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Korean Intellectual
Property Office

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Korean Intellectual
Property Office

YOUR INVENTION PARTNER, KIPO

ANNUAL REPORT
2016

Message from the Commissioner

Starting in 2016, the global economy began to face big challenges with the advent of the 4th Industrial Revolution. As the Korean governmental agency primarily responsible for overseeing intellectual property rights (IPRs), which is the foundation of this challenge, the Korean Intellectual Property Office (KIPO) strives to implement its intellectual property (IP) administration in such a way to strengthen the nation's competitiveness.

Domestically, KIPO has put as great an emphasis as possible on further developing its examination services, as well as promoting economic sustainability through a virtuous cycle of IP creation, utilization, and protection. On the international front, we strengthened our cooperative ties with foreign IP offices and other international organizations we regularly interact with.

In order to maintain one of the world's fastest first action pendency and better ensure high-quality examination, we expanded outsourcing prior art searches and facilitated conducting various types of cooperative examinations including consultative examination among examiners and crowdsourcing examination. This was to enable examiners to maximize their time efficiency by helping them stay focused on their examinations.

This has resulted in some significant changes which indicate that the quality of our examination is increasing. The ratio of patent registration and ratio of appeal against a rejection decision was lower compared to 2015.

The year 2016 marked the 51st Korea's Invention Day, encouraging us to look ahead to what might be achieved over the next fifty years. So in celebration of this day, KIPO hosted an event which included a commemorative movie screening, ceremony performance, and outstanding invention exhibition to raise IP awareness. Further, inventors who made significant contributions to society were honored.

In addition, we prepared a blueprint for a nation-wide patent strategy, and we conducted patent trend surveys covering more than 3,100 Korean governmental R&D projects. We also provided support for the creation of high value-added standard-essential patents (SEPs), as well as for product development that takes into account IP rights and incorporates patenting, branding, and design.

To help support small and medium-sized enterprises (SMEs) possessing outstanding patents and cutting-edge technology, we established an IP financing system that allows them to use their IP as collateral for attaining substantial loans. In 2016, we expanded this system to include participation from private banks, rather than limiting it solely to public banks. The result was an accumulative sum of around 261.3 million USD lent to SMEs.

Moreover, 199 KIPO-funded Invention Education Centers throughout the nation provided IP education to elementary, middle, and high school students, thereby contributing to increased public IPR awareness and the fostering of a new national talent pool of inventors.

We endeavored to raise the level of Korea's IPR protection, so we launched nationwide promotions and campaigns to promote public participation in helping to abolish counterfeit goods. Also, we systematically cracked down on IP infringers and seized a total of 584,094 counterfeit goods.

Furthermore, we expanded our multilateral and bilateral cooperation in order to better improve the global IP system.

In February 2016, KIPO signed a Memorandum of Understanding (MOU) with the UAE for Korea to export its patent automation system; a project which will enable the UAE to conduct their patent and design administration (i.e., application submission, examination, registration,

and fee payment) online and is valued at around 4.5 million USD.

We conducted appropriate technology and brand development projects in 2016 with Vietnam and Indonesia, and held appropriate technology competitions in the Dominican Republic as well as Thailand. With these projects, we shared IP globally to resolve the difficulties of daily living and to help increase quality of life in developing countries. Based on these experiences, we held the "Global IP-Sharing Korea" event in August 2016, in Seoul, to share our successful experiences in transforming from an aid recipient to donor country through IP sharing projects as a member of the IP field.

Last but not least, at the 2016 IP5 Heads Meeting, held in Tokyo, Japan, we agreed with the other IP5 offices that each office would, through adopting a joint declaration, explore cooperating in terms of office responses to emerging technologies, such as the internet of things (IoT) and artificial intelligence (AI) as well as assessing the impact of these newly emerging technologies on the overall IPR system.

Last year's achievements would not have been possible were it not for the continued interest and support shown by our numerous stakeholders and IP service users, both foreign and domestic. We at KIPO will lead the creation of strong and flexible IP and thoroughly prepare for the 4th Industrial Revolution in our resolve to facilitate economic growth and innovation.

It is my great pleasure to be involved with publishing this year's annual report, which contains information on KIPO's primary activities and overall performance results for 2016. I hope it serves to provide you with a better understanding of our recent projects and overarching vision for the future.

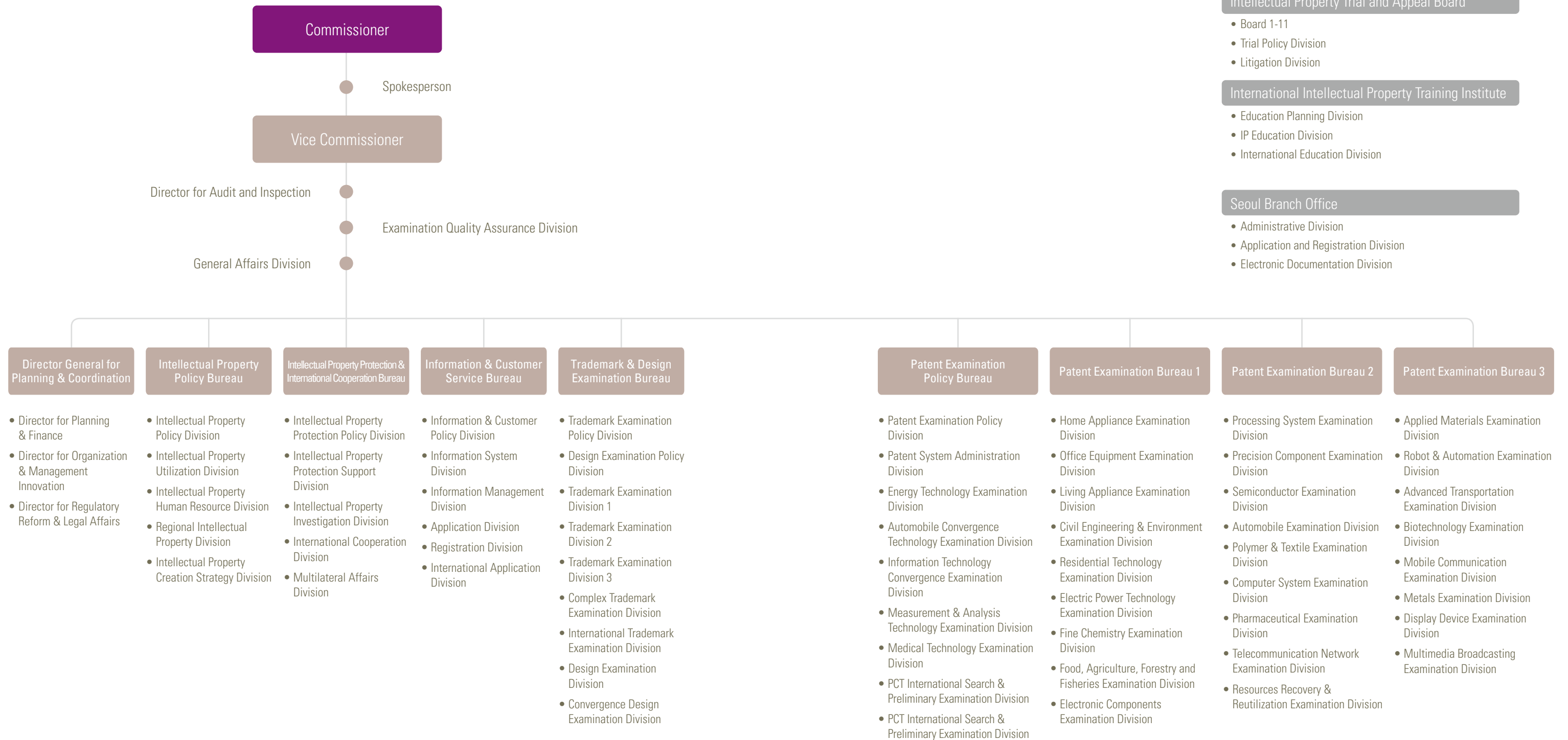
Choi Donggyou | Commissioner



KIPO will lead the creation of strong and flexible IP and thoroughly prepare for the 4th Industrial Revolution in our resolve to facilitate economic growth and innovation.



Organizational Chart of KIPO



Intellectual Property Trial and Appeal Board

- Board 1-11
- Trial Policy Division
- Litigation Division

International Intellectual Property Training Institute

- Education Planning Division
- IP Education Division
- International Education Division

Seoul Branch Office

- Administrative Division
- Application and Registration Division
- Electronic Documentation Division

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Intellectual Property is
the driving force behind
the 4th Industrial Revolution

10.6

months

**First action pendency for
patents and utility models**

Innovation

KIPO fosters IP innovation through fast, reliable and high-quality IP examination services

Creative ideas have the power to change the world. KIPO continues to provide innovative, timely, and accurate IP examination services to ensure that ideas are adequately protected as IP.



Premium Examination Services

We aim to provide high-quality and customer-oriented examination services by improving examination systems, raising the overall quality of each of our IP administration processes (the application, examination and registration stages), and reducing first action pendency.

We offer customized examination services with our three-track patent and utility model examination system, two-track trademark and design examination system, as well as three-track trial system.

