

Chapter 2

Driving efficiency through e-procurement: KONEPS

A central responsibility of the Public Procurement Service (PPS) involves management of the Korean ON-line E-Procurement System (KONEPS), which involves both policy and purchasing dimensions. KONEPS processes nearly two-thirds of all public procurement in Korea, and responsibility for the system is undertaken in an integrated and strategic manner, driving continuous improvements for public procurement. Within this context, the present chapter presents an analysis of the e-procurement experience in Korea, centred on the Korea ON-line E-Procurement System (KONEPS). As an integrated system developed over many years, KONEPS offers many lessons for countries considering the development or expansion of e-procurement tools and systems. By examining the history, functions and capacities of KONEPS, these good practices are identified, as are recommendations and considerations for additional improvements.

The use of digital technology to support procurement processes dates from the second half of the 20th century as a way to improve automation and standardisation, reducing time to complete tasks and the probability of human error. With the gradual expansion of capacities and systems in the last 30 years, its use enlarged to progressively cover more areas of the procurement cycle, until it became commonly known as e-procurement. At the same time, the use of digital technology in the public sector has been a strategic driver for improving efficiency and supporting effectiveness of policies by creating more open, transparent, innovative, participatory and trustworthy government. In this light, the use of e-procurement not only increases efficiency by facilitating access to public tenders - increasing competition and decreasing administrative burdens - but can also improve transparency by holding public authorities more accountable.

This essential twofold role for e-procurement is recognised in the 2015 OECD “Recommendation of the Council on Public Procurement” (hereafter, the “OECD Recommendation”) (Box 2.1).

Box 2.1. OECD Recommendation on e-procurement

VII. RECOMMENDS that Adherents improve the public procurement system by harnessing the use of digital technologies to support appropriate **e-procurement** innovation throughout the procurement cycle.

To this end, Adherents should:

- i) Employ recent digital technology developments that allow integrated e-procurement solutions covering the procurement cycle.** Information and communication technologies should be used in public procurement to ensure transparency and access to public tenders, increasing competition, simplifying processes for contract award and management, driving cost savings and integrating public procurement and public finance information.
- ii) Pursue state-of-the-art e-procurement tools that are modular, flexible, scalable and secure in order to assure business continuity, privacy and integrity, provide fair treatment and protect sensitive data,** while supplying the core capabilities and functions that allow business innovation. E-procurement tools should be simple to use and appropriate to their purpose, and consistent across procurement agencies, to the extent possible; excessively complicated systems could create implementation risks and challenges for new entrants or small and medium-sized enterprises.

Source: OECD (2015a), “Recommendation of the Council on Public Procurement”, www.oecd.org/corruption/recommendation-on-public-procurement.htm.

In their most straightforward application, e-procurement tools have the potential to dramatically increase efficiency by eliminating wasteful and duplicative paper-based processes. Beyond this, e-procurement tools can also play a transformative role by enabling processes that are simply impossible to replicate without advanced digital technologies. This dual potential is therefore identified in the OECD Recommendation’s definition of e-procurement as “the integration of digital technologies in the replacement or redesign of paper-based procedures throughout the procurement process.”

In this latter role, a well-functioning e-procurement system can advance many of the other elements of the OECD Recommendation. By providing and consolidating public

procurement information, e-procurement systems foster transparency throughout the procurement cycle. Through some process automations, the need for interaction between public and private actors can be significantly reduced, eliminating some risks of corruption and fostering integrity. By ensuring that procurement opportunities are provided electronically, in standard forms, with clear information regarding the terms of award and any exceptions to competition, fair access to procurement opportunities can be achieved. Well-constructed e-procurement systems can eliminate barriers to the pursuit of secondary policy objectives in public procurement (for example, through simplifying procedures for small and medium-sized enterprises, or allowing for more innovative means of dividing consolidated procurements into regional lots to facilitate local procurement). Establishing e-procurement as part of a broader e-government programme can lead to better integration of procurement in budgeting and public finance management. Finally, the data that can be collected and generated by a comprehensive e-procurement system supports a host of other important procurement functions, including ongoing performance evaluation of the system and its outcomes, the development and deployment of risk-management strategies, and internal and external accountability.

Furthermore, in many countries, the adoption of e-procurement tools and systems has been a key driver of public procurement reform in recent years and plays a strategic role for e-government implementation plans.

History

As with many mature e-procurement systems, the current state of KONEPS is the result of a long series of evolutions. Beginning in the 1990s, public entities with large procurement volumes in Korea, including the Public Procurement Service (PPS), the Defence Acquisition Programme Administration and the Korea Electric Power Corporation began the establishment of individual e-procurement systems. While these independent systems drove some improvements in efficiency for suppliers, the multiple systems also gave rise to concerns about a lack of standardisation, the need for redundant investment, and a lack of a single portal and information-sharing capabilities. Duplication of effort was still required, resulting in unnecessary costs and inconvenience. Additionally, these individual systems still left many smaller public procurement entities relying on paper-based processes and face-to-face interactions with suppliers.

To address these issues, PPS prepared an e-procurement master plan and began the establishment of the Procurement Electronic Data Interchange (Procurement EDI) in 1996. Completed and piloted in 1999, Procurement EDI enabled the shared use of procurement-related information among PPS, other public buyers and business firms. By 2001, the application of Procurement EDI expanded to cover the entire span of procurement procedures, leading to reduced processing times, many fewer paper-based transactions and reduced payment lead times for suppliers.

As Procurement EDI was implemented, separate efforts to develop e-bidding and e-payment systems were also underway. A pilot homepage for e-bidding was launched in September of 2000, allowing bidder registration and the issuance of e-signatures. Full operation began in early 2001, and spread throughout the government purchasing offices. The e-payment system was launched in June 2001, replacing the mailing of treasury checks with electronic account transfer (EFT) payments for suppliers.

While each of these new, individual systems yielded efficiency gains and savings, gaps remained in consistent application. Public entities continued to develop their own

proprietary e-procurement systems, leading to an absence of consistent, government-wide standards.

In addition, those entities that did not develop e-procurement systems still relied heavily on paper-based processes to address the elements of e-procurement not captured by the existing PPS systems. These issues arose as Korea undertook a broad and substantial e-government project, and development of a comprehensive, national e-procurement platform was selected as one of 11 national digitisation projects (see Box 2.2). This project, initially dubbed “the G2B Project,” imagined a “single window” to public procurement, built around Internet-based work processes. System implementation work was awarded to a private sector developer in early 2002, and completed under the direction of PPS in September of that year: KONEPS was launched (see Figure 2.1).

Box 2.2. E-government project in Korea

The Ministry of Government Administration and Home Affairs (MOGAHA) is responsible for overall e-government management in Korea, including the preparation of e-government policies, instructions and guidelines, with technical support from the National Information Society Agency. The responsibilities of MOGAHA include:

- establishing policy instructions and technical standards on informatisation projects
- identifying needs for e-government projects
- assigning budgets
- monitoring and evaluating e-government projects
- evaluating informatisation performance of central government entities.

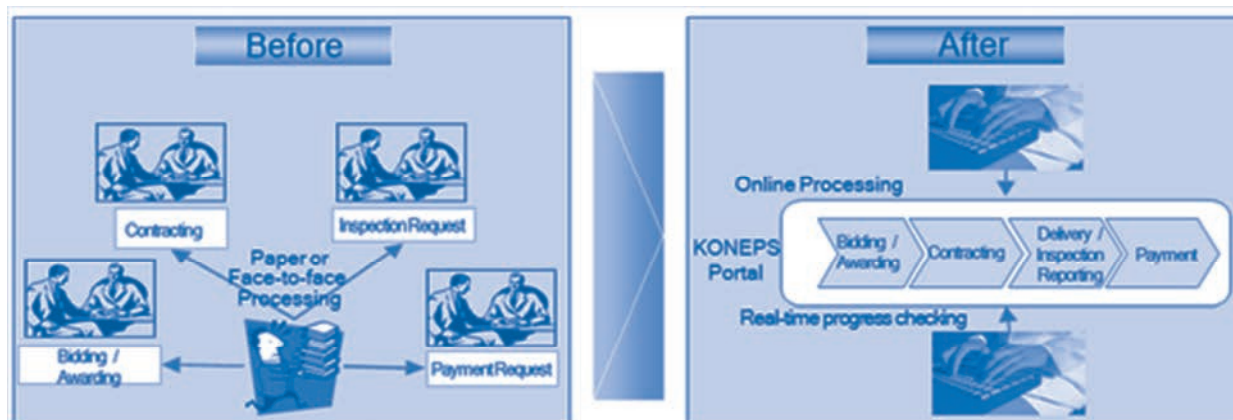
As part of these responsibilities, MOGAHA identified 11 broad projects in three categories.

