

CWS.ATR.PI.2012.KR

Annual Technical Report 2012 on Patent Information Activities submitted by Republic of Korea (CWS/ATR/PI/2012/KR)

Where URLs are requested below, it is preferred that either URLs which are likely to remain stable over time (three years or more) are provided, or home (main) page URLs are provided with a short explanation of how to access the corresponding information.

The term "patent" covers utility models and Supplementary Protection Certificates (SPCs). Offices which issue design patents should report their design patent information activities in their Annual Technical Reports on Industrial Design Information Activities.

I. Evolution of patent activities

Changes experienced in terms of application filings and grants with respect to the previous year

The changes in filings/grants for patents/utility models in 2012, compared to 2011, are as follows:

- Patents: filings (188,915, a 5.6% increase)/grants (113,467, a 19.8% increase)
- Utility models: filings (12,424, a 4.8% increase)/grants (6,353, a 8.5% increase)

URLs of web pages of the Office's website that provide statistics related to patents

http://www.kipo.go.kr/kpo/user.tdf?a=user.english.html.HtmlApp&c=97000&catmenu=ek07_03_01

II. Matters concerning the generation, reproduction, distribution and use of primary and secondary sources of patent information

Publishing, printing, copying (main types of publications of the Office in the field of patent information, etc.)

Gazette publication

PDF gazettes of Korean patents and utility models have been made available through the website of the Korean Intellectual Property Office (KIPO) since July 2001 for quick and easy access by the public. Additionally, the gazettes are offered by email to people who have subscribed to the mailing service. Furthermore, DVD-ROM gazettes are produced in XML format (up until February 2005 this data was produced in SGML format), to be distributed to 10 domestic and 19 foreign offices, twice a month. The gazettes on patents and utility models published in 2012 contained the following:

- 139,463 patent applications and 113,189 patent grants
- 9,008 utility model applications and 6,334 utility model grants

Data Management Center

In order to generate high-quality data for search purposes, KIPO has been operating the Data Management Center since May 2002 based on data collected from 13 domestic and foreign Industrial Property (IP) organizations as well as its publications. In 2012, the Data Management Center continued processing such data and conducting the following activities:

- i) Data quality management through data verification and refinement
 - Establishment of error verification business rules: 1,747 (2011) 5,252 (2012)
 - Error refinement of 4.23 million patent/utility model documents through data ownership
- ii) Dissemination and exchange of data
 - Dissemination of the data of approximately 33 million Korean patent/utility model documents
 - Publication of 268,000 patent/utility model applications on the Internet
 - Electronic exchange of 253,000 priority documents with other offices, including WIPO

Main types of announcements of the Office in the field of patent information

KIPO's Website

Through the daily publication of Internet gazettes containing the above items, visitors of KIPO's website (<http://www.kipo.go.kr>) are able to view the PDF gazettes which have been published within the three most recent months. In addition, they can also be provided with information on the topics of their interest through a push-mail service. Other key information announced at KIPO's website is as follows:

- Announcements about notifications that couldn't be delivered, due to changes in applicants' postal addresses without notifying KIPO
- Advance notice on patents expiring due to the non-payment of fees
- Other notices, such as changes in laws or fees

Word processing and office automation

With the launch of the KIPOnet system in 1999, almost all Industrial Property Right (IPR) administrative processes have been computerized, including the filing/receipt, examination, granting of applications, and trial-related procedures. Also, examination results are sent to applicants via email or SMS and official gazettes are published on the Internet. Below are the highlights of the upgrades made to the KIPOnet system.

- 2003 – 2005 (migration to KIPOnet II): Integrated and re-designed legacy subsystems, architectures, databases as well as the adoption of middleware and workflows; integrated networks and strengthened security facilities such as EAM, ESM, and SSO; launched a 24/7 nonstop e-filing service, a work-at-home examination system, an online PCT e-filing system, and a real-time notification service.
- 2006 – 2009: Set up the infrastructure for sharing patent information and examination results with other Industrial Property Offices (IPOs); launched WEB-PASS, which is a web-based e-filing system; started having automatic notifications mailed to applicants and handling semiconductor integrated circuit layout registration procedures online; improved our e-filing portal so that it allows individual users to more efficiently manage their patent affairs; developed a commercial MS-WORD-based editor to replace existing filing editors; and enhanced the fee payment system.
- 2010 – 2012 (migration to KIPOnet III): Launched a 24/7, nonstop examination system and an intelligent search system to assist more efficient prior art searches; started providing convenient functionalities for examinations such as drawing interpretation, electronic memos, and a citation analyzing tool; built a Server Based Computing (SBC) environment to prevent document leakages; and adopted up-to-date IT technologies such as e-government-standard framework, UTF-8 character set, and JAVA.