The average first office action pendency are as follows:

- Patents and utility models: 14.8 months in 2012 → 13.2 months in 2013 → 11.0 months in 2014 → 10.0 months in 2015 → 10.6 months in 2016
- Trademarks: 8.9 months in 2012 → 7.7 months in 2013 → 6.4 months in 2014 → 4.7 months in 2015 → 4.8 months in 2016
- Designs: 8.8 months in 2012 → 7.3 months in 2013 → 6.5 months in 2014 → 4.4 months in 2015 → 4.7 months in 2016

◀ Dongdaemun Design Plaza (DDP)

It is a complex cultural space opened in Jung-gu, Seoul in 2014, dreaming of 'Mecca of design and creative industries'. It is the world's largest three-dimensional irregular structure that can not find straight lines and pillars throughout the building using advanced special construction method. The silver exterior, reminiscent of a gigantic space ship, is decorated with 45,533 aluminum panels.

▶ Gilt-bronze Pensive Maitreya Bodhisattva

National treasure No.78. Height is 83.2 cm. It is believed to have been made in the latter half of the 6th century and is considered to be the best masterpiece of Buddhist art on the Korean peninsula.



No.1

**In the world for resident patent
applications per GDP and population**



Competitiveness

KIPO increases its IP competitiveness by maintaining the highest number of resident patent applications per both GDP and population

In this era of creative economies, IPRs are the core factor of any competent business strategy. KIPO is dedicated to establishing a competitive and rewarding IP system that nurtures IP creation and utilization by transforming novel ideas into strong IPRs.

IP Competitiveness

IP applications

The total preliminary number of IP applications, including patents, utility models, designs, and trademarks, submitted to KIPO in 2016 amounted to 451,622. Patent applications stood at around 200 in 1949 before jumping to around 5,000 in 1980 and 100,000 in 2000. Over the past 16 years, this number has doubled to more than 200,000.

Patent application competitiveness

According to the World IP Indicator unveiled by WIPO in December 2016, since 2007, Korea ranked first for 9 consecutive years (Since 2007) in regard to the number of resident patent applications per GDP and population.

PCT applications

The number of PCT application increased by 11.1 percent, from 14,594 in 2015 to 15,595 in 2016, which is the 5th largest amount by country of origin.

◀ Taekwondo

It is an internationally recognized sports that was created in Korea and spread all over the world. It emphasizes mental discipline such as courtesy and perseverance with physical training.

▶ Green-Glazed Roof Tile with Monster Mask

The ancient people of Korea believed that illness, death, disaster, etc were caused by evil ghosts, and made tiles with the face of monster as one of the ways to chase those ghosts.



10.2 million
CHF
contribution
Korea Funds-In-Trust (FIT)

26 countries
Patent Prosecution Highway (PPH)

24 IP sharing
projects

Appropriate technology and brand development



Harmonization

KIPO, in collaboration with key national allies, creates a global community that appropriately values and rewards inventions

International cooperation is critical in order for the stakeholders to easily acquire and protect IPRs. KIPO contributes to the advancement of IP systems as it works to increase the value of IP holdings by participating in various activities worldwide.

Worldwide IP Collaboration

WIPO Korea Funds-In-Trust (FIT)

Since 2004, KIPO has contributed around 10.2 million Swiss francs for the continued operation of WIPO Korea FIT. We apply this fund toward KIPO-WIPO projects that support developing countries.

Patent Prosecution Highway (PPH) with 26 Countries

In order to improve the efficiency and quality of examinations, we have become actively involved in the IP5 and the TM5. In 2014, we successfully hosted the IP5 Annual Meeting to harmonize global patent systems. We are also implementing the Patent Prosecution Highway with 26 countries to reduce the time and costs required to obtain patents internationally.

- PPH participants: Australia, Austria, Canada, China, Colombia, Denmark, EPO, Estonia, Finland, Germany, Hungary, Iceland, Israel, Japan, Mexico, Nordic Patent Institute, Norway, Portugal, Russia, Singapore, Spain, Sweden, Taiwan, the Philippines, UK and USA

24 IP Sharing Projects

In collaboration with WIPO and APEC, we are implementing IP sharing projects to support key national allies through the provision of appropriate technologies and brand development.

Appropriate technologies developed and provided by KIPO are as follows:

- Sugar cane charcoal manufacturing for Chad in 2010;
- Soil brick manufacturing for Nepal in 2010;
- Simple water purifier for Cambodia in 2011;
- Cooking stove for Guatemala in 2012;
- Construction technology to improve insulation in bamboo housing for Nepal in 2012;
- Oil extractor for farms in the province of Tarlac in the Philippines in 2013;
- Bicycle-operated water pump for Pinu in Papua New Guinea in 2013;
- Sewage processing equipment in the Vietnam in 2014;
- Manual extractors for bee farms in Ghana in 2014;
- Natural Dyeing machines in Mongolia in 2015;
- Waste water treatment system in Myanmar in 2015;
- Grease separation system for the Vung Tau province in Vietnam in 2016; and
- Patchouli oil extractor for the Aceh region in Indonesia in 2016.

Brands developed and provided by KIPO are as follows:

- Chadian mango brand in 2010;
- Chinese bamboo products in 2011 and 2012;
- Chilean fruit cocktail products in 2011 and 2012;
- Cambodian red rice and longan (a tropical fruit) in 2012;
- Bolivian grain brand called Quinoa in 2013;
- Local brand for the province of Tarlac in the Philippines in 2013;
- Brand for bee farms in Ghana in 2014;
- Brand called Diamond Mango in Myanmar in 2014;
- Brand for Florens Bajawa Coffee in Indonesia in 2015;
- Brand for wool product called Tsagaan alt wool in Mongolia 2015; and
- Brand for Patchouli oil product called Healoma, a Geographical Indication (GI) and Corporate Identity (CI) related with Patchouli oil in Indonesia in 2016.

◀ Bibimbap

It is a Korean traditional food that rubs vegetables, meat and spices together with rice. The harmony among ingredients is the key to taste.

▶ Celadon Pitcher in the Shape of a Tortoise

National treasure No. 96. Height 17cm. It is a porcelain kettle made in the 12th century and embodies tortoise sitting on a lotus flower. In the 12th century, China and Korea were the only countries that had the technology to bake ceramics.



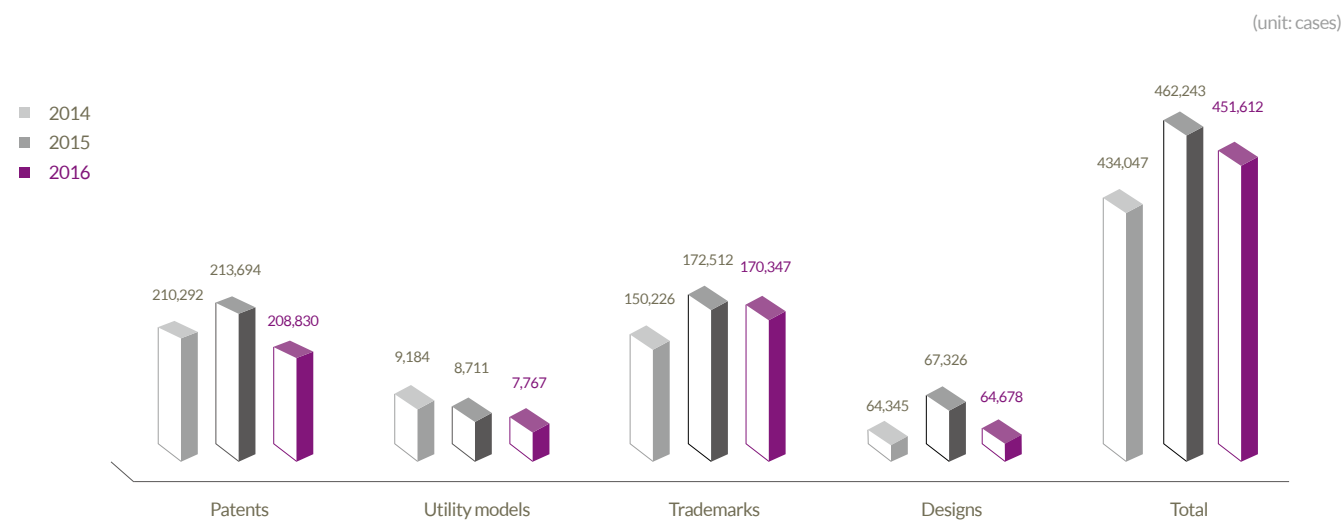
2016 Statistical Overview

Applications

The total preliminary number of IPR applications, including patents, utility models, designs, and trademarks, submitted to KIPO in 2016 amounted to 451,622; this was a 2.5% decrease from 2015. In 2016, patent applications totaled 208,830, showing a 2.3% decrease since 2015. Utility model applications decreased 5.2% since 2015, totaling 7,767, and this was the highest decline rate among all IPRs. Design applications decreased 3.9% for a total of 64,678 and trademark applications for 2016 totaled 170,347, a 1.3% decrease from 2015.

Volatility caused by the financial crisis lowered the number of patent applications by 4.2% in 2009, but this was soon rectified in 2010 by a 4.0% increase which kicked off an upward trend that has since continued unabated. Patent applications stood at around 200 in 1949, before jumping to around 5,000 in 1980, and 100,000 in 2000. This number has more than doubled to over 200,000 throughout the past 16 years.