- Innovation in services:
 - government-wide e-procurement system
 - single window for civil services
 - integrated social security information system
 - Internet-based national taxation system
- Administrative productivity:
 - national finance system
 - integrated administration system for local governments
 - nation-wide educational administration system
 - standardised human resources management system
 - consolidation of e-document exchange and e-reporting
- Infrastructure:
 - e-authentication and e-signature system
 - government-wide information technology (IT) governance environment

The approach adopted by the Government of Korea to design and support the implementation of the e-procurement system as part of its e-government efforts is in line with the OECD Recommendation on Digital Government Strategies (adopted by the OECD Council in July 2014). As parts of its guidance on strengthening government capabilities to ensure returns on IT investments, the OECD Recommendation calls for governments to procure digital technology based on existing assets. Additionally, the OECD Recommendation underlines the necessity to align individual strategies, such as the e-procurement strategy, with digital government strategies to ensure they all support coherently overarching policy goals and public sector reform agendas (e.g. fostering more efficient public sectors, increasing transparency, promoting competitiveness and growth by providing fair opportunities).

Source: PPS response to OECD internal questionnaire, 2014 with updates in 2015.

Figure 2.1. KONEPS development: Before and after



Source: PPS response to OECD internal questionnaire, 2014 with updates in 2015.

KONEPS scope of functions and usage

KONEPS is a comprehensive, full-fledged e-procurement system covering the entire procurement cycle, including procurement requests from public buyers, publication of tender notices, communication with suppliers, collection of e-bid submissions, bid opening and contract award, inspection and e-payment. From its launch in 2002, KONEPS has been regularly updated to expand its functionalities: an intelligent product information search and implementation of an online shopping mall came in 2006, mobile e-bidding services were added in 2008, radio-frequency identification (RFID)-based inventory management was added in 2009, and fingerprint recognition e-bidding was added in 2010 (Public Procurement Service, 2013). A detailed list of the functions appears in Table 2.1.

Given this wide range of functions, KONEPS is in the forefront of e-procurement systems in terms of scope and coverage, even when compared to other OECD country systems. In fact while the use of e-procurement systems in the form of portals or websites among OECD member countries is pervasive, when moving along the procurement cycle the role actually played by e-procurement in public procurement processes is reduced. As of 2014, all OECD member countries announce procurement opportunities and provide tender documents through their e-procurement systems; most of these countries are mandated by law to provide these functionalities. Functionalities at the beginning of the procurement cycle - in particular publishing of procurement plans (86%), electronic submission of bids (90%), and e-tendering (86%) - are provided in most OECD countries. In contrast, those towards the end of procurement cycle (except for notification of award [97%]) are provided by a lower number of OECD member countries. Fewer countries provide e-auctions, ordering, electronic submission of invoices and *ex post* contract management through their e-procurement systems. It is worthwhile to mention that the majority of countries provide these functionalities in their e-procurement systems even though they are not obliged by law (Table 2.2).

Table 2.1. **KONEPS functions**

Subsystem	Functions
E-procurement portal	<ul style="list-style-type: none"> • Comprehensive user guide on KONEPS, including user manual, downloadable resources, announcements, FAQ, Q&A, etc. • User-customised information on "My Page" after logon • Consolidated tender information
User management system	<ul style="list-style-type: none"> • Registration and approval of master user information on public entities and private firms • Registration of e-certificates issued by certification agencies as part of user information • Management of private firms' status with regard to sanctions imposed for illicit practices: entry suspension and lifting of debarment • Secure logon using e-certificate
Product catalogue system	<ul style="list-style-type: none"> • Search products by product classification, name or specifications • Classification request for products to be newly registered
E-surety system	<ul style="list-style-type: none"> • Receipt of e-surety through data interchange with surety companies, for bid bond, performance bond, payment guarantee, and guarantee against defects • Entry of surety information, for surety companies without electronic surety information management system
Supplier information management system	<ul style="list-style-type: none"> • Collection of bidder information including financial standing, past experiences, and possession of technology or quality related certificates • Checking information on licensed engineers and experts, through data interchange with industry associations
E-bidding system	<ul style="list-style-type: none"> • Publication of advance notice for preliminary specifications, review and receipt of feedback from private firms • Publication of pre-qualification notice for public works tenders / application for pre-qualification / processing of prequalification results • Publication of tender notice (with issuance of encryption and decryption keys for information security) • Search for tender notice, submission of e-bid (encrypted before submission) • Electronic signing of Bidding Consortium Agreement • Online negotiation for direct contracts • Opening of e-bids and determination of order of priority for contract awarding • Eligibility test (pass-or-fail evaluation for contractor candidate, based on price factors and non-price factors) • Determination of contract awardee and real-time publication of bidding details and results
E-contracting system	<ul style="list-style-type: none"> • Drafting and e-contract and transmission to contract awardee • Review and acceptance/denial of draft e-contract by contract awardee • Electronic signing and transmission of e-contract
E-payment system	<ul style="list-style-type: none"> • Contract information review • Request for upfront payment • Request for inspection (for delivery of goods, completion of public works) and response • Checking inspection result • Submission of payment request • Receipt of payment request and payment approval
Online Shopping Mall	<ul style="list-style-type: none"> • Product search by product category, name, and other properties • Placing products into shopping cart • Generation and transmission of online order form • Management of order information
E-document distribution and external data interchange system	<ul style="list-style-type: none"> • Security module management for e-certificate (e-signature) • E-document security based on public key infrastructure (PKI) encryption standards • Authenticity check for documents issued • Management of data interchange with external data systems • Management of all electronic documents between end-user public buyers and suppliers using KONEPS

Source: PPS response to OECD internal questionnaire, 2014 with updates in 2015.