(New) techniques used for the generation of patent information (printing, recording, photocomposing, Optical Character Recognition (OCR), etc.)

Digitization Center (Data Conversion Center)

Since January 2001, the Digitization Center, the operation of which has been entrusted to the Korea Institute of Patent Information (KIPI), has been digitizing paper-based applications for patents and utility models, amendments, and all of the other intermediate documents. The center automatically receives applications and performs formality checks and data conversions on them. Delays and errors during the conversion process are avoided through the use of state-of-the-art technologies, such as multi-OCR, dual-key inputs, automated verification of electronic data, and color-scanning for documents attached to applications. In 2012, the Center digitized a total of 281,267 documents. In all, about 1,098 different kinds of paper-based documents, including 3,577 patent applications, 1,152 utility model applications, and 59,656 trial decision-related documents.

URLs of web pages of the Office's website that provide access to online publication of patent documents and gazettes, and to other primary and secondary sources of patent information, including patent publication servers and download of bulk patent data

<http://eng.kipris.or.kr/>

III. Matters concerning abstracting, classifying, reclassifying and indexing of technical information contained in patent documents

Abstracting, reviewing, translating

Korean Patent Abstracts

For the purposes of international information sharing and overseas protection of Korean industrial property rights, the Korean Patent Abstract (KPA), a publication of the abstracts of domestic patent applications and grants in English, has been provided on CD-ROMs or via FTP to 39 national IPOs, including the JPO, SIPO, and the USPTO, as well as seven organizations including WIPO and the EPO. As of the end of 2012, the number of patent applications which have been published in KPA amounts to 1.84 million.

Classification¹, preclassification² (if applicable), and reclassification³ activities; Classification system used, e.g., International Patent Classification (IPC), other classification (please indicate whether or not patent documents are classified by your Office and, if so, which classification is used)

International Patent Classification

KIPO's official classification system for patents and utility models is the International Patent Classification (IPC). Pre-classification is outsourced to a professional agency and each examiner decides which subgroup an application should be classified under.

In 2012, 214,018 applications were classified according to the IPC (version 2012). Additionally, 50,578 applications related to the classes "A61F, A61G, B60R, B62K, B62M, C12S, F41B, G04C, G04G, G06Q, G06F, G09G, G10L, G11B, H01G, H01L, H04B, and H04L" were reclassified in accordance with the 2013 version of the IPC.

Hybrid system indexing

When an IPC is identified for each application, a hybrid system, which consists of classification codes and complementary indexing codes, is used for easier searches of technologies in applications.

IV. Search file establishment and upkeep

File building

To facilitate its examiners' search, KIPO has built a database of patents and utility models on its patent search system. It is comprised of domestic data such as full texts of Korean patent and utility model applications published as far back as 1983 and Korean patents and utility models granted since 1947, in SGML/XML and image files. It also includes foreign patent data, which is continuously being collected from the EPO (FPD and IFD), the JPO (Patent Gazettes, Search Master and PAJ) and the USPTO (Patent Specifications), along with publications from Australia, Canada, China, France, Germany, Russia, Taiwan, and the United Kingdom. As of the end of 2012, the number of such items in KIPO's search system had reached over 176 million, comprising of about 7.2 million domestic patent documents and 169 million foreign patent documents. In particular, in 2012, KIPO's activities were focused on the establishment of an advanced patent data quality management system by building enterprise data architecture for KIPOnet III and formulating a system for analyzing and managing patent data flow, more specifically by making related system, instruction and procedures.

Storage, including mass storage media

Storage configuration

Depending on the use and importance of the relevant data, KIPOnet's storage configuration is divided into two sections: an IPR administration section and a search section. The IPR administration system uses RAID 1 for its integrated database, imaging data (as original data) and XML data, using 50% of the disk (the rest of the disk is used for mirroring), while forming a Shadow Image that facilitates quick daily backups and recovery. On the other hand, the search system applies RAID 5 using 75% of the disk (the rest of the disk is used for parity) for search data, index data, large-sized images, and representative drawings.