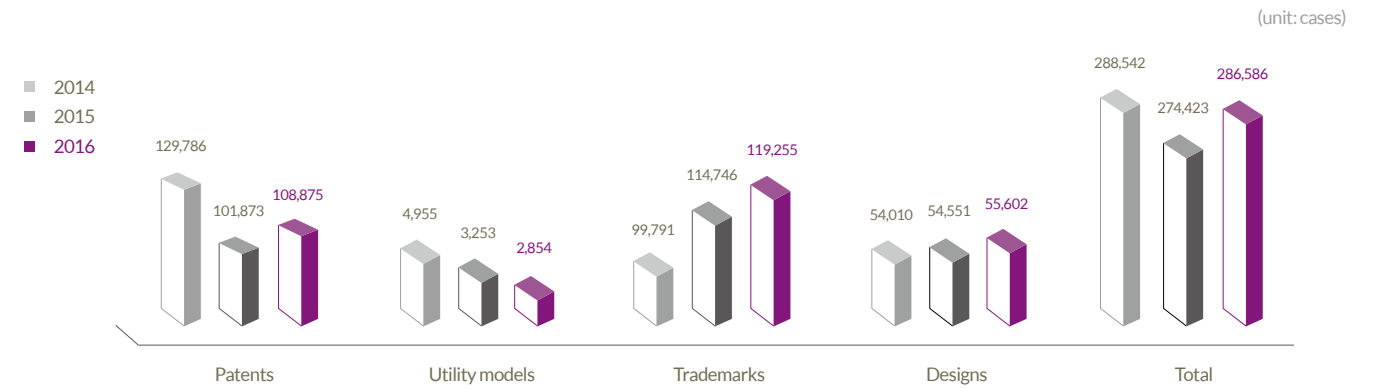
There were 45,406 foreign applications, accounting for 21.7% of the total number of patent applications. The greatest number of patent applications (14,773) was from Japan, which was a 3.3% decrease from 2015. This was followed by the United States (13,643, a 6.9% decrease from 2015), Germany (4,111), France (1,766), China (2,829, a 45.3% increase from 2015), and Switzerland (1,411).



Registrations

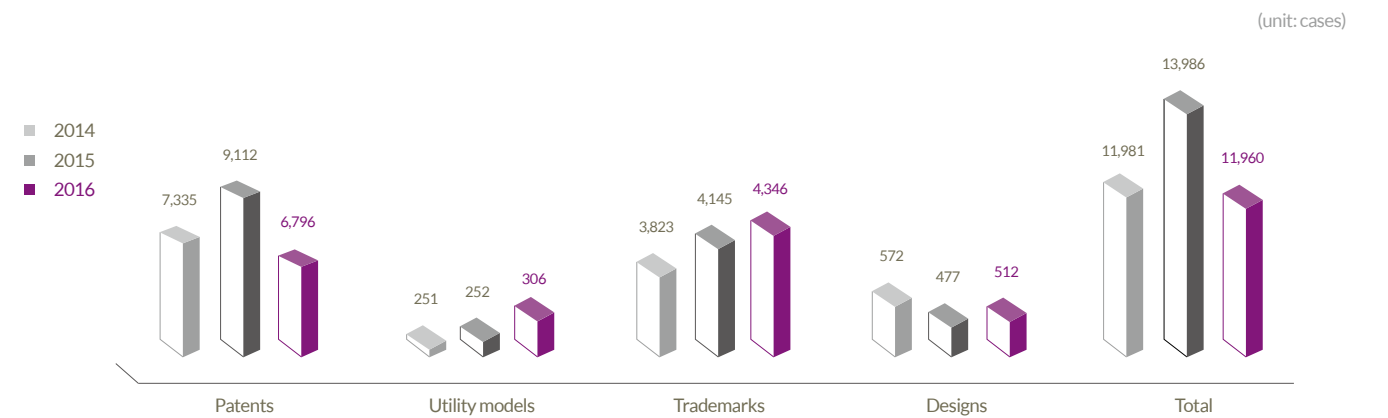
The total number of registrations for intellectual property rights in 2016 reached 286,586, a 6.9% increase from 274,423 in 2015.

A breakdown of IP rights shows that: patent registrations reached 108,875, a 6.4% increase from 2015; utility models decreased by 12.3% to 2,854; and designs increased by 1.9% to 55,602. Further, trademark registrations increased by 3.9%, totaling 119,255.



Trials

The number of trial requests decreased by 14.5% to 11,960, from 13,986 in 2015. A look at IP statistics shows that: patents decreased by 25.4% to total 6,796, while utility models increased by 21.4% to total 306, trademarks increased by 4.8% for a total of 4,346, and designs increased by 7.3% to total 512.



PCT system

PCT applications

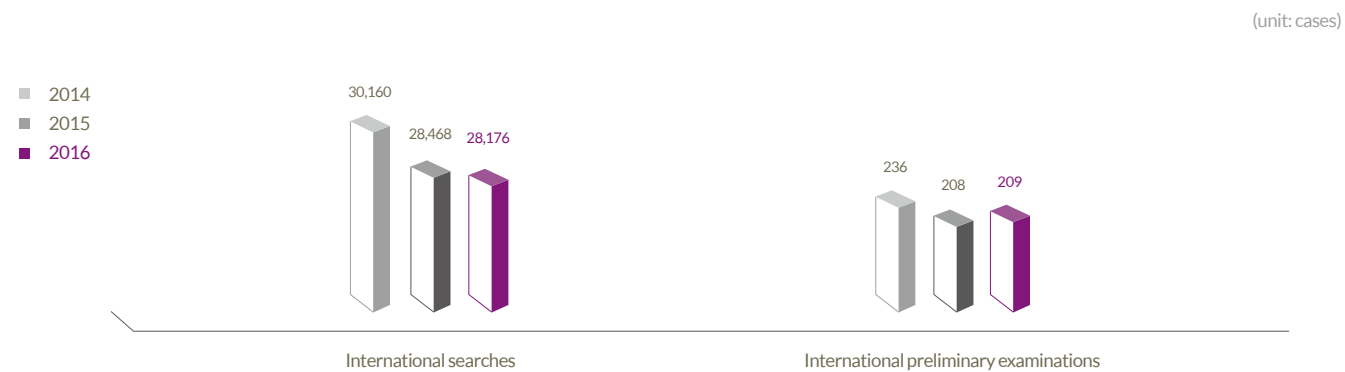
The number of international applications filed under the PCT by Korean applicants has experienced a steady annual increase primarily due to a clearer understanding of the advantages of the PCT system, increased awareness as to the importance of IPRs, and continued efforts toward the consolidation of international patent rights.



PCT international searches and international preliminary examinations

The number of PCT international searches undertaken by KIPO totaled 28,176 in 2016, this was a 1.0% decrease from 2015 which was 28,468. The number of international preliminary examinations undertaken by KIPO in 2016 was 209, an increase of 0.5% from 208 in 2015. The numbers have continuously decreased over the past few years due to the PCT regulation amendments in 2002, which extended the time taken to enter the designated states from 20 months to 30 months, even if international preliminary examination had not been requested.

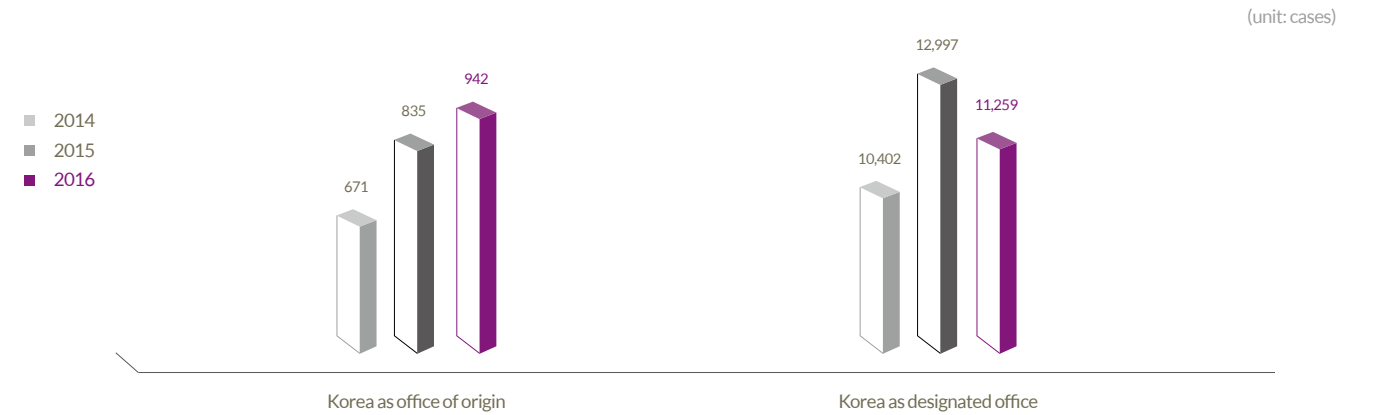
This trend is also partly due to International Searching Authorities reviewing the patentability of applications since 2004.