Table 2.2. Functionalities provided in e-procurement systems

	Mandatory and provided	Not mandatory but provided	Not provided
Publishing procurement plans (about forecasted government needs)	AUS, BEL, CHL, DMK, GRC, HUN, IRL, KOR, MEX, NZL, NOR, PRT, GBR, USA	AUT, CAN, FIN, DEU, ITA, JPN, POL, SVN, ESP, SWE, CHE	EST, FRA, LUX, SVK
Announcing tenders	AUS, AUT, BEL, CAN, CHL, DNK, EST, FIN, FRA, DEU, GRC, HUN, IRL, ITA, KOR, LUX, MEX, NZL, NOR, POL, PRT, SVK, SVN, ESP, SWE, CHE, GBR, USA	JPN	
Provision of tender documents	AUS, AUT, BEL, CHL, EST, FIN, FRA, DEU, GRC, HUN, IRL, KOR, MEX, NZL, NOR, POL, PRT, SVK, SVN, SWE, CHE, GBR, USA	CAN, DNK, ITA, JPN, LUX, ESP	
Electronic submission of bids (excluding by e-mails)	BEL, CHL, EST, FRA, GRC, ITA, MEX, PRT, USA	AUS, AUT, CAN, DNK, FIN, DEU, IRL, JPN, KOR, LUX, NZL, NOR, SVK, SVN, ESP, SWE, GBR	HUN, POL, CHE
E-tendering	BEL, CAN, CHL, EST, GRC, IRL, ITA, MEX, CHE, USA	AUT, DNK, FIN, FRA, DEU, JPN, KOR, NZL, NOR, PRT, SVK, SVN, ESP, SWE, GBR	AUS, HUN, LUX, POL
E-auctions (in e-tendering)	GRC, MEX, SVK, SVN, USA	DNK, EST, FIN, FRA, DEU, IRL, ITA, NZL, NOR, PRT, SWE, CHE, GBR	AUS, AUT, BEL, CAN, CHL, HUN, JPN, KOR, LUX, POL, ESP
Notification of award	AUT, BEL, CAN, CHL, DNK, EST, FIN, DEU, GRC, HUN, IRL, KOR, MEX, NZL, NOR, POL, PRT, SVK, SVN, ESP, SWE, CHE, USA	AUS, FRA, ITA, JPN, GBR	LUX
Ordering	CHL, FIN, ITA, CHE, USA	AUT, BEL, CAN, DNK, FRA, DEU, JPN, KOR, NZL, NOR, SVN, ESP, SWE, GBR	AUS, EST, GRC, HUN, IRL, LUX, MEX, POL, PRT, SVK
Electronic submission of invoices (excluding by e-mails)	AUT, DNK, FIN, ITA, ESP, SVN, SWE, CHE, USA	FRA, DEU, JPN, KOR, NZL, NOR, GBR	AUS, BEL, CAN, CHL, EST, GRC, HUN, IRL, LUX, MEX, POL, PRT, SVK
Ex post contract management	CHE, USA	AUT, DNK, FIN, DEU, ITA, JPN, KOR, NZL, NOR, SWE	AUS, BEL, CAN, CHL, EST, FRA, GRC, HUN, IRL, LUX, MEX, POL, PRT, SVK, SVN, ESP, GBR

Source: OECD (2015b), *Government at a Glance 2015*, OECD Publishing, Paris, http://dx.doi.org/10.1787/gov_glance-2015-en.

By offering comprehensive coverage of the procurement cycle and by allowing public entities to use the system in an independent manner, KONEPS managed to represent the most significant portion of the Korean public procurement market. In fact, total public procurement in Korea amounted to USD 95.8 billion in 2013, of which USD 61.6 billion, or 64.3%, was transacted through KONEPS. This amount represents the maintenance of the upsurge trend from 2011, while still far from the USD 72.9 billion registered in 2009 (Table 2.3).

Table 2.3. KONEPS share in total procurement volume

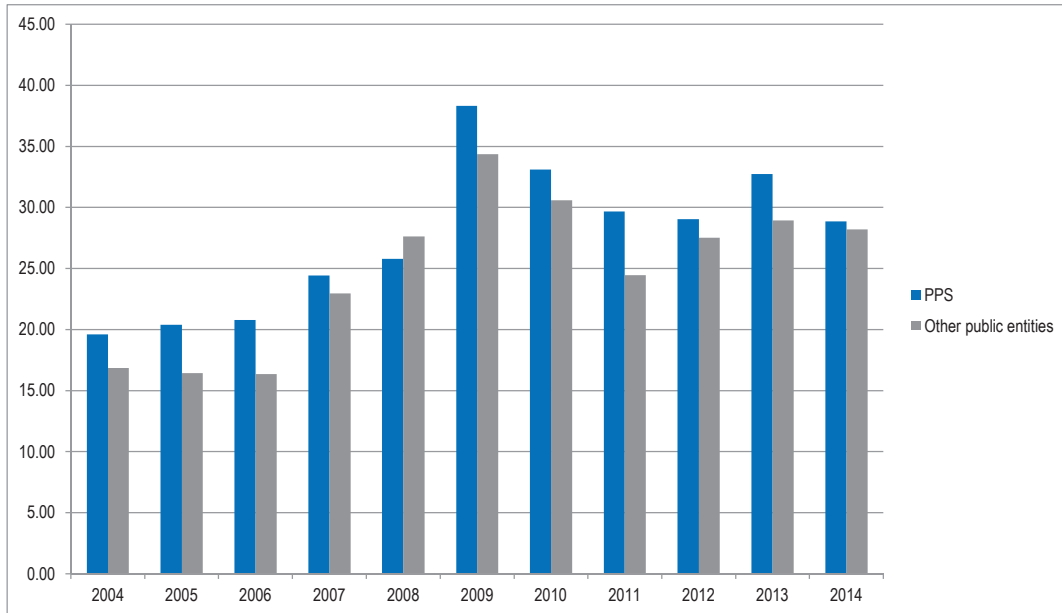
	In USD billions		
	Transaction volume		Percentage
	Total volume	KONEPS volume	
2009	103.4	72.9	70.5%
2010	88.5	63.7	71.9%
2011	84.6	54.1	63.9%
2012	90.2	56.5	62.7%
2013	81.2	61.6	64.3%

Source: PPS response to OECD internal questionnaire, 2014 with updates in 2015.

The number of transactions through KONEPS is split almost evenly between PPS and other public entities and has been growing steadily. In the past ten years the number of transactions of both type of users doubled, which reflects a wider recognition and usage of the system (see Figure 2.2).

Figure 2.2. Transactions through KONEPS

In USD billions



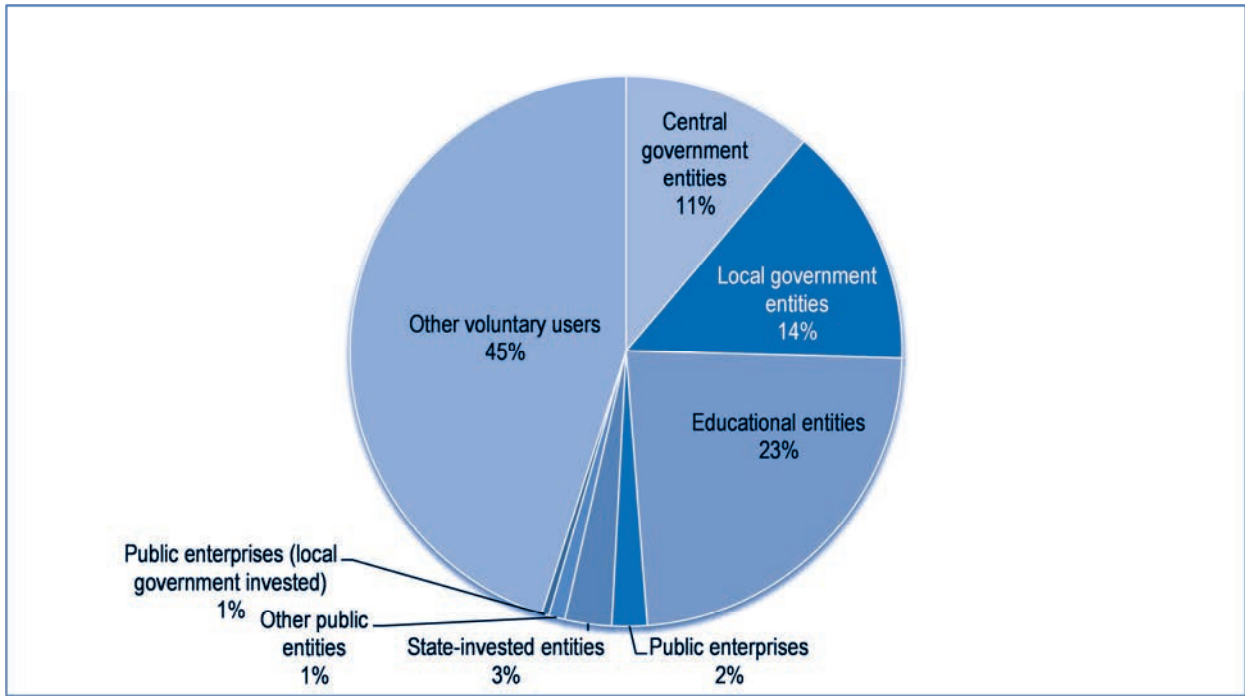
Source: PPS response to OECD internal questionnaire, 2014 with updates in 2015.

The 48 000 buying entities that use KONEPS come from central government, local governments, educational entities and public enterprises (see Figure 2.3).

