit, investigation, FTA IT, risk management and planning.

Import Performance Indicator
Detection results of import inspection for reduced imported cargo processing time

The above-mentioned import-related KPI involves analysing the detection results of import inspection with a view to reducing the processing time for imported cargo. Indicators are used to measure the rates of import inspection in relation to the rates of detected goods; once the indicators are reached, it is then possible to improve the detection rate of import inspection and make import clearance flows more efficient. To reach these indicators, the

Cargo Selectivity (C/S) System used to select imported goods for inspection must achieve high accuracy. The information obtained by connecting the UNI-PASS system with other entities' systems is used to define the C/S criteria. Performance management of the Single Window environment is carried out by setting, managing and measuring KPIs related to work processes and systems.

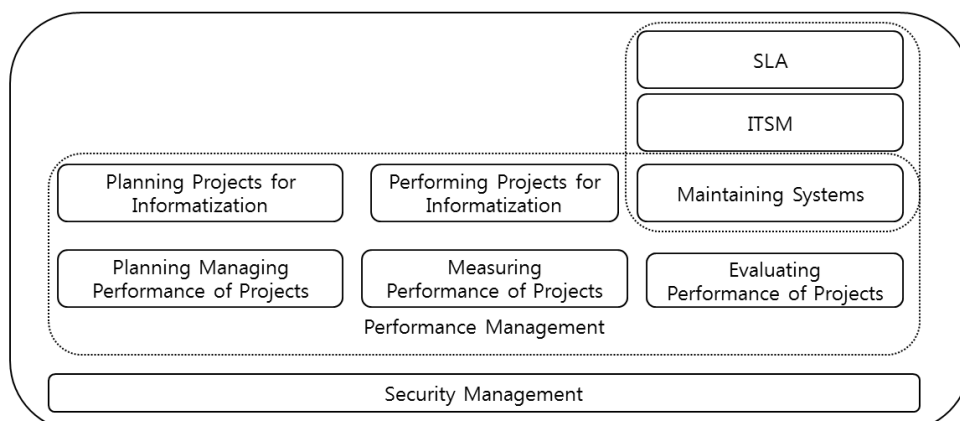
IT performance is also managed through KPIs. However, for IT performance management, a different method of management is required based on the characteristics of the various systems in order to respond to the constantly changing needs of the business world.



IT governance for performance management of the Single Window System

The Single Window System is a tool for achieving the goals of the business sector. In other words, the Single Window System is used to achieve the objectives of efficient and secure Customs administration. The KCS is achieving results through IT governance (drawing out maximum values by connecting informatization resources and organizational goals) which aims to implement efficient Customs administration.

IT management of the KCS is based on EA (Enterprise Architecture). The comprehensive IT management regime includes management of EA-based informatization resources, formulation and management of mid- to long-term informatization plans, management of links with the business sector through the various systems in place (management of projects to establish systems, management of needs within system services and management of service levels) and system security.



The role of IT systems is to respond to the needs of the business sector in line with any changes that may occur and to provide efficient and stable services. To that end, individual management regimes are established for all resources relating to the IT environment as well as all the processes relating to informatization (planning and implementing informatization projects, system operations and improvements, performance evaluation through informatization projects, etc.). Furthermore, management regimes manage the IT environment efficiently through direct interactions between the regimes.

Generally speaking, the establishment of an informatization environment and improvements to the administration can be achieved through informatization projects. Such projects are managed throughout the entire process, from the planning stages to the implementation results. Right from the initial stages of informatization planning, the scope of the project and necessity for the project implementation are assessed by means of a feasibility study on the objectives and efficiency of the project. Management of the project implementation process throughout the life of the project ensures the adequate quality of systems in the computing environment of the KCS. Moreover, the performance goals of these informatization projects are set from the planning stage, and results are evaluated through periodic performance measurement after system establishment.

It is important to note that, even once systems have been established, the needs of the business sector are constantly being affected by any changes that occur and improvements that are made. For this reason, the systemization and management of processes in response to business-sector needs as well as continuous monitoring have a direct impact on the performance of the Single Window System. These business-sector needs are managed through ITSM (IT Service Management). The KCS conducts systematic planning and design in support of service needs, as well as operations in connection with ITSM. In addition, these procedures are in line with international service management standards, and have been efficiently reorganized, regularly achieving ISO-20000 certification of the service management regime. For the most part, the KCS outsources system management, and the performance of systems is managed through the signing of an SLA (Service Level Agreement) on maintaining system performance and providing stable services.