Documentation from other offices maintained and/or considered part of the available search file

Foreign data available through KIPO's search system includes the following:

- Bibliographies: Search Master (JP/1975~), DocDB (EP/1974~), UK(1991~), Canada (1999~), Australia (1998~), Germany (1991~), France (1992~)
- Abstracts: Japanese Patents (JP/1975~1996), Taiwanese Patent Applications (TW/2003~), Chinese Patent Applications and Granted Patents (CN/1985~)
- Full Texts (or full images): Japanese Patents and Utility Models (JP/1975~), USAPat (US/1975~), Espace A (EP/1978~), Espace-B (EP/1990~), Espace-world (EP/1978~Nov. 2002), Impact Rule87 (Dec. 2002~), etc.

V. Activities in the field of computerized and other mechanized search systems

In-house systems (online/offline)

KOMPASS (Korean Multifunctional Patent Search System)

Since it was first launched in June 1996, KIPO's patent search system has been continually improved in its functionality along with data accumulation. In July 2009, it was renamed 'Korean Multifunctional Patent Search System (KOMPASS)' with the implementation of the WEB2.0 search interface. KOMPASS now supports simple and convenient searches of full text data collected from the patent gazettes of foreign IPOs such as the EPO, the JPO, and the USPTO, including KIPO's domestic publication data. Below are its main features and functions:

- Full text/Keyword search for the above mentioned domestic/foreign publications and non-patent literature such as theses, reports and periodicals, including electronic journals such as IEEE and ScienceDirect
- Keyword expansion search: embedded thesaurus dictionary and automatic translation of Korean inquiries into English/Japanese in order to search documents
- Machine translation: translation of Japanese/English documents into Korean
- Classification code search: code search by keyword and IPC mapping with US CLASS, ECLA, FI and F-Term
- Upgrade of search engine (i.e., K2, Docruzer, Search Formula-1) and the adoption of Ria technology for the improvement of performance and user convenience
- Other functions: keyword highlighting, window help-formatted manual, etc. for user convenience

Particularly in 2012, KOMPASS employed a data collecting process on standard-related patents and documents and enlarged more documents thereof, as well as included some additional functions for improving the efficiency of examination businesses. It also incorporated the full-text retrieval of Chinese patents and a Chinese to Korean machine translation service thereof.

Online Work-at-Home System

Since March 2005, a remote online work-at-home examination system has supported examiners who volunteer to work from home. They are enabled to securely access the KIPOnet system from the comfort of their homes through a VPN, fingerprint identification system, and a government public key infrastructure (GPKI). To prevent the leakage of undisclosed patent documents, Digital Rights Management (DRM) technology has been incorporated into the system. In an effort to make the work-at-home system more efficient and better managed, an additional system was developed and incorporated into the work-at-home system in November 2008. The new system facilitates the receiving of applications online from prospective work-at-home examiners, the recording of their work hours and the management of the list of undisclosed patent documents. As of the end of 2012, 60 patent examiners were utilizing this system.

External databases

Through an integrated interface, our examiners efficiently search non-patent literature such as the databases of ScienceDirect, IEEE, and CA. In addition, a variety of journals such as JJAP, BCSJ, ACS, OSA, Science, Nature, Wiley-online, Springer, AIP, APS, Westlaw and LwanB, and academic journals such as DBPIA, KISS, Merck Index, IOP, ASPB, OUP, MSL, RSC, SPIE, STN, is provided via the Internet.

Administrative management systems (e.g., register, legal status, statistics and administrative support)

KIPOnet has many sub-systems that support managing data produced during the various phases of the IP administrative processes, such as, dealing with matters that originate in the transfer of data from one phase to another and streamlining search-related administration. Below are some of those sub-systems:

General Information Management Subsystem

The General Information Management Subsystem generates a variety of statistical and policy data on patents, utility models, industrial designs, and trademarks by using a variety of information retained in KIPO's databases. The system efficiently manages large volumes of data and provides end-users with various functions and tools with which to access the data.

Electronic Approval and Routing Subsystem

The Electronic Approval and Routing Subsystem enables electronic approvals of IPRs and general administration processes. The system comprises of two major parts: an approval system for IPR examinations which was introduced in 1999; and an approval system for general administration, launched in June 2000. The approval system for general administration was replaced with the Onnara System in January 2007. The Electronic Approval and Routing Subsystem is used for the following:

- Electronic approval: preparation, approval, dispatch and receipt of electronic documents; management of a document box; and circulation of documents
- Electronic mail: preparation, transmission, receipt, and management of emails
- Electronic bulletin board: for the submission of posts and reviews
- Management and preservation of records
- Convenient functions such as notification and scheduling services

The system has a pop-up window feature, which shows messages on the approval status of documents and can be used for managing individual schedules. The electronic approval system was used for 98.85% of the documents approved in 2012.