Registration has also increased steadily over time, more than doubling the number of public entity and private firm users in ten years to approximately 48 000 and 290 000, respectively (see Figure 2.4), with more than 560 000 individual user accounts registered. Some 200 000 users log on daily, and a similar number of e-documents are processed on a daily basis. In 2014, there were 20 million bids on approximately 240 000 biddings conducted through KONEPS.

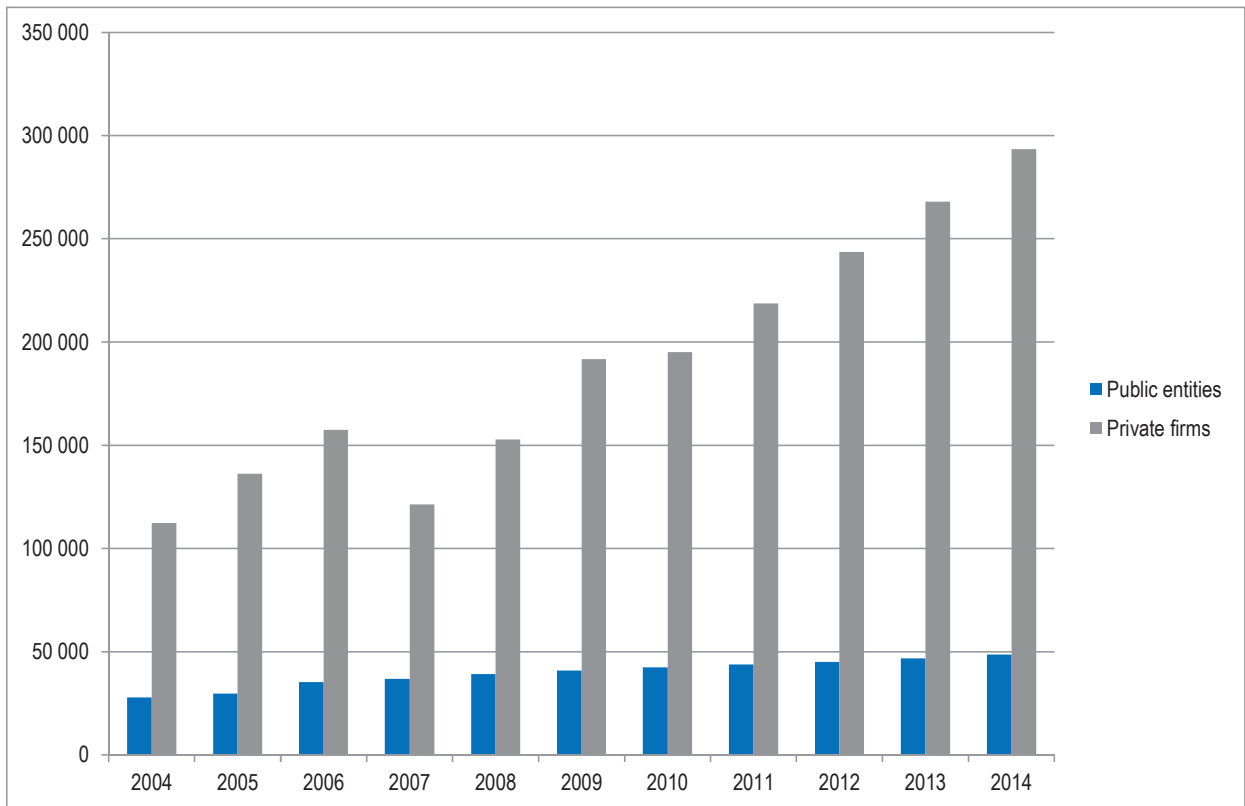
The KONEPS Online Shopping Mall provides a catalogue of more than 360 000 product models with capabilities for purchasers to order directly, and discounted quotations can be requested for orders larger than USD 42 400. In 2014, USD 11.4 billion were processed as orders through the Online Shopping Mall, representing 60% of PPS purchasing of goods and services. For other goods and services (for example, those not available in the Online Shopping Mall, or in circumstances where particular terms or specifications are required), contracts are handled through KONEPS in the form of fixed-price contracts issued through e-bidding (Table 2.4).

Figure 2.3. Public entity users by type



Source: PPS response to OECD internal questionnaire, 2014 with updates in 2015.

Figure 2.4. Number of KONEPS users



Source: PPS response to OECD internal questionnaire, 2014 with updates in 2015.

Table 2.4. **Transactions via KONEPS**

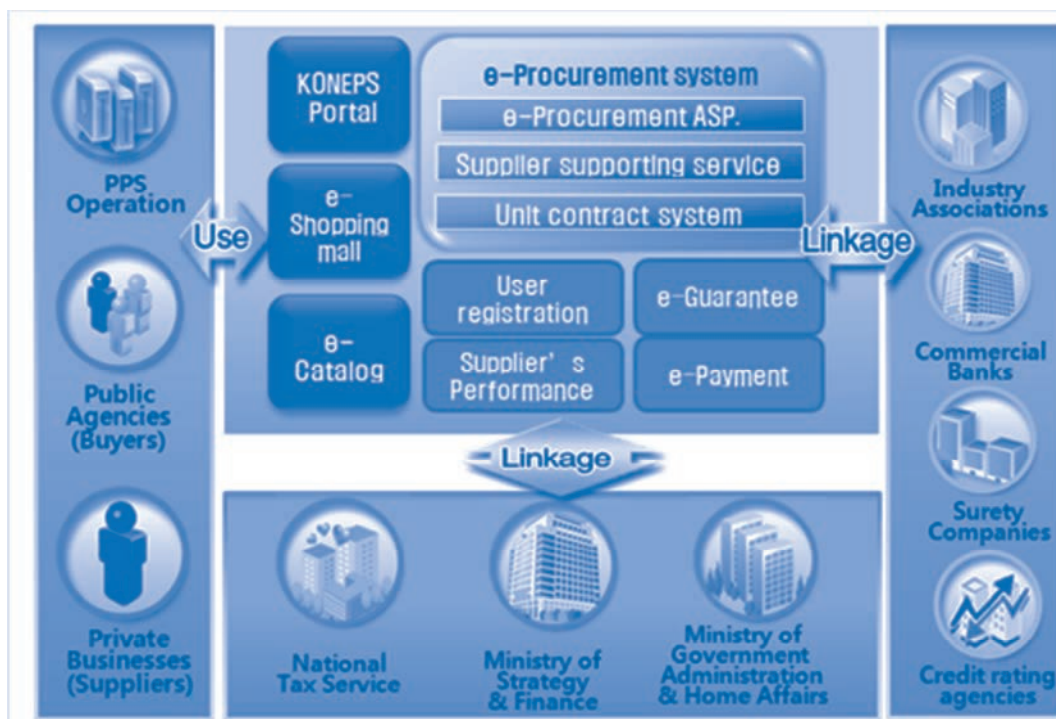
		In USD billions				
		2010	2011	2012	2013	2014
Central procurement	Lump-sum contract	24.3	20.4	18.4	20.9	17.4
	Online Shopping Mall	8.8	9.3	10.6	11.8	11.5
	Total	33.1	29.7	29.1	32.7	28.9
Autonomous procurement by public buyers		30.6	24.4	27.5	28.9	28.2
Total		63.7	54.1	56.6	61.7	57.1

Source: PPS response to OECD internal questionnaire, 2014 with updates in 2015.

KONEPS outcomes

Efficiency

Central to this ability to standardise and centralise functionalities is the interconnection between KONEPS and many diverse electronic systems, both within and outside the government's reach. At launch in 2002, KONEPS contained digital interfaces for data exchange with 50 external database systems. Over time, this network has grown to more than 160 interconnected digital systems (see Figure 2.5). In addition to connection with other e-procurement systems to allow seamless sharing of bid and tender information, these connections cover a broad range of information types, each allowing for additional efficiency, reduced duplication and cost savings.

Figure 2.5. **Data connections in KONEPS**

Source: PPS response to OECD internal questionnaire, 2014 with updates in 2015.