Under the SLA, the indicators are modified at the beginning of each contractual year of service. Broadly speaking, these indicators serve to steer and measure the operational performance of applied systems, improvements for systems, management and application of clients' opinions, and enhanced information security.

Below are some examples of SLA evaluation indicators for system operations.

Evaluation indicators	Objectives	Definition of measured value	Service goals
Timely processing rate of service requests	To ensure the timely processing of service requests by users of the 4 th generation of UNI-PASS	[No. of S/R (Service Request) cases completed within the completion date]/[No. of S/R cases scheduled to be completed during measuring period * 100	Level of goals: 100% Basic level: 98% Minimum level: 96%

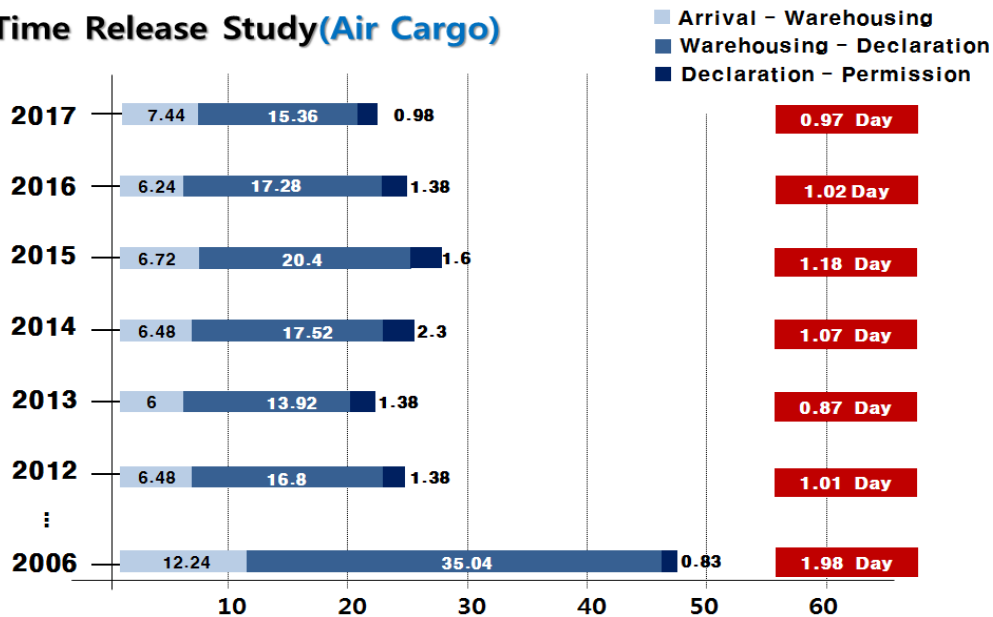
		+ delayed days until S/R completion * 0.5]	
Online e- document processing time	To ensure optimum processing speed so that external users of the 4 th generation of UNI-PASS can conduct their business in good time online	Total evaluation score by e-document/total No. of e-documents to be measured	Discrepancy in processing time by declaration type (e.g.) Export declaration Level of goals: 9.5 sec. Basic level: 10.5 sec. Minimum level: 11.5 sec.
No. of system failure cases	To promptly recover services to normality from delays/failures/ errors occurred while operating the 4 th generation of UNI-PASS	No. of failure cases registered on the ITSM system	Level of goals: 0 case Basic level: 1 case Minimum level: 2 cases

With regard to systems, the provision of stable services and security for data protection is crucial. The KCS identifies system security activities that are carried out periodically through a security policy and organization group. Security management activities are planned and executed with regard to: system access management, management of access to terminal units, management of external attacks to systems, firewall management, vulnerability check-ups of program security, network management, data encryption, and security of transmission and reception channels, and so on.