Madrid and Hague system

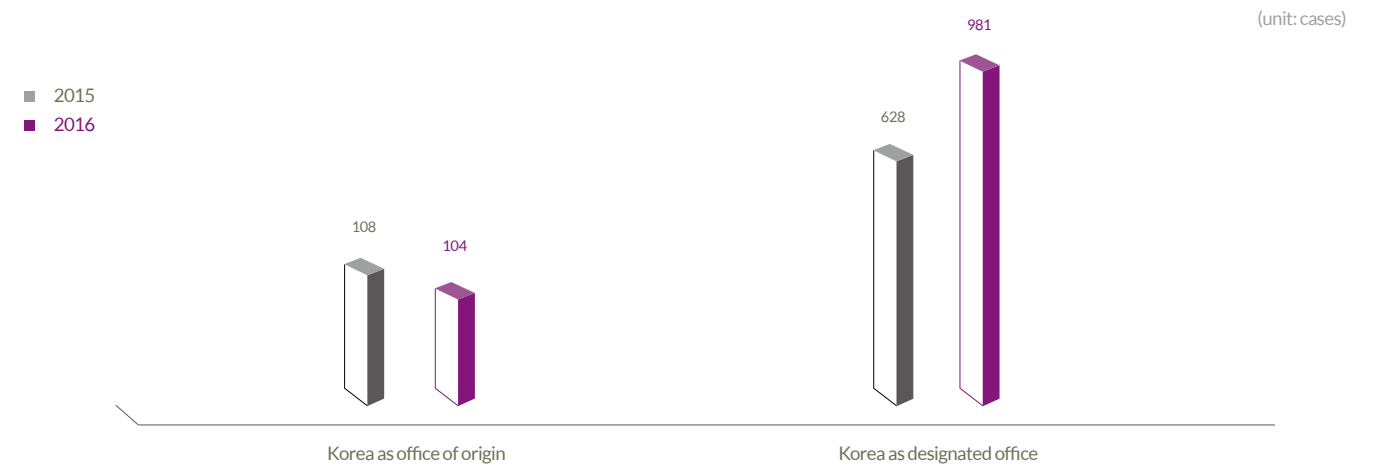
Madrid

The number of Madrid international applications, that designate Korea as office of origin, submitted by foreigners reached 11,259 in 2016, a 13.4% decrease from 12,997 in 2015.



Hague

As a result of Korea joining the Hague Agreement in July 2014, in 2016, we were designated for a total of 104 international trademark applications as the office of origin, and 981 international applications as the designated office.



2016 Highlights

JANUARY

- 07 Opening Ceremony for Korea Intellectual Property Protection Agency
- 09 KIPO-EUIPO Heads Meeting and Korea-Spain Heads of IP Office Meeting
- 13 Award Ceremony of Prior Art Search Competition



FEBRUARY

- 23 The 3rd Korea-Japan Administrative Patent Judge Exchange
- 25 KIPO and the UAE signs MOU to construct patent information system of the UAE
- 26 KIPO signs MOU with Leading Universities in the IP Field
- 29 Korea-Turkey Heads of IP Office Meeting



MARCH

- 07 The 14th IP5 Patent Classification Working Group Meeting
- 11 KIPO-WIPO ADR Seminar
- 21 IP5 Deputy Heads Meeting
- 23 WIPO Workshop on Patent Law and Examination



APRIL

- 06 WIPO Workshop on Trademark Law and Examination
- 14 Opening Ceremony for IP Creative Zone in Jeju
- 15 Korea-Vietnam Heads of IP Office Meeting



MAY

- 10 WIPO Trademark Act and Trademark Examination Course
- 11 KIPO signs MOU with Korea Development Bank for facilitating investments based on IP
- 19 Korea's 51st Invention Day
- 25 International Conference on IP
- 31 The 9th IP5 Heads Meeting



JUNE

- 09 The 6th International IP and Industrial Security Conference
- 16 Korea International Women's Invention Exposition and Korea International Women's Invention Forum
- 20 KIPO-SIPO Heads of Trademark Office Meeting
- 23 Opening Ceremony for IP-Desk in Xi'an, China



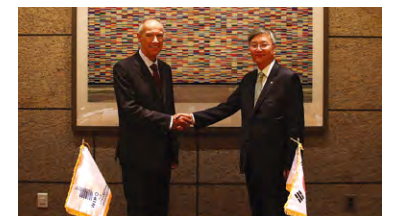
JULY

- 11 WIPO IP Summer School
- 21 Youth Invention Festival



AUGUST

- 11 The 4th KIPO-USPTO Cooperative Patent Classification (CPC) Implementation Group Meeting
- 24 WIPO Director General visit to Korea and "Global IP-Sharing Korea" Event
- 31 The 7th Korea-Japan Administrative Patent Judge Experts Meeting



SEPTEMBER

- 01 The 12th PATent INformation EXpo (PATINEX) 2016
- 02 KIPO-SIPO-JPO Trilateral Conference on IP Trials
- 05 The 4th Korea-China-Japan Administrative Patent Judge Experts Meeting and the 2nd Korea-China-Japan Administrative Patent Judge Exchange
- 23 KIPO-OAPI Heads Meeting



OCTOBER

- 03 WIPO General Assembly and Heads Meeting between IP Offices
- 20 Korea-EU-France jointly held conference on IP
- 25 WIPO Asia Pacific Regional Seminar
- 27 International Industrial Security Seminar



NOVEMBER

- 09 The 7th KIPO-WIPO Advanced International Certificate Course based on IP Panorama
- 10 University Creative Invention Competition
- 15 KIPO signs MOU with Emirates IP Association for IP protection cooperation
- 24 Campus Patent Strategies Universiade
- 30 IP Utilizing Strategies Conference



DECEMBER

- 01 Korea IP Exhibition
- 07 Korea-China Heads of IP Office Meeting
- 07 Korea-Japan Heads of IP Office Meeting
- 08 Korea-China-Japan Heads of IP Office Meeting
- 15 Award Ceremony for Outstanding Patent Technology



Providing IP Services

- 24 Examination Services
- 28 Trial Services
- 30 Improving the IPR System
- 32 PCT IP System International Search Service
- 33 IP Administrative Automation System



Bongeunsa Temple
It is a Buddhist temple with a history of more than 1,200 years. It is located in the Gangnam, heart of Seoul, area with heavy concentration of skyscrapers.

Examination Services

01

Examination policies focus on quality

In 2016, KIPO's first office action pendency was maintained at a similar level compared to other advanced countries while policy focus remained on examination quality. To ensure each examiner was allocated with an adequate number of examination cases, we increased outsourcing of prior art searches to ease examination work load. KIPO also promoted diverse forms of collaborative examinations by introducing consultative examinations among the examiners and public examinations in which outside experts were invited to partake in the necessary examinations.

In line with the goal to maintain the current first office action pendency, the annual average first office action pendency period in 2016 was recorded at 10.6 months for patent and utility model rights, 4.8 months for trademarks and 4.7 months for design rights.

Further outsourcing of prior art searches

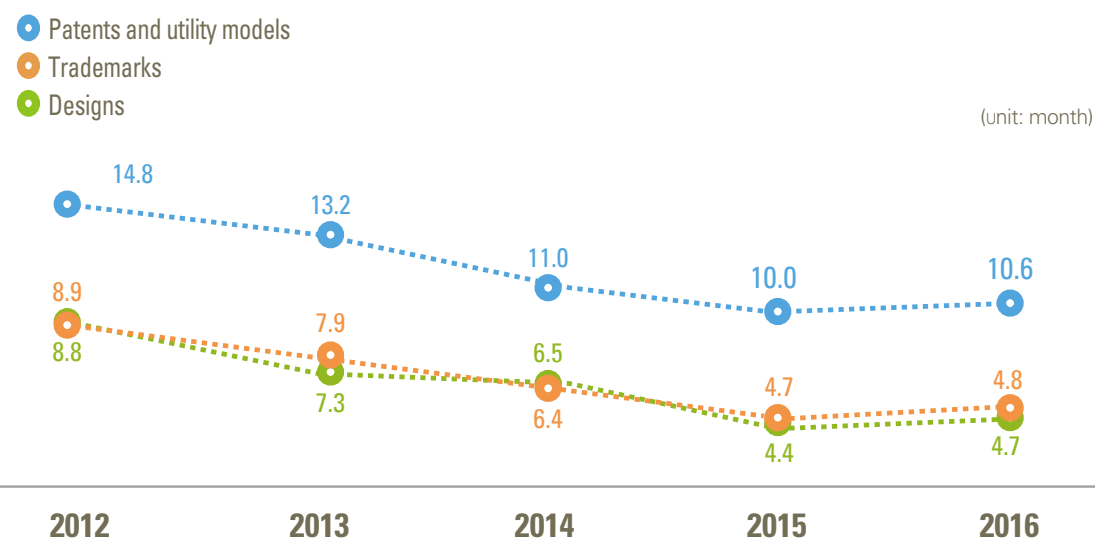
To maintain the level of first office action pendency, a total of 86,811 cases of patent and utility models applications, which was 47.2% of all examination cases handled in 2016, were subject to prior art searches.

A total of 85,082 cases of trademark applications, which was 39.6% of all trademark applications submitted in 2016, and 30,061 cases of design applications, that is, 43.4% of all design applications submitted in 2016, were sent to independent agencies for prior trademark and design searches.

Consultative examination among examiners

Consultative examination among examiners are conducted to detect any missing holes in the prior art searches carried out by an examiner in charge of a case. Also, for cases involving convergence technologies, examiners specializing in different technology fields consulted each other for best examination results.

Average first office action pendency



Crowdsourcing examination

Crowdsourcing examinations are being performed in cases where it is difficult to search the prior art of the concerned technical field because an overwhelming amount of field data exists. Industry specialists, academics and researchers joined hands to set up an examination consultative board for each technology sector. The examiner in charge presents the application to the consultative board and then field experts provide opinions and advice on technical reference materials.

02

Enhancing examination quality

Managing examination quality through examination review

One way KIPO ensures examination quality is by double-checking randomly selected IPR examination cases and international search reports (ISRs) under the PCT in order to identify areas where there is room for potential improvement.

Specifically, KIPO conducts examination reviews according to specific guidelines. Examination reviews are conducted and all application/notification errors are corrected before applicants are sent final notifications of a decision of registration or decision of rejection. We also evaluate examinations currently in progress, rather than completed ones only. In addition, quality control of examinations are aided by the provision of statistical data of each examiner. Such data includes an examiner's rate of registration, invalidation trial result acceptance, etc.