Connection with 19 surety companies allows automated verification of four types of sureties, including bid bonds and performance bonds. Interfaces with 12 private sector associations and 9 credit ratings companies allows for the automatic collection of credit and past performance data, which is used to verify qualifications and evaluate bids. There are 15 commercial banks connected for e-payment through EFT, and also for processing loans that are available to support government contract holders. Business registration certificates and tax-payment certificates are transmitted through appropriate data exchange interfaces. In addition to collecting information from external sources, information from KONEPS is also shared with 28 public entities and 34 private sector information systems.

As a result of this integration, 477 document forms used in public procurement, including bid forms, contract forms, inspection requests and payment requests, have all been converted to digital equivalents. In addition to the increased efficiency of processing all of these transactions and procurement steps electronically, bidders are no longer required to visit public authorities to collect and submit – to each public buying entity separately – the documentation necessary for participation in public procurement. This results also in increased transparency, as the information is available on line through KONEPS, as well as increased access for new entrants and small and medium-sized enterprises, as the burden to participate in public procurement is much smaller.

A description of these work-process benefits divided by relevant parts of the procurement cycle is presented in Table 2.5, allowing a direct comparison of the changes introduced by the system.

Table 2.5. **Work process comparison**

Phase	Before KONEPS	After KONEPS
Bidder registration	Businesses register individually for each bidding in which they intend to participate.	Businesses are able to participate in any bidding from public entities after a one-time registration with KONEPS.
Procurement request	Procurement requests are prepared on paper and submitted to public entities.	Procurement requests are prepared through KONEPS and submitted on line.
Tender notice	Tenders were advertised in the government's official gazette and newspapers. Businesses obtained tender information individually from each public entity, often through subscriptions to private services.	All tenders are advertised through the KONEPS portal. Businesses obtain all public sector tender information from KONEPS.
Bid submission and bid opening	Bids are submitted in person or via post, and opened at a designated place.	Bids are submitted on line, and opened through the contracting official's computer.
Contracting	Contracts are prepared and sealed in paper, with attached paper documents.	Contracts are prepared and processed on line (including modifications), and digitally sealed with an e-certificate.
Invoicing	Inspection requests and invoices are prepared manually and submitted on paper.	Inspection requests and invoices are prepared through KONEPS and submitted on line.

The introduction of KONEPS also fostered efficiency and delivered value for money. A study conducted by Hanyang University in 2009 indicates that these changes led to an estimated USD 8 billion¹ in annual transaction-cost savings (see Table 2.6) – primarily in savings to the private sector in reduced costs for visiting public entities, obtaining required certificates and proof documents and registering and updating accounts in multiple systems.

Table 2.6. **Estimated transaction-cost savings enabled through KONEPS**

In USD millions

	Central government entities	Local government entities	Public enterprises	PPS	Total
Public sector	123.8	872.4	166.3	58.5	1221.0
Private sector	826.9	4074.6	691.0	11.4	5603.9
Total	950.7	4947.0	857.3	69.9	6824.9

Source: PPS response to OECD internal questionnaire, 2014 with updates in 2015.

The value of KONEPS in creating efficiency is supported by interviews with stakeholders. Both buying agency representatives and individuals from companies registered as sellers on KONEPS reported satisfaction with the ease and functionality of the system. One interview subject commented that, despite the fact that his volume of business in public procurement has grown dramatically since the introduction of KONEPS, the staff required to process the work has remained relatively constant, thanks to the efficiency benefits of the system.

Recommendations on efficiency

Some room for improvement remains, as indicated in interviews with both buying agencies and from the supplier perspective. Some buyers reported that, while generally a very good system, improvements could be made to the search functions included in KONEPS. Three specific areas were mentioned, all related to the ease of use of the Online Shopping Mall. First, the search function does not allow users to filter by social objective (for example, local procurement or small and medium-sized enterprise), which sometimes makes the process more complicated for buyers who are trying to satisfy social objective goals. Next, the text-based search logic was reported to require somewhat specific search terms (for example, “Freezing and refrigerating device for...” when searching for refrigerators), and this could be improved to generate more relevant results from simpler search terms. Finally, one buyer requested better or more detailed classification by groups, to make browsing through the hundreds of thousands of items in the Online Shopping Mall more effective. On the supplier side, the recommendation was similar with regard to searching through tender opportunities: a progressive filtering option would make the interface more user-friendly for suppliers.

One additional recommendation concerns a functionality that is present in KONEPS, but currently unutilised: the ability to conduct electronic auctions. In the procurement context, electronic auctions can be used to drive savings by providing bidding vendors an opportunity to offer more favourable prices in real time. While there are mechanisms in the Multiple Award Schedules (MAS) framework contracts and the Online Shopping Mall processes that serve to ensure prices are adjusted downward as the market changes, implementation of the electronic auctions module could drive increased savings. But electronic auctions could yield even greater savings in the procurements currently conducted via e-contracting in KONEPS, outside of these two frameworks.

Integrity and security

The system also serves to enhance the integrity of the public procurement system through the adoption of digital processes, as face-to-face interactions and other opportunities for potential corruption are reduced through the centralised and automatic transfer of data between systems. To support integrity, KONEPS operates digital

encryption and decryption based on PKI encryption, and utilises time-stamping to prevent access to bidding data prior to authorised bidding times.

Additional recent enhancements to KONEPS further address the concern that illegal practices and collusive acts could be caused by borrowed e-certificates. In order to mitigate this risk, the Public Procurement Service introduced “Fingerprint Recognition e-Bidding” in 2010. In the Fingerprint Recognition E-bidding System, each user can represent only one company by using a biometric security token. Fingerprint information is stored only in the concerned supplier’s token, thus avoiding any controversy over the government’s storage of personal biometric information. By July 2010, it was applied in all tenders carried out via the E-Procurement System by local governments and other public organisations for procuring goods, services and construction projects (OECD, 2013).

As a further innovation, PPS has implemented a virtual desktop application to ensure the safety of the e-bidding environment. Going beyond the need to protect KONEPS itself, the adoption of the virtual personal computer system is designed to address the concern that the security environment varies among users, and that procurement data such as bidding information could be vulnerable to interception via malware prior to transmission to KONEPS. By downloading and utilising the virtual PC environment, tender officials and participating bidders create a logical separation between the physical PC being used to run the system and the virtual PC environment that is used to operate KONEPS and transmit data. This is accomplished through a complete simulation of the PC environment, including the encrypting key bid information, which is run independently from the physical PC. Operating KONEPS through the virtual PC system provides an additional efficiency benefit, as the system is optimised for KONEPS and can be used on any system capable of installing the virtual PC system, eliminating the need to address differences in user hardware. Overseen and managed by the National Computing and Information Agency, mandatory use of the enhanced virtual security system is now in place for all tender notifications through KONEPS. As of July 2015, 94% of participating bidders are using the enhanced system, and plans are underway to expand to those bids still published by individual end-user entities.

These developments have led to an increase in public trust in the procurement process. The National Integrity Commission of Korea conducts a regular integrity survey of public entities, and the integrity index for PPS rose by 27.2% between the launch of KONEPS in 2002 and 2005.

Transparency and data

The degree of transparency in public procurement in Korea has also been greatly expanded by KONEPS. Real-time disclosure of tender notices, bidding details and results, awarding information and contracting information is now available. On a per-contract level, the general public can track the history of each transaction, from tendering through to invoicing. Publication of all tender notices through KONEPS also allows for ready comparisons of terms and conditions, and tenders published by PPS also require a five-to-seven-day advertisement for preliminary specification review. This period allows for challenges to tenders that may contain unnecessarily restrictive terms and conditions, which fosters fair and open competition. Such challenges and any responses are also publicly available.

This increased data collection and consolidation also yields benefits for strategic planning and accountability. Public buyers have access to procurement records to a

degree that allows tracing of prices and specifications over time, as well as price-trend information that can be used to structure future contracts or procurement plans. Additionally, the KONEPS statistics module generates reports for a variety of relevant purposes. Specifically, the module can provide buying entities with insights into such things as the use of various contract types (fixed contracts, unit price, etc.), proportion of central vs. independent contracts, and progress toward social objective goals. Data is also readily available to satisfy external reporting requirements, including reporting to the Small and Medium Business Administration (SMBA) and the Board of Audit and Inspection of Korea (BAI) that is required for oversight purposes.