Knowledge Oasis

For the efficient management of the myriad of knowledge and information created by KIPO's staff, the Knowledge Management System was launched in October 2001 and was renamed Knowledge Oasis (KOASIS) in 2006. KOASIS supports KIPO staff members in sharing knowledge through the bulletin board of the KOASIS website. Furthermore, it offers a keyword search function for gleaning details of approved documents and allows KIPO staff to utilize various management tools, such as knowledge maps, knowledge warehouses, personalized portals, and cyber knowledge communities. In addition, the system enables KIPO to share ideas and knowledge with 18 external R&D institutes including the Electronics and Telecommunications Research Institute through an online Q&A communication corner. Some high quality information posted on KOASIS is available to the public through KIPO's homepage and private search portals like Naver. Since November 2007, it has also been linked to the Government's Knowledge Management System for more extensive information sharing between government agencies. In 2008, a 'WIKI Corner' and a multi-dimensional knowledge map were built for more efficient use of KOASIS and in 2010 an integrated search function of the accumulated knowledge and a trade functionality for "knowledge mileage" were added to KOASIS. Particularly in 2012, legislation information including case information was included to KOASIS.

Equipment used (hardware, including the types of terminal and network used, and software), carriers used

Hardware

As of the end of 2012, KIPOnet had 52 UNIX Enterprise servers, 98 NT servers, and 140 Linux servers. For higher availability, individual servers are clustered for the e-filing system, IPR administration system, and search system and particularly between the Homepage Server and the Portal Server. In case of system failures, the cluster paired systems temporarily substitute for each other. The combined storage capacity of the 35 servers is 1714 terabytes including 16 SANs. The peripherals consist of 7 backup devices, 3 jukeboxes and 505 sets of network equipment. The improvements made in terms of hardware performance in 2012 are as follows:

- Introduction of new IT resources and replacement of old ones for KIPOnet: 16 servers, 13 NT servers and 7 SANs
- Stabilization of KIPOnet III's Server-Based Computing (SBC) environment
- Improvement of the service stability of the public search system: a 50% increase in the disk resource use of the application server
- System optimization for the improvement of HP-UX systems by transferring the common section disk from the Network File System to the Network Attached Storage and replacing examiner search engine server with a new one for better system performance
- Inspection of the availability of those clustered e-filing/homepage systems and administration/search/general information management systems through server-duplexing tests
- Increase of the KIPOnet's stability through the installation of a security patch (4 times)

Network

In 2012, KIPO's activities to enhance network and security for the KIPOnet system include:

- Enhancement of KIPO-Cloud network: L3Switch (2 sets)
- Replacement of outdated equipment in Seoul Branch: L3Switch (1 set)
- Extension of security license for user section: L2Switch (39 sets)
- Installation of 2 sets of network analysis equipment for checking user response time between NCIA Gwangju and Seoul Branch
- Improvement of security vulnerability of communication equipment and related protective activities (4 times)
- Dualizing tests for more stable operation of network equipment including communication lines (4 times)
- SBC networking configuration for KIPOnet III: L4 Switch (4 sets), L3 Switch (4 sets)

KIPO-Cloud

- Server: Blade (94 sets), NT (15 sets), Unix (1 set)
- Storage: 10 sets (1,863TB)
- Virtual desktop PCs: 1900 sets for KIPO staff members in 2011 and 300 sets for outsourced PCT-related researchers in 2012
- System stabilization and improvement: 1) handling approximately 1500 user requests since its launch, 2) performance improvement (34-50 percent of extension in CPU and Memory, adoption of SSD for increasing the booting speed, provision of a function of one-click access), 3) structure diagnosis and improvement for the establishment of a cloud operation system (creation and completion of 13 tasks in 4 sections), and 4) check-up for the dualized system to prevent system failure

Software

For databases, performance tests and recovery practice tests are regularly conducted with support from Oracle. In addition, KIPO introduces and upgrades system software such as DBMS, web servers and middleware to improve the KIPOnet system's performance and functionality. As of the end of 2012, about 361 commercial software applications were in use. The software applications can be grouped into three major groups, as follows:

- 288 perpetually licensed software including DBMS and web servers
- 8 subscription-licensed software including Vi Robot and other security products
- 65 packaged software for KOASIS, web mail, messenger, performance management system, electronic approval system, career development management system, Call Center, DW, Homepage portal, ITA/EA, DQM, open-end statistics portal, and e-filing portal

VI. Administration of the industrial property office library, and information products and services available to the public (relating to facilities, e.g., for lodging applications, for assisting clients on searching procedures, for obtaining official publications and registry extracts)

Planning, administration, automation, security, buildings

The Information Policy Bureau organizes comprehensive services for the public by managing the IP Digital Library and the e-Filing Portal System, while other departments support customers according to their specific duties and responsibilities.

e-Filing Portal System

The e-Filing Portal System was established to transform KIPO's website into an online service portal for the online community. Owing to this service, applicants can file their applications online and pay relevant fees via Internet banking. They are informed of the legal status of their applications via e-mail and/or SMS, while enterprises through a HTML-based service titled "How is my application going?", and universities, institutes and IP law firms can do the same through a SOAP-based web service. Applicants can also request and receive certificates such as priority certificates via the Internet and check the progress of their request. In addition, a public service for informing applicants of the time of their applications' examination in advance, has been made available since October 2006. This e-Filing Portal System is linked to the WEB-PASS, which is a web-based, e-filing system used for receiving intermediate documents and grant/trial-related documents, as well as all types of IPR applications. Furthermore, in 2010, 12 kinds of mobile applications were introduced into this System in accordance with the rapid proliferation of smart phone users. In 2011, for users' convenience, e-filing software suite was unified, along with the improvement of the 'Help' function and in 2012 user authentication-related functions were enhanced.

IP Digital Library

The IP Digital Library located at KIPO's headquarters supports its customers by enabling them to search for patent information in a variety of formats including online, microfilm, and paper, as well as for any non-patent literature the library possesses. They can also order copies of published patent applications as filed. The statistics for such copy and view services for 2012 are as follows:

- Patent literature: 614 users and copies of 8,453 sheets
- Non-patent literature: 12,557 users and copies of 27,774 volumes

Customer Service Center

To integrate scattered counseling resources and promptly provide technical advice, the Customer Service Center was established in March 2002. Its main services are on the following issues:

- Procedural and technical advice on (electronic) filing, examination, grant, trial, search and use of patent information, as well as on international patent applications
- Use of the Expert System (e-filing support system) and remote consultation
- Consultation through mobile web/app or Twitter
- Angel Call service, informing applicants in advance that their applications would be closed along with suggesting reasonable solutions

Security

In 2012, the establishment of SBC environment was completed, which was initiated for the purpose of the enhancement of the security of patent information.

Against external attack threats, network-based security systems such as UTM, Firewall, IPS, and VPN have been utilized. In addition, DB security tools are used for preventing illegal access to confidential unpublished databases and the extended application of SecureOS is also useful for authorization control to servers.

KIPOnet won the ISO 27001 certification in 2006, recognizing its highly secure web services for applicants, SecureOS for servers, individual information protection marks, and secure site mark. Accordingly, among government departments, KIPO has won the top spot in security assessment consecutively (from 2009 to 2012) and in personal information protection in 2012.

Collection management, preservation

IP Digital Library

The IP Digital Library archives patent documents, such as bibliographic data, abstracts and full texts, in a variety of media such as paper, microform, CD-ROM, and DVD-ROM. The documents are obtained through exchange agreements with 18 countries and 4 international organizations, including the USPTO, WIPO, and the EPO. The library also has non-patent literature (some of which has been donated, while others were purchased), comprising of over 34,117 volumes and 546 kinds of periodicals related to science and technology, and CD-ROMs of annual reports and statistics. The collections are arranged according to their category and volume number. KIPO examiners and the public are allowed access to this collection. The electronic database is provided at the Internet corner of the IP Digital Library. The library also offers original copies of electronic materials, such as electronic journals and e-books.

Interlibrary lending, resource sharing, networks of patent libraries in the country

Cooperation between Libraries

KIPO has shared IP related publications and information with:

- The Korea Institute of Science and Technology Information through DDS (Document Delivery Service) for complimentary or subscription-based materials and through the NDSL (National Digital Science Library) service which provides access to the academic theses and scientific journals of 720 domestic libraries and information centers
- The National Assembly Library since 2002 on over 7.55 million volumes of theses, government publications, seminar materials, and books
- The Korea Education & Research Information Service through WILL (Web Inter Library Loan) and DDS.