Results of performance management of the Single Window System

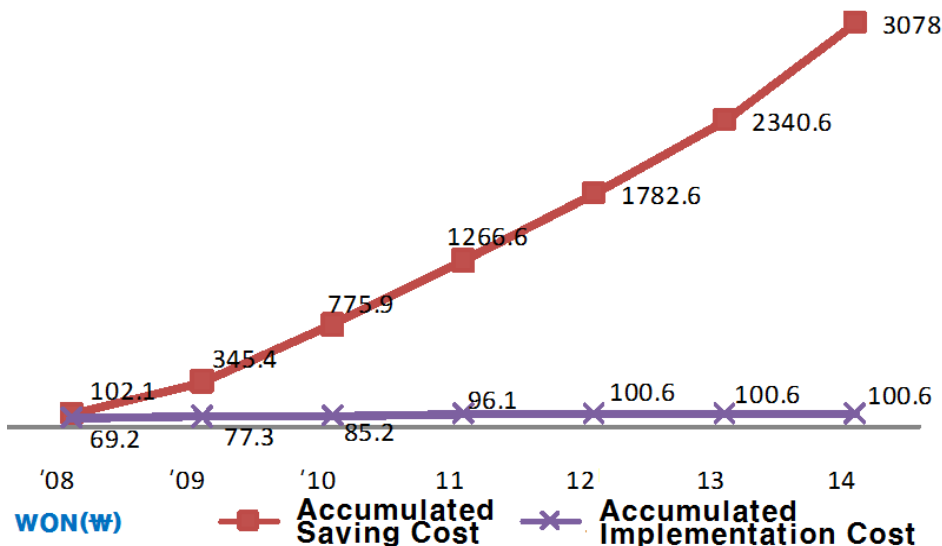
Performance management of the Single Window System is executed by means of the aforementioned activities with the aim of achieving organizational goals for development in Customs administration and managing system performance. The performance management results are ultimately evidenced by a secure and fast clearance process. A TRS (Time Release Study) that measures the time required in the key processes involved in the clearance of goods was conducted to demonstrate improvements to the release time of goods as a result of efficient work flows and systems in the Single Window environment. The TRS results below are provided in real time on UNI-PASS.

Time Release Study(Air Cargo)



The above TRS results date from after 2006, the year in which the Single Window System was launched. As depicted in the bar graph, the time taken from the point of entry of goods on the Single Window System to their release decreased from 4 days to 1.5 days.

Such a reduction in clearance time led to a decrease in logistics costs. As seen in the graph below, the cumulative decrease in clearance-related logistics costs has already exceeded the total cost of the staged establishment of the Single Window System and its expansion.

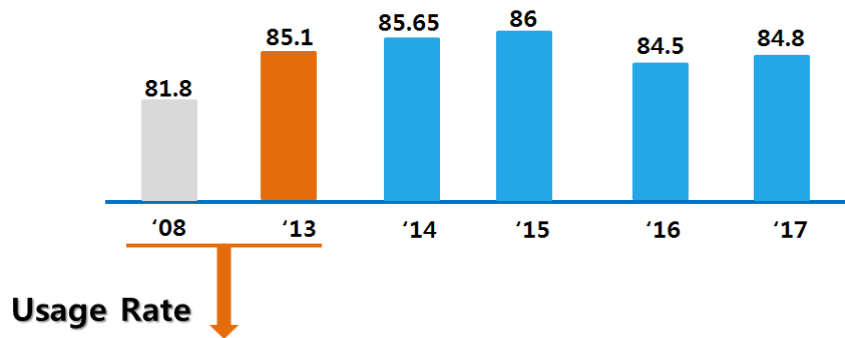


Prompt clearance services and the economic benefits of the establishment of the Single Window System directly contributed to user satisfaction levels.

The bar chart below shows the results of user satisfaction surveys. As depicted by the bar chart, the level of user satisfaction increased significantly in line with the increase in the usage rate following the launch of the Single Window System in 2006. The decrease in user

satisfaction in 2016 was due to the launch of the new UNI-PASS system in 2016 and the transitory changes in the system environment; however, this situation has since improved.

Satisfaction Surveys



Year	'06	'07	'08	'09	'10	'11
Usage rate	4.3	3.9	19.3	67.2	91.6	97.3

Accordingly, the KCS uses various methods of Single Window performance management in order to keep abreast of changes and new developments in Customs administration.