Recommendations on transparency and data

While the progress made in this area is quite substantial, there are still some gaps that can be addressed through further development. One example is the reporting required to the SMBA regarding the buying agency's progress toward satisfaction of procurement goals for social objectives. SMBA is required by law to report this information, and procurement entities are therefore required to report this information to SMBA. This process currently involves retrieving the relevant information from within KONEPS, combining that information with data held by the procuring agency regarding micro-purchases and other sources, and manually transmitting the information to the SMBA. In other cases, agencies that operate their own e-procurement systems (and use KONEPS primarily for tender notices, as required by law) maintain their own data. This multi-step process is currently necessary because KONEPS cannot capture these external sources of data.

This is a clear case where additional co-operation and data integration could serve to simplify the reporting required by SMBA by further reducing duplication, burden and the possibility of error that comes with manual data entry and transmission. Additionally, expansion to include all sources of procurement information would serve to allow for better and more consistent reporting regarding public procurement in Korea as a whole, without requiring manual inputs to produce such information. An effort is underway to address these issues through the creation of a Public Procurement Data System; more information on this initiative is presented below.

The large collection of information available within KONEPS could also be more extensively used to measure performance through the development and deployment of procurement metrics and indicators. There are certain performance measures that apply across the civil service in Korea (for example, the integrity survey mentioned above), but none that are specific to public procurement. Savings are calculated according to an internal PPS mechanism based on the detailed establishment of reference prices, with general savings of 2% to 9% reported, but this information does not feed into any consolidated reporting. While KONEPS can provide detailed information regarding, for example, how many bidders are participating in tenders, this and other internal monitoring elements are not tracked and reported as official indicators of public procurement performance, either for individual buying agencies or for the system as a whole.

Indicators of this sort, if developed, could provide insights into trends over time, for instance regarding market changes that could lead to a need to develop new procurement approaches. If combined with better integration of various existing data systems, as recommended above, such indicators could also provide a means of comparing performance across different public buyers with different procurement systems, eventually driving improved performance through better sharing of best practices or

evidence to support the use of KONEPS and PPS for those agencies that currently chose not to do so.

KONEPS management

KONEPS was developed and implemented by an external supplier, but an effort is underway to centralise the management of KONEPS within PPS. In the original implementation of KONEPS, the prime contractor conducted operations in five main areas, though much of the work was done in partnership with subcontractors. PPS conducted an 18-month planning process, and the desired goal is to internalise core processes related directly to tendering and award selection. Different private partners now head the four other areas.

Any transition of this sort involves risks, some substantial, to the continuity of operations of the system. PPS managed the most meaningful risks by arranging a gradual reduction of the role of the original prime contractor and maintaining several of the subcontractors operating in the prior agreement. Additionally, PPS will recruit five public employees and seven contract-based employees as part of the first phase of the transition. Ensuring appropriate management and skills is crucial, both in terms of ensuring continued and effective service, and in achieving the right balance between contractor support and internal capabilities to manage the system, as indicated by the US example of inherently governmental and critical functions (see Box 2.3).

Given the complex network of connections between KONEPS and other systems, change management is another area that warrants careful attention. The system operates according to well-defined data standards and interfaces, but changes are sometimes necessary (examples could include the collection of a new data field, a change to an electronic form that is used by more than one entity, or the creation of new forms for reporting or transfer of data). When new data is required, the process varies depending on whether the affected system is a public entity system or an external system. The public entities connected to KONEPS have a consulting group that governs changes, so the relevant stakeholders meet to agree to the necessary changes. For external entities like banks, credit-rating companies and industry associations, KONEPS has individual Memoranda of Understanding with each entity, so a change requires that the terms be changed on a one-by-one basis for the affected systems.

The implementation and management of e-procurement systems is an ongoing effort in OECD member countries and the challenges they face are common and need to be understood in order to be addressed successfully. The KONEPS implementation process has been running for over 12 years now and many challenges faced during this period are also present in some other countries. When responding to the OECD Survey on Public Procurement, the main challenge faced by both procuring entities and potential bidders and suppliers to use e-procurement systems are low knowledge and skills of information and communications technology (ICT) (48%) and that is still today the case of Korea. Low innovative organisational culture (41%) and low knowledge of the economic opportunities raised by e-procurement systems (32%) were identified as additional challenges for procuring entities. Related to potential bidders and suppliers, 12 OECD member countries (41%) identified difficulties in understanding or applying the procedures and difficulties in the use of the functionalities as additional challenges (see Table 2.7).

Box 2.3. Inherently governmental and critical functions in the United States

As governments rely more heavily on contractors to provide services in support of policy development and citizen-facing activities, risks arise that functions properly belonging to the government may be undertaken or unduly influenced by private sector suppliers. To address these risks, the United States Congress directed the Office of Management and Budget to:

- i) create a single definition for the term “inherently governmental function” that addresses any deficiencies in the existing definitions and reasonably applies to all agencies
- ii) establish criteria to be used by [US federal government] agencies to identify “critical” functions and positions that should only be performed by federal employees
- iii) provide guidance to improve internal agency management of functions that are inherently governmental or critical (§321, Pub. L. 110-417)

To implement this direction, the Office of Management and Budget, through its office of Federal Procurement Policy, issued a policy letter to better identify such situations and provide guidance regarding the management of internal staffing decisions to ensure critical management roles are filled by federal employees or members of the Armed Forces.

The policy letter unified existing definitions of the term “inherently governmental functions,” which are defined as a function that is so intimately related to the public interest as to require performance by Federal Government employees. According to the policy letter, this term includes functions “that require either the exercise of discretion in applying Federal Government authority or the making of value judgments in making decisions for the Federal Government, including judgments relating to monetary transactions and entitlements.” Specific examples such as binding the government by contract, engaging in policy making, and managing officers or employees of the government are also included. The term normally excludes gathering information or providing policy advice and functions that are primarily ministerial and internal, such as building security and mail operations.

While inherently governmental functions cannot be performed by contractor employees, contractors are eligible to perform functions closely associated with inherently governmental functions, subject to certain conditions. When the nature of a function that is not inherently governmental but may impinge on federal officials’ performance of inherently governmental functions, agencies are required to give special consideration to using federal employees to conduct the function. In cases where contractors are used to conduct such functions, special management attention is required on the part of the agency to guard against expansion into a role in performing inherently governmental functions. The policy letter includes examples of closely associated functions, as well as a checklist of responsibilities for management of contractors performing functions closely associated with inherently governmental functions, including contractual provisions to limit discretion, appropriately identifying contractor work as such when there is a risk of confusion with government work products, and maintaining sufficient and effective management and oversight of contractor performance.

The policy letter defines a critical functions as “a function that is necessary to the agency being able to effectively perform and maintain control of its mission and operations. Typically, critical functions are recurring and long-term in duration.” Due to the mission-oriented nature of this definition, whether a function is critical or not can vary by agency, but some examples are provided – for instance, performing mediation services for the Federal Mediation and Conciliation Service. The policy letter requires that agencies identify such functions “in order to ensure that they have sufficient internal capacity to maintain control over functions that are core to the agency’s mission and operations.”

While critical functions may be performed by contractor personnel (as long as they are not also inherently governmental), the policy letter requires that agencies have an “adequate number of positions filled by Federal employees with appropriate training, experience, and expertise to understand the agency’s requirements, formulate alternatives, manage work product, and monitor any contractors used to support the Federal workforce” with respect to critical functions. This determination should be based on a number of case-by-case factors, including the agency mission, complexity of the function, the need for specialised staff, and the potential impact on mission performance of a default of performance by the contractor.

Source: Office of Federal Procurement Policy, (2011), “Policy Letter 11-01, Performance of inherently governmental and critical functions,” Office of Management and Budget, www.gpo.gov/fdsys/pkg/FR-2011-09-12/pdf/2011-23165.pdf.