In 2016, KIPO reviewed examinations conducted on 3,981 patents and utility models (2.3% of all applications), 5,351 trademarks and designs (2.1% of all applications), and 795 ISRs. Examination reviews of 2,492 patents and utility models, as well as 1,566 trademarks and designs were also carried out.

Meanwhile, in 2016, KIPO set up an internal computing system where statistical data relevant to examination quality, specifically, the registration rates, citation rates

of patent invalidation trials, rates of revocation and return, rates of appeals against a decision of refusal, are updated in real time so as to give an advantage as well as support the examination division in examination quality control.

On-the-job training (OJT) for examiners and administrative judges

In 2016, we operated a variety of training courses for examiners and administrative judges of every career stage in order to help them improve their expertise. We organized a total of 4 basic courses, 17 legal courses, 22 practical examination courses, 14 capacity-enhancing courses, and held 67 times examiners' course on cutting-edge technology (a combined total of 124 times).

The 4 basic courses, in which 281 examiners participated, ranged from ones tailored to new examiners to ones focused on mid-grade examiners, litigation system experts, and administrative judges.

In addition, we ran in-depth legal training courses, beginning with basic theoretical training on important laws for examinations and trials (the Patent Act, Trademark Act, etc.), followed by debates on major issues and cases. We also provided training on the Civil Act, the Copyright Act, etc., and a total of 724 examiners participated in the 17 courses of this program.

Moreover, we established 22 practical examination courses, including basic and in-depth case studies on examinations, for our examiners and administrative judges, as well as 14 capacity-building courses, including a course on commercializing IPR technology. During 2016, 1,253 examiners attended the courses, which were held a total of 36 times.

We also delivered 67 lectures aimed at providing the 1,775 examiners and administrative judges in attendance with training on cutting-edge convergence technologies.

Public-Private Joint Advisory Committee for Patent Quality Improvement

A Public-Private Joint Advisory Committee for Patent

Quality Improvement was set up to provide a channel of communication between private sector academics, researchers, industry experts, and patent lawyers in order to collect ideas on how patent policies might be amended to improve overall patent quality.

In 2016, Advisory Committee meetings were held on two separate occasions, once in May and once in December, to discuss KIPO policies that have an impact on patent quality. Such policies include methods for improving the patent invalidation system, examination evaluation system and facilitating the involvement of the public in patent examination. Suggestions from experts in the private sector were thoroughly reviewed for potential implementation, and the results were then reported back to said experts.

Open Patent Technology Forum for Improving Examiner Expertise

The Open Patent Technology Forum invites companies that file a large volume of patent applications to introduce their cutting-edge technologies to patent examiners.

In May 2016, Hyundai Motor gave a seminar on their overall patent strategy and four major fields of technology development (including self-driving technology and fuel cell stack technology).

In November 2016, Qualcomm Korea gave a similar seminar in which they introduced their patent strategy and major fields of technology development (including LTE communication standard technology).

03 Customized examination services

Three-track patent and utility model examination system

We provide examination services in accordance with our clients' IPR strategies and preferred time schedules. In the case of patents and utility models, applicants can choose the most appropriate examination track for their IP strategy: accelerated, regular, or customer-deferred.

Accelerated examination is to be initiated between two to four months after accelerated examination is accepted, whereas, customer-deferred examination is to be started within three months of the desired postponed examination date.

Two-track trademark and design examination service

To accommodate applicants in need of expedited trademark or design rights, we implemented a two track examination system.

Applicants who qualify for accelerated examination receive their initial examination results within 45 days of applying for a trademark, and within 2 months of applying for a design, thereby enabling them to commence their business activities and/or dispute resolution more quickly.

Statistics on three-track patent and utility model examination requests

Category	2012	2013	2014	2015	2016
Accelerated examination	24,205 (14.6%)	25,609 (14.7%)	27,437 (15.4%)	28,574 (15.5%)	29,122 (16.2%)
Regular examination	141,217 (85.3%)	148,427 (85.2%)	150,763 (84.6%)	155,525 (84.4%)	150,666 (83.8%)
Customer-deferred examination	190 (0.1%)	149 (0.1%)	54 (0.1%)	112 (0.06%)	91 (0.0%)
Total requests for examination	165,612 (100%)	174,185 (100%)	178,254 (100%)	184,211 (100%)	179,879 (100%)

In 2016, there were 3,801 requests (2.1% of all applications) for accelerated examination of trademarks and 4,019 requests (6.1% of all applications) for accelerated examination of designs.

Examination 3.0

We shifted our examination paradigm from the existing

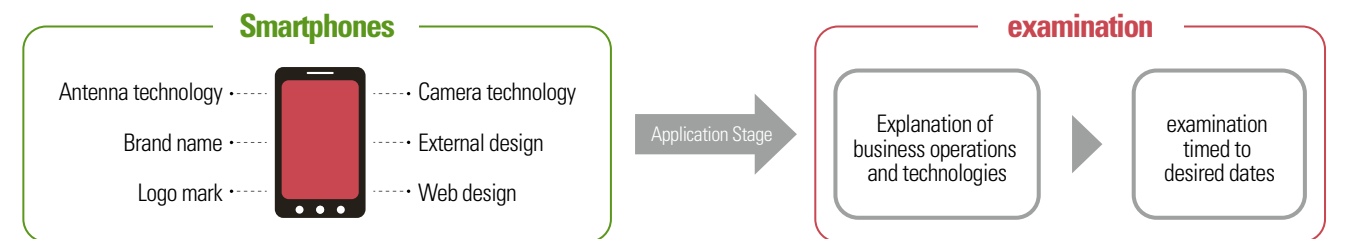
system, in which examiners simply give their reasons for refusal, to a more customer-oriented examination system called "Patent Examination 3.0" to help applicants acquire high-quality patents by boosting interactive communication with examiners throughout the entire examination proceeding. Services include:

- A) Preliminary examination
- Preliminary examination was first introduced in 2014,

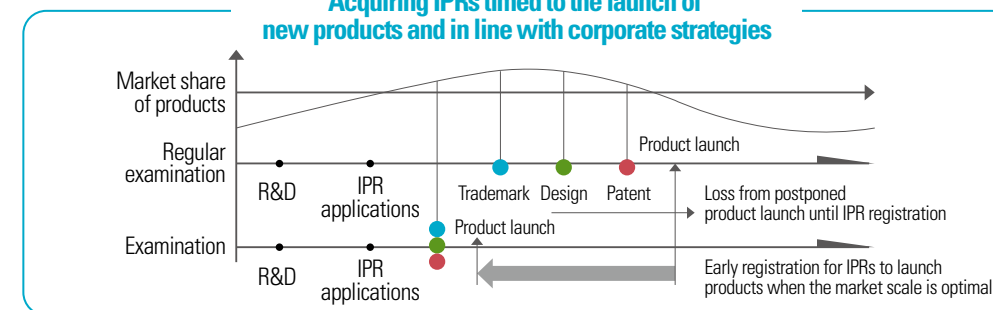
Statistics on two-track trademark and design examination requests

Category	Trademarks				Designs			
	2013	2014	2015	2016	2013	2014	2015	2016
Total no. of applications (A)	147,667	150,226	185,443	181,592	66,940	64,345	67,954	65,626
Requests for expedited examination (B)	3,430	3,497	4,041	3,801	3,792	4,143	4,535	4,019
Requests for expedited examination as a percentage of the total (B/A)	2.3%	2.3%	2.2%	2.1%	5.7%	6.4%	6.7%	6.1%

Example of collective examination



Acquiring IPRs timed to the launch of new products and in line with corporate strategies



Trial Services

enabling applicants and patent examiners to communicate with each other prior to a first office action in order to discuss the overall direction of the examination and resolve any possible reasons for refusal. In 2015, preliminary examination became available in all cases of accelerated examination.

B) Review of preliminary amendment

The process of reviewing preliminary amendment was introduced in 2015 as a way of informing applicants of whether reasons for refusal of the claims presented in the preliminary amendment can be resolved prior to the final amendment. In 2016, the number of applicants who requested reviews of preliminary amendment increased 2.8 times compared to 2015.

C) Collective examination

Collective examination is a customized service in which, at the applicant's request, separate applications for patent, design, and/or trademark rights for a single product are examined simultaneously. In 2015, the service was further expanded to include new technologies resulting from national R&D projects.

01 Management of trial pendency period

Disputes are on the rise in cutting-edge technology related

fields, and they can severely hamper prompt decision-making and investment decisions for a business. Therefore, prompt resolutions for IPR disputes are directly linked to a business' competitiveness, and that's why countries around the world are putting in excessive efforts to reduce trial pendency.

The Intellectual Property Trial and Appeal Board (IPTAB) is making efforts to maintain a high level of trial quality while reducing its trial pendency. Recruiting more administrative judges would be necessary to support these efforts, but it is not an easy task to find qualified candidates for administrative judges who have both the experience and expertise in a relatively short period.

To make the most effective use of the limited human resources within the IPTAB, the IPTAB operates a three-track trial system where trials are categorized into regular trials, accelerated trials and fast track trials. The goal of the IPTAB is to more efficiently handle trials that require expedition.

Regular trials are handled by a first come, first serve basis. Accelerated trials, on the other hand, cover cases that have priority over regular trials, such as cases that need re-trials due to the patent court's decision to revoke trial decisions, applications that have been resubmitted after receiving a decision of cancellation in an appeal against a decision of rejection, and trial cases of an appeal against a decision of rejection regarding an application that received accelerated examination.