Information services available to the public (including computerized services and search files contained in libraries remote from your Office and patent information posted by your Office on the World Wide Web)

Website Services

KIPO's homepage (<http://www.kipo.go.kr>) is an information portal for its customers. General information on IP and some individual announcements, such as undelivered notifications due to the changes in an applicant's address, notice on patents expiring due to the non-payment of fees, etc., are available at the website. Also available on the website are the Internet gazette search service and notifications based on customers' areas of interest through a push-mail and/or an SMS service. To facilitate access to IP information available on the website by the sick, aged and/or disabled, the web technologies defined by W3C and a voice service have been implemented. The voice service reads texts on the website out loud for the benefit of people who cannot see or read. Web standards have been implemented for the access under diverse web browsing environments and I-PIN for the protection of personal information.

Besides, there are two additional domains for our public: one is for online filing services (<http://www.patent.go.kr>), which was completely separated from KIPO's homepage in 2009 and the other is for mobile services (m.kipo.go.kr), which was built in 2010 to meet the needs of smart phone users.

Korea Industrial Property Rights Information Service

Since January 2001, domestic IPR information (including KPAs) has been offered free-of-charge through the Korea Industrial Property Rights Information Service (KIPRIS), which is available at <http://www.kipris.or.kr>. The service covers published patent and utility model applications in PDF (including the SGML-formatted publications before July 2001), up-to-date information on the legal status of applications including grant and trial related information. It also bibliographic data and abstracts from Australia, Canada, Russia and Taiwan, as well as the full texts from the EPO, JPO, USPTO, and WIPO. For foreign users, the English version of KIPRIS offers 'K2E-PAT' service that is a real-time machine translation service for the full texts of Korean patents and utility models into the English language.

In 2012, the number of search hits by visitors was over 33 million while the number of visits was 17.9 million. Additional achievements are as follows:

- Database of 10 million domestic documents and 40 million foreign documents (on the basis of applications)
- Launch of mobile search service and the improvement of the Korean/English homepage
- Enhancement of web accessibility to KIPRIS and observation of web standards
- Production of a video manual and launch of a separate homepage for beginners

IP Mart

In April 2000, the Internet Patent Mart, so-called IP-Mart, was launched to create opportunities for transferring patented technologies online and to overcome the limitation of short-lived traditional technology fairs. It provides a variety of IP information to individual inventors and SMEs to promote innovation. To be specific, an online auction system for patented technologies was launched in 2007 and it was shifted to a standing market in June 2011. In 2012, the IP-Mart database grew to a total of 59,944 technologies with 95,772 members, while 196 technology transfers were made.

URLs of web pages of the Office's website for electronic filing of patent applications

<http://www.patent.go.kr>

URLs of web pages of the Office's website that provide information on business procedures such as: filing, publication, examination and grant procedures related to patents; opposition and appeal procedures related to patents; etc.

http://www.kipo.go.kr/kpo/user.tdf?a=user.english.html.HtmlApp&c=92000&catmenu=ek03_01_01

URLs of web pages of the Office's website that provide a description of information products and services offered by the Office (e.g., patent search service(s) and patent databases), as well as information on how to access and utilize them

<http://www.kipris.or.kr>

VII. Matters concerning mutual exchange of patent documentation and information

International or regional cooperation in the exchange of machine-readable information, e.g., bibliographic data, abstract and/or full text information

As of the end of 2012, patent documents were being collected from 25 offices including the EPO and WIPO. In particular, bibliographic, image, and full text data is regularly obtained from Australia, Canada, China, the United Kingdom, and Taiwan as well as from the EPO, JPO, and USPTO. This data is loaded onto our search system for our examiners' reference. IT experts' meetings with the EPO, JPO, SIPO, USPTO, and WIPO on the use and dissemination of patent information as well as on the electronic exchange of search databases, including priority documents, are ongoing.

Dissemination of Korean patent information by K-PION

To help the examiners of foreign IPOs with their examination, KIPO launched a Korean to English (K2E) translation service for publications on patent/utility model applications, the so-called "the Korean Patent Information Online Network (K-PION)," in November 2005, which is now available at <http://k-pion.kipo.go.kr/>.