Table 2.7. Main challenges to the use of e-procurement systems

	Procuring entities					Potential bidders/suppliers						
	Low knowledge/ICT skills	Low knowledge of the economic opportunities raised by this tool	Low innovative organisational culture	Do not know	Low knowledge/ICT skills	Low knowledge of the economic opportunities raised by this tool	Difficulties to understand or apply the procedure	Difficulties in the use of functionalities (e.g. catalogue management)	Low propensity to innovation	Do not know		
Australia		No major challenges faced by procuring entities				No major challenges faced by potential bidders/suppliers						
Austria				•						•		
Belgium			•						•			
Canada	•			•			•	•	•			
Chile				•			•	•				
Denmark				•			•	•				
Estonia		•										
Finland				•						•		
France				•						•		
Germany	•	•	•			•	•					
Greece	•	•	•		•	•			•			
Hungary	•		•		•		•	•				
Ireland				•			•	•				
Italy	•		•		•		•	•	•			
Japan	•	•	•		•		•	•				
Korea	•		•		•		•	•				
Luxembourg				•						•		
Mexico	•	•	•							•		
New Zealand	•	•			•	•						
Norway		•			•	•			•			
Poland	•		•		•		•	•				
Portugal	•				•		•					
Slovak Republic		•			•		•	•				
Slovenia	•	•	•		•	•	•	•	•			
Spain		•	•		•	•			•			
Sweden				•						•		
Switzerland				•						•		
United Kingdom	•		•			•	•					
United States	•		•		•		•	•	•			
Brazil	•	•	•		•		•	•				
Colombia	•	•	•		•	•	•	•	•			
OECD 29	13	10	12	9	13	11	12	12	9	7		

Source: OECD (2015b), *Government at a Glance 2015*, OECD Publishing, Paris, http://dx.doi.org/10.1787/gov_glance-2015-en.

Additional innovations and next steps

Subcontract Management System for Government Contracts (SMSGC)

As in many country contexts, there were concerns in Korea regarding the treatment of subcontractors by government contract holders. While project owners are legally required to approve subcontracts, following an examination of the propriety and payment price, there was little transparency into the realities of subcontracting practice because most of these processes are conducted manually. This led to reports of a number of practices including post-award demands for price reductions, delayed payments or non-payment, and the use of dual contracts, one presented to PPS and another drawn up to represent the actual arrangement at less favourable terms to the subcontractor.

To address these issues, PPS established the SMSGC to allow project owners to more effectively manage the subcontracting process consistently and effectively. As with many elements in KONEPS, these benefits are largely realised through the elimination of manual processes throughout the entire subcontracting cycle, through payment to suppliers. The system came on line in December of 2013, and PPS is currently engaged in efforts to expand its use through promotional activities and trainings. For construction works and IT projects facilitated by PPS, project owners are recommended to include use of SMSGC as one of the terms of the contract. In addition, promotional video clips were developed and shared in major transit, online newspaper and social media venues.

After one year of operation, these efforts are showing results, with 588 public organisations (more than half of those conducting construction works valued at more than USD 1 million or software projects valued above USD 300 000 registered in the SMSGC system. The system was utilised in 772 projects valued at approximately USD 5.6 billion, dramatically exceeding the initial target of USD 2.7 billion for the initial deployment.

Given that many construction subcontractors, materials suppliers and IT companies are small and medium-sized enterprises, progress in ensuring proper payment – both on time (see Table 2.8) and the right amount - and the elimination of dual contracts serves as an additional and innovative way to support these communities. Digital management of these processes also provides another source of additional market data that can be used to better plan and conduct large procurements, over time.

Table 2.8. **Payment time improvement for subcontractors**

Types of payment		Legal deadline (A)	Average days taken through SMSGC (B)	Shortened days (A)-(B)
Subcontract payment	Progress payment	15 days	1.5 days	13.5 days
	Advance payment	15 days	4.3 days	10.7 days
Payment for construction material		15 days	1.3 days	13.7 days
Labour cost		2 days	0.8 day	1.2 days

Source: PPS response to OECD internal questionnaire, 2014 with updates in 2015.

Transfer of these functions to a digital system, which no longer requires an in-person review of subcontracting arrangements, is also projected to save more than USD 14 million per year in staff labour costs, if fully implemented across the public sector. To that end, PPS is working to amend the Act on the Use and Promotion of

Electronic Procurement to require the use of SMSGC for large construction and IT projects.

Opening KONEPS services to the private sector

While the adoption of e-procurement through KONEPS drives substantial efficiencies in public sector purchasing, many non-profit and small or medium-sized enterprises still conduct their own purchasing through paper-based processes. Even for those private sector entities that can justify the cost of implementing an e-procurement system for their own purchases, it is an investment cost that could be spent elsewhere, if an alternative existed.

The Act on Use and Promotion of Electronic Procurement of 2013 provided PPS with legal authority to begin allowing private entities to use KONEPS services for their procurement processes. Beginning with a pilot programme, this option launched in October of 2013 as KONEPS bidding services were opened for apartment complex management offices and farming and fishing cooperatives through a designated section within KONEPS. In 2014, the programme was further opened to non-profit entities. The development of standardised forms for private sector e-procurement occurred in June of 2014, and standard contract conditions were published in September of that year. To drive further expansion, a separate KONEPS system for private entities was launched in January 2015. Processing the entire e-procurement cycle, from e-contracting, pre-qualification, reverse auctions and e-invoicing, the system is expected to be available for use by up to 3.35 million small and medium-sized businesses (see Table 2.9).

Table 2.9. Implementation plan for opening KONEPS services to the private sector

	2013	2014	2015
Target	Apartment complexes, Farming and fishery cooperatives 30 000	Non-profit entities 10 000	Small and medium-sized enterprises 3 350 000
Process	E-bidding	-	E-contract, e-invoicing
The status of openness	Test	First expansion of openness	Second expansion of openness, Establishment of a separate KONEPS system for private entities

Source: PPS response to OECD internal questionnaire, 2014 with updates in 2015.

While participation by private sector entities is voluntary, promotion and education activities about the web-based procurement system are underway to raise awareness of the benefits that the system can bring for eligible small and medium-sized businesses. A variety of channels are being used to promote awareness, including press releases, public interviews with the Korea Broadcast System, newspaper contributions and subway advertisements, the development and distribution of an e-procurement guidebook and promotion events.

To date, 246 training sessions on procurement have been conducted for approximately 6 800 trainees. To target specific relevant sectors, training is offered at relevant meetings, such as training for apartment management officers at the general meeting of the Korean Housing Manager's Association. These efforts are showing results, as 439 e-biddings have been conducted through the system through December of 2014 with more than 3 209 private entities participating. Competition in these biddings was

strong, with an average of 7.8 suppliers per bid, and savings are estimated at 10.7% (amounting to USD 11 867).

Aimed at reducing administrative costs in procurement transactions across the country while increasing transparency and standardisation, this innovation has the potential to drive inclusive growth by levelling the playing field for private sector procurement. By reducing or eliminating the need for private sector entities, particularly small and medium-sized enterprises, to engage in inefficient and duplicative paper-based processes, this option will reduce the need for duplicative investments in conversion to e-procurement society wide, allowing additional capital to be better deployed in growing and developing those businesses.

Public Procurement Data System

While almost 70% of public procurement transactions occur via KONEPS, the remaining transactions, including defence procurement, procurement transactions by other public enterprises that use their own e-procurement systems and some manual transactions, are not currently captured in a centralised way. In 2013, PPS launched a Public Procurement Data System project to close this gap and provide policy makers and citizens with complete procurement transaction data across the entire public sector, enabling a better understanding of the procurement market and an analytical study on the policy results.

Proper legal authority for the project was established by the modifications of procurement laws including the Government Procurement Act (July 2013) and the Enforcement Decree on the Government Procurement Act (January 2014), giving PPS the legal authority to request data and establishing deadlines for government agencies to submit the requested procurement data.