Statistics on super-accelerated, accelerated, and regular trials in 2016

Requests made in 2016	Patents and utility models	Trademarks and designs	Sub total
Fast track trials	141 (2.6%)	22 (0.5%)	163 (1.7%)
Accelerated trials	1,016 (18.7%)	394 (9.6%)	1,410 (14.8%)
Regular trials	4,278 (78.7%)	3,693 (89.9%)	7,971 (83.5%)
Total	5,435 (100%)	4,109 (100%)	9,544 (100%)

Cases that require even faster trial proceedings compared to accelerated trials are dealt with as fast track trials. Through the fast track trial, normally, an oral hearing is held within one month from the expiry date of a written opinion submission, and then a trial decision is made within two weeks after the oral hearing. Thus, petitioners/defendants on this track are able to receive a trial decision within three months. The following cases are able to go through fast track trials: cases related to patent infringement lawsuits currently pending in court or are being charged by the prosecutor or the police; cases where a start-up, a SME or a one-person creative company is a direct party involved in the trial; and cases of invalidation trials for patents granted to an unentitled person(s).

In December 2016, a total of 414 cases were categorized as fast track trials with 370 cases completed. Of the fast track trials, 50.8% are filed by SMEs, indicating that SMEs greatly benefit from fast track trials.

02 Video Conference Oral Hearing

In April 2014, as a way of making the IPTAB services more convenient, video conferences were set up for oral hearings. In 2015, video conferencing began to be widely used. These video conferences allow parties to take part in an oral hearing remotely at KIPO's Seoul branch office without having to be physically present at KIPO's headquarter office in Daejeon.

A survey conducted among video conference users reported a 95% satisfaction rate, with 98% of respondents stating they would use this service again.

In 2016, video conferences were additionally set up for presentations on technology and judge interviews. Video conferences were held 248 times in 2016, which is an increase of more than 30% from 2015.



03 Activities to improve Trial quality

Patent trials are a prerequisite procedure to the Patent Court and are considered de-facto first trials. Such trial decisions can significantly affect a customer's business strategy, therefore, the IPTAB makes utmost efforts to meet or exceed the customer's expectations through a fair and accurate trial.

Patent trials are conducted by panels of three or five administrative judges, who have at least 10 years of experience in various IP fields. To progress the technical and legal expertise of the administrative judges, different training programs and refresher courses are provided. Along with the refresher courses, there are also specialized legal courses provided for the administrative judges as well as customized OJT courses for newly recruited administrative judges. In addition, the judges participate in self-study sessions and discussion groups where court judges and professors from various sectors are invited as lecturers.

Regular evaluations and feedbacks are also given to trial decisions written up by the administrative judges as part of an effort to improve the overall trial quality. Administrative judges also convene regularly for review sessions where they can study major court decisions and sharpen their writing skills to make better trial decisions. A trial quality

Improving the IPR System

evaluation committee meets every quarter to review cases that have revoked the trial decisions, to analyze errors found during the trial process and to share the findings among all administrative judges, so that the IPTAB's evaluations can be aligned with that of the Patent Court.

Because of such efforts to improve the overall trial quality, only 15.4% of the trial decisions by the IPTAB were submitted for appeals at the Patent Court, and 25.3% of these appealed cases had their trial decisions revoked.

01

Patents and utility models

Amendments to the Patent Act to rationalize the patent fee return system

To alleviate inconsistency issues relating to patent fees, amendments to the Patent Act were promulgated on March 29, 2016, and effective as of June 30, 2016. This 2016 Patent Act amendment now states that if maintenance fees are paid for multiple years and then subsequently the patent is abandoned, the remaining patent maintenance fees that were paid for the years subsequent to the year the patents abandonment will be refundable upon the request of whoever paid in the first place.

Amendments to the Patent Act to prevent defective patents and protect persons entitled to a patent

The 2016 Patent Act amendment was promulgated on February 29, 2016 and came into effect as of March 1, 2017. The 2016 Patent Act amendment steps up controls over patent quality before and after a patent has been registered to prevent defective patents from being registered, and aims to protect persons entitled to obtain a patent and ensure prompt confirmation of a patent owner's rights. For this purpose, the following systems have been included in the amendments: an opposition system, an ex-officio re-examination system and a new patent entitlement provision.

A patent revocation request can be submitted by any party, within 6 months of a patent registration, claiming

that the patent in question be revoked based on prior technologies. The request is submitted to the IPTAB and the administrative judges will review the registered patent in question. If the claim is accepted, the registration will be revoked. The patent invalidation trial, already in practice, requires the petitioner of an invalidation trial to directly partake in the trial, which puts a heavy burden on the petitioner. The 2016 Patent Act amendment eases this burden by allowing the petitioner to simply submit the reason for requesting revocation of the patent in question and the following measures are handled by the IPTAB.

The ex-officio re-examination procedure prevents defective patents from being registered in the first place. If any significant error(s) is found in a patent after it has been decided to be, but not yet, registered, the patent examiner can ex officio oppose the registration and conduct a re-examination.

After submitting a patent application, the applicant had to apply for a patent examination within five years. This resulted in an extended period where the patent right was not settled, leaving the applicant or business with the burden of having to monitor whether the patent is granted or not. To solve this problem, the amended Patent Act shortened the timeframe where an examination request is to be made from five years to three years.

Should the person entitled to a patent find his/her patent being abused by another party, the entitled person can now claim a patent transfer. Through a civil lawsuit titled 'Claim for Patent Transfer', the person entitled to a patent can claim the patent, which is wrongfully owned by an unauthorized party, to be transferred.

The scope of ex officio amendment that can be made by a patent examiner has also been broadened to prevent delays in the patent process, or even rejections due to minor mistakes or missing information filled out by the applicant. Also, when necessary, a patent applicant can request a pending lawsuit to be put on hold until an opposition decision or a trial decision has been confirmed for the patent in question.

02

Trademark and design

Amendments in trademark and design examination standards

The amendments in the Trademark Act, which came into effect as of September 1, 2016, have been applied to the trademark examination standards in the following areas. A change in judgment timing for the registrability of a trademark in the Trademark Act is reflected and regulations were added since a system of publication on trademark registration was newly introduced into the trademark examination standards. Also, requests for a designated period extension can be made at one time for a period of up to four months to enhance the applicant's convenience. An amendment of identification of goods section is that as long as the comprehensive identification of goods remains the same, adding new individual indication goods under the scope of an existing comprehensive identification of goods becomes accepted as a legitimate amendment of goods. In regards to applications under the Madrid system in Korea, also known as basic applications, accelerated examinations for such applications are now allowed through an expansion of application subject matters.

In the design field, to enhance the level of accuracy of examinations, the following changes have been made. The point of time for applying for an exception to a lack of novelty has been clarified as being after the basic design application filing date. In judging the ease of creation based on well-known and common shapes, an examiner, by principle, shall provide a basis for a judgment; nevertheless, only when it is apparent the shape is common and well-known, an examiner does not need to provide a basis as it is an exception. And, the convenience of applicants has been further enhanced by broadening the subjects for proceeding with accelerated design examinations and easing the requirements for applications of functional integrity standards for partial designs.

Changes in the classification system

To ease classifying goods under the Nice classification

and choosing identification of goods when applying for a trademark registration, the number of identification of goods in KIPO's list in relation to acceptable identification of goods, which only had 15,000 entries in 2014, was enlarged to 46,000 entries in 2015 and to 62,000 entries in 2016. The identification of goods jointly accepted by the TM5, as well as by WIPO's International Bureau and the EUIPO have been reflected in KIPO's list regarding acceptable identification of goods, so that applicants can easily check the up-to-date identification of goods being accepted in major countries.

Whenever classification of goods under the Nice classification is wrong or the identification of goods in English is not clear and/or contains errors requiring corrections, obtaining trademark registration overseas is delayed for the amount of time needed to make the necessary corrections. KIPO provides source information for the accepted identification of goods in major countries on its homepage for users, so that the applicants of international trademarks can easily access the necessary information when choosing their identification of goods and obtain international trademark rights in a timely manner.

03

Patent Trials

Implementation of the trial fee refund system

Since June 2016, under the new trial fee refund system, the trial request fee is refunded in full to the trial petitioner when the examiner's decision for rejection has been revoked with no fault on part of the applicant. When a trial request has been dropped before a notification of conclusion, or when a trial request has been dismissed, half of the already-paid trial fee is refunded. The trial fee, on average, is KRW 300,000 (258.3 USD) for a patent trial and KRW 240,000 (206.7 USD) for a trademark and design trials.

Changes in the trial system

The 2016 Patent Act amendment introduces the patent opposition system, as well as new regulations for the

PCT IP System International Search Service

timing of withdrawal of a request for correction in an invalidation trial and request of suspension of a proceeding by the parties.

In the September 2016 Trademark Act amendment, a possible petitioner of a trial to revoke a registered trademark not in use has been changed from 'person concerned' to 'anyone'. If the trial is affirmed, the trademark right is terminated from the date of trial application and not from the date the trial decision is finalized. Regulations have also been added so that a declaratory judgment for the scope/ extent of a right can be requested for a partial class of goods, and not necessarily for the entire class of goods.