The K-PION service is operated 24/7 based on a K2E translation engine which has been customized for patent documents with approximately 3.7 million technical terms and sentence patterns. It covers translation of file wrapper information and English keyword search for publications (or gazettes), including KPAs. In addition, K-PION has been supplemented with the dictionary of 10,000 frequently used phrases and sentences extracted from examination-related documents and gazettes published (from 2008 to 2010) in 2011 and approximately 200,000 frequently used words in 2012.

Trilateral Document Access Services

KIPO launched the TDA-FWA (Trilateral Document Access-File Wrapper Access) system in order to share examination results online with the JPO under a project called the Korea-Japan Patent Prosecution Highway in April 2007. It was also linked to our internal system in July of the same year. The TDA-FWA was extended to the USPTO in November 2008 and to the EPO in January 2012 in order to reduce period of examination and to increase the quality of examinations in both offices, ultimately strengthening the international protection of industries and technologies of each country.

One Portal Dossier (OPD)

In 2012, KIPO developed its One Portal Dossier system, which is an Internet-based search system to allow the retrieval of examination information for IP5 family applications with application (or publication, priority) numbers at a time. The system is supposed to be launched in the second half of 2013 after taking server connection tests among the IP5 offices (EPO, JPO, KIPO, SIPO, and USPTO) from January to June 2013.

Medium used for exchange of priority documents

The electronic exchange of priority documents with the JPO started via CD-ROMs in July 2001 and was made possible online in August 2002. Since April 2008, it has been conducted using TDA, which fully automates the priority document exchange process. The TDA method has also been extended to both the USPTO in October 2008 and the EPO in December 2008. The number of priority documents exchanged via TDA in 2011 was 10,813 between KIPO-JPO, 3,209 between KIPO-EPO, and 23,115 between KIPO-USPTO.

In addition, KIPO has also exchanged priority documents with AU, CN, DK, ES, FI, GB, and SE through WIPO Digital Access Service (DAS) since July 2009.

Medium allowed for filing applications

KIPO allows applicants to file applications either online, on paper, or via floppy disks. All paper-based applications are converted into an electronic format. In 2012, the e-filing rate for patent applications rose to an average of 98.2% of total applications, while utility model applications went up to 91%.

VIII. Other relevant matters concerning education and training in, and promotion of, the use of patent information, including technical assistance to developing countries (please indicate URLs of web pages of the Office's website wherever appropriate)

Training courses for national and foreign participants, use of audiovisual means

National IP Education Portal

The National IP Education Portal was opened in May 2002. It is managed by the International Intellectual Property Training Institute (IIPTI) and offers general training programs to a diverse group of people interested in IPRs and inventions, ranging from elementary school students to senior citizens. In 2012, the Portal managed 192 e-learning courses and hosted approximately 355,195 users. It provides on-and off-line blended training courses and customized programs for enterprises and university students, with up-to-date technologies such as mobile learning programs, smart Apps, and broadcasting for human resources in SMEs and R&D institutes. Moreover, it has been supplemented with ten kinds of story content combined with IP and open education resources for the public.

International Intellectual Property Training Institute

In 1987, the International Intellectual Property Training Institute (IIPTI) was established in Seoul as an affiliate of KIPO. It initially offered 11 IPR training courses. In February 1991, it moved to the Daedeok Science Valley in Daejeon with the support of WIPO and the United Nations Development Programme. The IIPTI offers the following training programs, depending on the targeted trainees:

- Government officials: Focused on programs which are customized depending on trainees' level/grade and enhance their international capacity, such as the WWA DL-101 Course and general courses for examination and trial services.
- R&D personnel: Continued providing customized programs for R&D personnel and the IP staff of enterprises (particularly in 2012, 1,113 trainees from 11 organizations benefited from this.) and also training IP hands-on workers from enterprises and patent attorneys' offices (in 2012, 557 trainees benefited from related six courses.)
- Foreign trainees (international courses): eleven courses are offered for foreign trainees jointly with WIPO and KOICA, targeting IP personnel from developing countries on Korean IP legal systems and IP development strategies, etc.
- Students and teachers: five courses are offered to students in order to cultivate their creativity and six courses to teachers in order to help them facilitate the creativity of their students.
- Next generation entrepreneurs: To train business people on future-oriented, new growth industries, particularly by offering special courses based on IP to gifted students at special centers in KAIST and POSTECH.