Total public procurement encompasses procurements that occur in both electronic and non-electronic ways. Electronic procurement is carried out on KONEPS and 23 other electronic procurement platforms for specific procuring entities. Thus, data integration includes linking of the 24 e-procurement systems as well as central collection of manual records. A report will be prepared to present the data collected per government bodies, companies, and projects. Data will also be presented in infographics in order to facilitate end user comprehension.

The data integration faces some difficulties due to administrative burdens that are imposed on approximately 28 000 government agencies and delays in concomitant projects in some government agencies to improve their electronic systems, which were intended to facilitate the data integration. In order to alleviate the administrative burden on the collection of manually kept data, discussion on linking with other financial information systems is taking place, including the Educational Financial System, the Local Government Budget and Accounting System, the Local Public Enterprise Budget and Accounting System and the National Budget and Accounting System. Additionally, some difficulties arose due to the disparity of the information collected at each government agency and across different e-procurement systems. In response, new code mapping was provided to agencies where data were collected by different standards.

Provision and publication of data statistics on total public procurement on a monthly and annual basis and 103 specific reports based on the data are expected to increase availability of the data for companies and the public, and enhance transparency of the government budget. The reports will be made available on line.

Public Procurement Freight Information System for Government Commodities

In an effort to better utilise procurement data to further drive efficiency, PPS is pursuing the public disclosure of transportation data for government-contracted commodities. While more than 1 million public procurement contracts are conducted on an annual basis, there is currently no co-ordination of the logistics and shipping information related to these contracts. By sharing this information through a Public Procurement Freight Information System for Government Commodities, PPS would link freight information with the vehicle arrangement details of carriers, with the goal of reducing the freight carrier empty transfer rate.

As of May 2015, PPS is implementing a feasibility study to analyse the practices of the logistics industry in how information is collected on potential cargos, how such information is used for business operations, and how data on public contracts and scheduled deliveries could be effectively utilised. Combining original public contract data with additional details such as supply date, transportation, departure and arrival information, the goal is to enable long-term logistical planning. Open access to transportation information will be provided from June 2015, with the goal of establishing the full system between 2016 and 2017.

Key findings and recommendations

As an extensively developed e-procurement system, KONEPS contributes substantially to the efficiency, effectiveness and integrity of public procurement in Korea. In addition to these many contributions, additional developments are continuously underway to drive improvement. Beyond improvements to the public procurement system, continued expansion to allow use of KONEPS by private sector buying entities demonstrates Korea's commitment to driving investment and inclusive growth, especially among small and medium-sized enterprises.

KONEPS satisfies all of the components of Element VIII of the OECD Recommendation by providing an integrated e-procurement system that addresses all phases of the procurement cycle. Transparency is provided through the collection and publication of public procurement information, and access for vendors and other stakeholders is assured not only through standardised and simplified processes, but also through regular trainings and the availability of a help desk that is readily available to answer questions about the use of the system.

The “modular, flexible, scalable and secure” development required by Element VIII (ii) of the OECD Recommendation is also evident. Developed over time, KONEPS is continually improved through the addition of new functional modules. In addition to the historical development, this ability to adapt the system to new demands from public procurement stakeholders is evidenced by innovative new features such as providing KONEPS services for private sector purchasers. The commitment to security is demonstrated through the use of encryption and digital fingerprint technologies.

Providing this kind of simple, ready access also facilitates competition by lowering the barriers to entry for suppliers and other public procurement stakeholders. To this end, KONEPS serves to implement Element IV (ii) of the OECD Recommendation: “Deliver clear and integrated tender documentation, standardised where possible and proportionate to the need.” In addition to standardising many processes, which facilitates access by a broad range of participants, KONEPS implements tools that help ensure that “the extent

and complexity of information required in tender documentation and the time allotted for suppliers to respond is proportionate to the size and complexity of the procurement.”

The development of KONEPS also addresses Element VII of the OECD Recommendation, by implementing “processes to drive efficiency throughout the public procurement cycle in satisfying the needs of the government and its citizens.” By creating a single online portal for the posting of public procurement opportunities, KONEPS “streamline[s] the public procurement system and its institutional frameworks,” by reducing the need for duplicative systems in other institutions. Increased use by other buying entities despite the removal of mandatory use requirements demonstrates success in developing “a more service-oriented public procurement system... built around efficient and effective procurement processes and workflows to reduce administrative red tape and costs.”

KONEPS also collects “consistent, up-to-date and reliable information and use data on prior procurements,” consistent with Element X (i) of the OECD Recommendation. This data, combined with the other information that is available in or linked from KONEPS, serves to “promote fair and equitable treatment for potential suppliers by providing an adequate degree of transparency in each phase of the public procurement cycle,” (Element II [i] of the OECD Recommendation) and is publicly available, as appropriate, consistent with Element II (ii). It is also used for regular monitoring of the system’s functioning, as discussed in the previous chapter. Next steps in this area include further data integration with the other e-procurement systems operated in Korea, and to begin using the volume and variety of information available to develop more sophisticated procurement metrics and indicators to monitor the health and efficiency of the public procurement system.

The data collected by KONEPS also supports Element XII of the OECD Recommendation by allowing the application of “oversight and control mechanisms to support accountability throughout the public procurement cycle.” Complaints from suppliers are tracked from within KONEPS, and the outcome is publicly available, consistent with Element XII (iii). As discussed in the previous chapter, the availability of data from KONEPS supports internal and external controls and audits as required by Element XII (iv). Finally, the transparency of KONEPS and other features such as the elimination of many points of face-to-face contact between public procurement officials and suppliers is an expression of Element III(ii), implementing “general public sector integrity tools and tailoring them to the specific risks of the procurement cycle as necessary.”

KONEPS implementation also provides an example of good practice in areas that go beyond the OECD Recommendation. Implemented as part of a broader e-government development, the approach adopted by Korea is in line with the OECD Recommendation on Digital Government Strategies. Aligning the individual e-procurement strategy with digital government strategies ensures that they support and complement coherently overarching policy goals and public sector reform agendas (e.g. fostering more efficient public sectors, increasing transparency, promoting competitiveness and growth by providing fair opportunities).

Finally, the recent expansion of KONEPS to allow for use by private sector suppliers demonstrates an innovative approach to using public procurement to support inclusive growth and investment. Providing access to KONEPS functionality has the potential to dramatically increase efficiency for small and medium-sized businesses, by eliminating the need for burdensome paper-based procurement processes or the need to purchase and

implement an individual e-procurement system. This savings in resources can instead be used to further grow and develop small and medium-sized businesses, which are a critical component of the Korean economy.

Given the many strengths of KONEPS, the recommendations for action primarily address future developments and additional considerations that could be implemented. While there were some requests from buyers and suppliers regarding improvements to the search functions, most feedback regarding the functioning of KONEPS was very positive.

Summary of recommendations for action

- Improve KONEPS Online Shopping Mall search functionality for public buyers. Specifically:
 - The ability to filter searches by social objectives should be added to facilitate the achievement of social goals through public procurement.
 - The text-based search logic should be improved to generate better results when using natural language searching.
 - To the extent possible, more detailed hierarchies by category should be created to allow for a more convenient browsing experience of the items available in the Online Shopping Mall.
- Improve KONEPS tenders search functionality for suppliers. A progressive filtering option to narrow down open tenders by type, requirements for social category, etc. would be helpful for suppliers looking to identify relevant tender opportunities.
- Activate the dormant electronic auctions function within KONEPS. Even if only deployed in some cases of procurement requests that led to open tenders, electronic auctions have the ability to drive cost savings if used appropriately.
- Implement the Public Procurement Data System to improve procurement data collection and centralisation. Procurement data should be collected and centralised in a manner that eliminates the need for manual transmission and entry of statistics to satisfy reporting requirements.
- Building on this improved centralised data, develop procurement metrics and indicators to monitor the health and efficiency of the public procurement system.
- Continue to apply careful risk-management approaches as operation of the KONEPS system transfers from a private supplier to in-house control.

Note

1. This figure was originally reported in USD.

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