Amendments to trial procedure regulations

If a party to a trial reports a place of delivery, the Enforcement Decree of the Patent Act stipulates that trial documents could be delivered there. However, under the Enforcement Rule of the Patent Act, change of the delivery address was possible only by a patent claimant or respondent. Therefore, parties of a trial could not request a change of delivery address for a trial since there were no forms or regulations that govern such a change. This inconvenience was recognized by KIPO and the trial procedure regulations were amended in September 2016 to enable a trial document delivery address change for each trial. The trial procedure regulations were amended again in November 2016 to enlist types of cases where a board of five administrative judges is to review complicated claims or cases involving SMEs. The qualification for the presiding administrative judge of a board comprised of five administrative judges has also been expanded to further encourage examination by a board that is comprised of five administrative judges.

Requests for PCT international searches

Category		2012	2013	2014	2015	2016
Koreans		10,736	11,971	12,442	13,579	14,555
Foreigners	U.S.A	15,778	16,968	17,162	14,480	13,208
	Others	566	592	556	409	413
	Subtotal	16,344	17,560	17,718	14,889	13,621
Total		27,080	29,531	30,160	28,468	28,176

A PCT international search entails perusing prior art related to the submitted invention, reviewing its patentability, and providing the results to the applicant. PCT applications should be filed with one of the Receiving Office (RO).

KIPO was designated as a PCT international authority in September 1997 and has been conducting PCT international searches since December 1999, thereby providing PCT international search services to foreign applicants since 2002.

As of January 2016, only 22 patent offices among all PCT member nations have been designated as international authorities. Since 2006, there has been a surge in international search requests made by US applicants in Korea, and, in 2016, these requests accounted for 97.0% of all international search requests we received.

IP Administrative Automation System

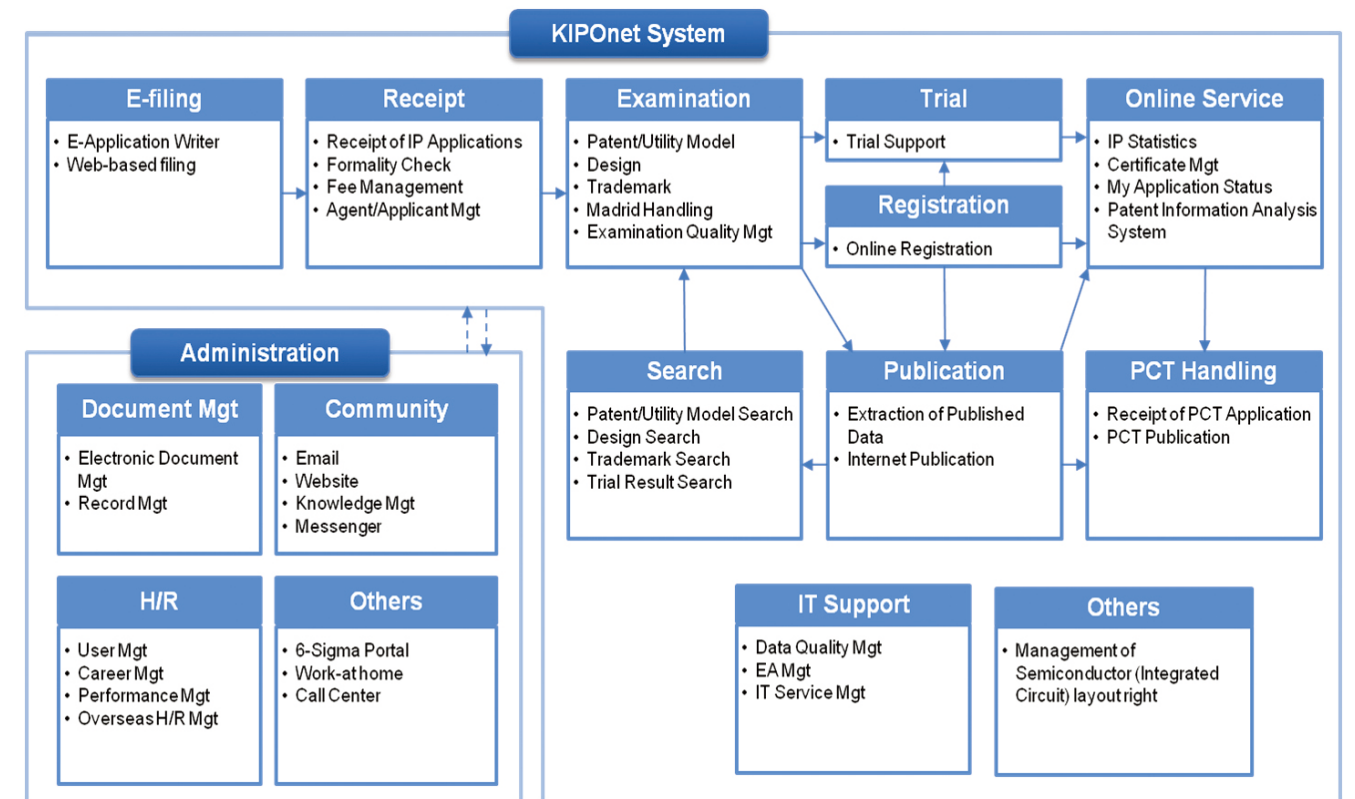
01 KIPOnet

In 1999, KIPO launched its automation system (KIPOnet), which serves as an e-filing platform for trials, as well as the filing, receipt, examination, and registration of applications. In 2009, we began work on the third version of KIPOnet (KIPOnet III) and launched it in June 2013. In particular, we introduced a serverbased cloud (SBC) platform to further enhance our security, and we converted the fee payment system to Swiss francs (CHF). In 2014, we improved our e-application software to make acquiring IPRs more convenient. In addition, we phased-in an administrative system for international designs to enforce the amended Design Protection Act in accordance with the Hague

Agreement.

To prevent excessive workloads for examiners and improve overall examination quality, the Smart Examination System was established, with service beginning on December 11, 2015. The Smart Examination System has two main functions: (1) Automatic Analysis of Applications and (2) Error Detection in Notifications. The Automatic Analysis function checks applications for formality-related errors, such as the listing of more than two inventions in one claim. The Error Detection function detects any errors made when examiners manually file out notifications. Such errors include applying the wrong law to the application, omitting a claim, etc.

In line with the idea to reduce work load and enhance examination quality, in regards to trademark examiners, in 2016, the Smart Trademark Examination System was





established. This system checks application information changes and examination-related errors as well as provides autofill processing. Also, it strengthens the automatic goods classification function through use of a record of goods classification and goods name keywords.

Furthermore, we provide a mobile app (<http://m.kipris.or.kr>) so stakeholders can easily use KIPRIS anytime, anywhere. We will continue to make improvements that give users better access to KIPRIS' diverse IP resources.

02 Korea IPRs Information Service (KIPRIS)

The Korea Intellectual Property Rights Information Service (KIPRIS, <http://www.kipris.or.kr>) is a free online search service we provide to the general public so they can conveniently browse both international and domestic IP information.

We are pursuing a diverse range of activities for publicizing and promoting the utilization of IP information. For example, we provide beginner's guides and regular email updates for KIPRIS users. We also provide free machine translation services that convert text from Korean into English (and vice versa) and from Japanese and Chinese into Korean.

03 Korea IPRs Information Service (KIPRIS^{Plus})

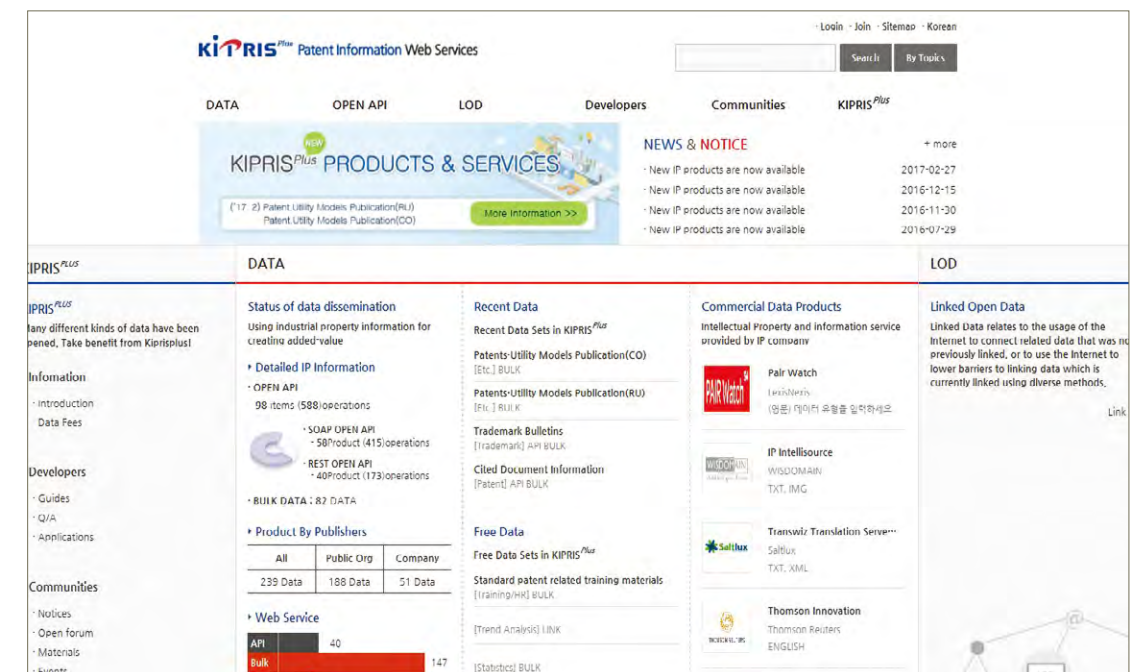
KIPRIS^{Plus} (<http://plus.kipris.or.kr>) is a portal for Application Programming Interface (API)-based Web services, providing real-time IP information to those who wish to access all the data without having to build their own databases. It allows companies and research institutes, among other entities, to reduce the time and cost involved with developing IP information databases.