KIPO-WIPO Joint IPR Education Projects

WIPO and KIPO have jointly managed a blended IP program based on IP Panorama, targeting WIPO member states called the Advanced International Certificate Course. In 2012, 618 trainees from 96 countries took the online course and 28 trainees from 11 countries attended the offline course of the blended program. In collaboration with the WIPO Worldwide Academy (WWA), KIPO has also offered the DL-101 course that covers the main areas of IPR in English to students of domestic universities that are affiliated with KIPO. Students, who take these courses, are issued with WIPO WWA and KIPO joint certificates. In 2012, 1,827 students in 14 universities completed the course. As part of an effort to globally raise the IP awareness, moreover, KIPO finalized the review of newly-developed content named "IP Ignite," jointly with WIPO and suggested to WIPO Innovation Division that a mobile version of IP Panorama be developed.

Assistance to developing countries (sending consultants and experts, receiving trainees from developing countries, etc.)

PCT-ROAD

The PCT Receiving Office Administration (PCT-ROAD), which was developed in conjunction with WIPO using the Korea Funds-in-Trust at WIPO in May 2005, supplemented the function of the PCT-EDI (Electronic Data Interchange) to enable the online exchange of PCT-related documents in 2007. Particularly, in February 2009, KIPO and WIPO jointly held a PCT-ROAD user training program titled 'In-depth Training Program on the PCT E-Processing System,' targeting patent examiners from five IPOs including Egypt and Malaysia, to give them a better understanding of the PCT-ROAD system and thus facilitate their efficient use of PCT-ROAD. As of 2011, it had been distributed to 30 countries, including Malaysia, the Philippines, and Thailand. In December 2011, PCT-ROAD was migrated to be optimized for the WIPO ePCT project. In 2012, KIPO also conducted a project to advance PCT-ROAD: 1) building and testing a virtual environment for medium-sized PCT receiving offices (i.e., test bed), 2) reflecting WIPO's electronic processing standard model for PCT application and record copy packing process, and 3) providing a technical support for PCT-ROAD user offices such as Malaysia and Brazil.

Promotional activities (seminars, exhibitions, visits, advertising, etc.)

2012 PATINEX

To exchange information and facilitate the use and dissemination of IP information, an annual IP conference titled PATINEX (PATent INformation EXpo) has been conducted by KIPO since 2005. The conference comprises of three events: a conference which focuses on the introduction of strategies and practices of IP information; an exhibition which shows diverse up-to-date services and solutions of IP information; and a workshop where participant service providers give in-depth consultations on the use of IP information. The eighth PATINEX was held in September 2012, consisting of:

- Conference: under the theme 1 "The Ins and Outs of European IP Information" and theme 2 "Emerging IT Trends and Utilization of IP Information US IP Information"
- Workshop: to give IP information service providers an opportunity to promote and market their products and services at 19 exhibition booths

Studies to identify trends in new technology, e.g., by the use of patent statistics and preparation of monographs

Survey and Analysis of Patent Statistics

To encourage the greater use of valuable patent information for R&D, an analytical report titled Patent Trends of Korea is being periodically published. In 2012, it reported the results from the analysis of the trends of approximately 1.58 million patent applications filed from 2000 to 2011. The data was analyzed in terms of country, region, technology, and industrial area and the results are posted on KIPO's website.

IX. Other general information related to the Office that is available on the Internet -- URLs of web pages of the Office's website that:

provide information on legislation related to patents

http://www.kipo.go.kr/kpo/user.tdf?a=user.english.html.HtmlApp&c=60201&catmenu=ek07_02_01

contain the Annual Report of the Office

http://www.kipo.go.kr/kpo/user.tdf?a=user.english.html.HtmlApp&c=60111&catmenu=ek07_01_01

contain patent-related news regarding the Office

http://www.kipo.go.kr/kpo/user.tdf?a=user.english.board.BoardApp&board_id=kiponews&c=1001&catmenu=ek06_01_01

X. Other relevant matters

1.	Classification is allotting one or more classification symbols (e.g., IPC symbols) to a patent application, either before or during search and examination, which symbols are then published with the patent application.
2.	Preclassification is allotting an initial broad classification symbol (e.g., IPC class or subclass, or administrative unit) to a patent application, using human or automated means for internal administrative purposes (e.g., routing an application to the appropriate examiner). Usually preclassification is applied by the administration of an office.
3.	Reclassification is the reconsideration and usually the replacement of one or more previously allotted classification symbols to a patent document, following a revision and the entry into force of a new version of the Classification system (e.g., the IPC). The new symbols are available on patent databases.