As of the end of December 2016, KIPRIS^{Plus} contains information—information such as patents, designs, and trademarks—on 88 different kinds of goods (41 domestic goods 39 overseas countries), in addition to 50 types of information from the private sector. 55 different

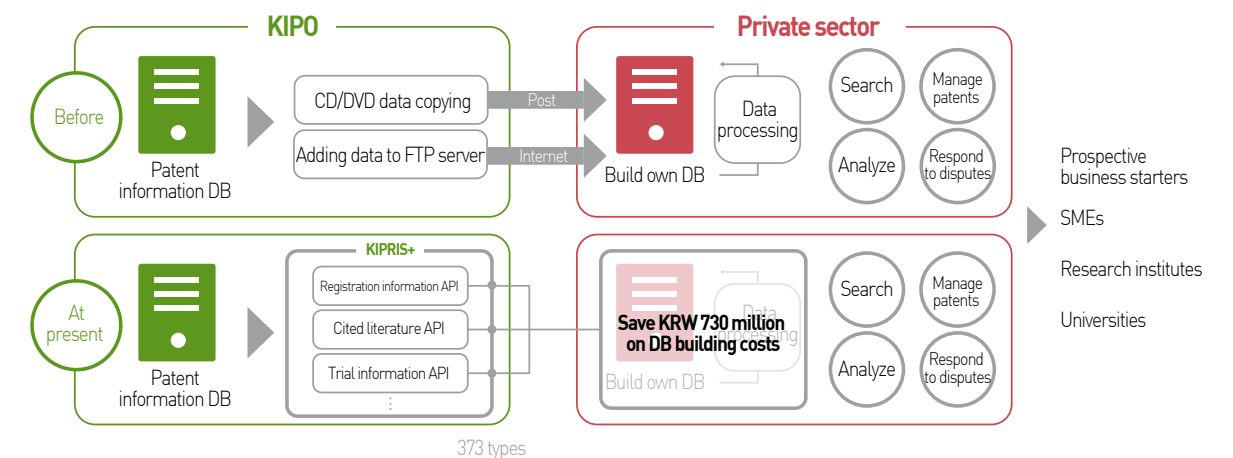
organizations, including IP information service companies and public agencies, currently use this service.

We plan to identify and disseminate useful IP data to the

public and expand the provision of Open API- and Linking Open Data (LOD)-based data to further reinforce the role of KIPRIS^{Plus} as an open platform for providing and distributing IP information.



Development of IP information database before and after KIPRIS^{Plus}



04 *Information security system*

We continuously develop and implement various managerial and security procedures for safeguarding valuable information—such as undisclosed patent documents—from cyber-attacks. In 2009, we separated our internal and external networks in accordance with security guidelines. Cloud computing was introduced in 2012, and we divided our comprehensive network into a SBC platform and an external network. In 2013, we tightened security on documents transmitted between the external network and the SBC platform. All IP documents are saved in the SBC server to prevent patent information leakage.

In addition, we built an information security system while still cooperating with prior art search staff from our subsidiary organizations and outsourcing firms by granting them access to our in-house cloud system.

Since 2005, our KIPO Monitoring Control Center has prevented, detected, and responded to cyber-attacks in real time. In 2011, we expanded our security control to include our subsidiary organizations and outsourcing firms. We also evaluate the information security of our subsidiary organizations and hold outsourcing firms responsible for any security violations.

As a result of our efforts, KIPO was ranked number 1 among the 43 central administrative agencies in the 2016 Information Security Management Status Evaluation by National Intelligence Service, and received a presidential citation for information security recognition as well.

05 *Improvements made in the fee system*

KIPO continues to improve the IP related fee system to create high quality industrial IPRs, maintain the current level of service and ensure that the fee system does not put an excessive burden on the economically disadvantaged.

In 2016, the registration fee waiver for patents, utility models and design rights were extended to cover the 7~9th year after registration, as opposed to the previous 4~6th years, to ease the financial burden for individuals and SMEs as well as to activate the use of IP and to allow businesses to flourish. With the introduction of the IP management certificate system on April 28, 2016, an additional 20% discount is applied to the registration fee for the 4~6th years of the certified businesses and this aims to further promote the system and support participating companies.

To further enhance customer convenience, a verification system for annual patent fee reduction/exemption has been set up as well. If patent registration fees had been reduced or exempted in the first year of registration, such records can be traced under the new system allowing the annual registration fee to be automatically reduced or exempted in its 4-9th year of registration without any additional paperwork.

06 *Improvements made in the patent application and registration system*

In alignment with the full-fledged Trademark Act amendment in 2016, various administrative rules, including application procedure regulations and correction fee payment schemes, have also been amended. With the aim of making the patent application and examination process more friendly and easy to use for our customers, the wording used in various application notifications, including requests for supplementation, notifications for invalidation, notifications for reasons of document rejection and notifications for document rejection, have been changed to allow for easier understanding. Unnecessary words have also been removed from the above notifications.

To assist applicants who are filing for an IPR application, a handbook consisting of explanations of common mistakes and FAQs was distributed. Public hearings were held to explain to SMEs and patent lawyers cases of key formality checks and the overall system. KIPO has also provided a "Guidebook on Examination Fee Waivers" to SMEs which explain how to qualify for examination fee exemptions.

KIPO has reduced and simplified paperwork for patent registrations so as to minimize customer inconvenience and make the overall process easier to access. Before, when the registration applicant was to submit an application, a written consent from the transferor of a patent was required for the transferee to independently submit a registration application. Under the changed system, a transferee can independently submit a registration application if the transfer documents of a registration states that the transferor is in agreement that the registration be submitted independently by the transferee.

In the case of transferring a right such as patent rights, Certificate of Identification Stamp or Signature was required to confirm voluntary intent for a transfer. However, with the changes made in the procedure, authentication certificates are no longer required when only parts of the rights are being canceled, such as parts of a claim or parts of class of goods.

Another change involves the situation when a patent rights owner, with a loan from a bank or other financial institutions using the patent as collateral, cannot pay back the loans for a certain period, the bank or other financial institution would need to dispose of the owned right on its own. For this to happen, the bank and the patent right owner need to submit a jointly filled certificate allowing the disposal of the right in question and Certificate of Identification Stamp or Signature, that is the patent right owner, to establish a right of pledge. Now, the change allows the bank to independently apply for a transfer of right through the submission of just a certificate of default and without any additional submission of an authentication certificate when exercising its right of pledge.

And finally, if a registration applicant receives multiple, yet identical, correction notifications for multiple cases with different registration numbers, before, the applicant had to submit correction papers for each case separately. To resolve this inconvenience, now, only a single set of correction papers need to be submitted for all cases of registrations.

07 *Customer feedback*

With active participation from our customers, we operated an IP Administration Monitoring Team and held an IP administration idea contest to ascertain new areas for examination improvement. In May 2016, we held an idea contest, wherein a total of 132 ideas were suggested—59 of which were adopted as policies for streamlining our IP administration.

The IP Administration Monitoring Team is composed of customers with expertise and who actively participate in IP-related affairs. The team monitors IP administration as a way of generating feedback from other voices in the field. In 2016, a third team of 25 participants engaged in IP work with company employees, patent attorneys, law firm representatives, and college students. Over the course of the year, it generated a total of 278 ideas and adopted 207 suggestions for systemic and institutional improvement.

Promoting the Creation and Utilization of IP

- 40 Linking R&D with IPRs
- 42 Regional IP Capacity Building
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- 45 Fostering the Development of an IP Workforce



Bamboo forest
Bamboo, which grows straight and green, symbolizes the incision and spirit of Korea from old times.

Linking R&D with IPRs

01 Analyzing Patent Trends of Government R&D projects

KIPO has been conducting trend analyses for patented technology by utilizing patent information at the planning phase of government R&D projects, ensuring that these projects are efficiently carried out.

These analyses are to guide the carrying out of medium- and long-term R&D projects which aim to create superior patents that have the appeal to enter into the future market by providing patent analysis results about the project at the

research planning phase or task selection phase.

Through these analyses, we can set the direction for patent creation by ensuring that similar or duplicate patents do not already exist, and that no legal issues stand in the way of a potential patent.

We supported analyses on patent trends and duplicate patents for 3,885 governmental R&D projects in 2013; 3,214 in 2014; 2,829 in 2015; and 3,113 in 2016.

Patent trend analyses are available on the Patent Map website (<http://www.patentmap.or.kr>). They are easily accessible for general researchers, and useful for conducting R&D.

02 Project for dispatching patent management experts

In 2006, we launched a project for dispatching patent management experts, and have since strived to create and promote high-quality IP generated by universities and public research institutes.

This project has contributed to raising IP awareness and building IP capacities through the provision of IPR consultations, the holding of seminars and briefings, and the construction of a patent management system, thereby benefitting each and every university and public research institute.

In 2016, by dispatching 13 patent management experts, we provided 806 consultations, held 173 seminars as well as briefings, and performed 685 technology transfers which are valued, in total, at approximately 18.1 million USD.

with technology marketing. In 2016, 30 patent technologies owned by university-public research institutions were identified for the project. Their market prospect and business feasibility were analyzed to present a utilization and technology marketing strategy. As a result, 55 cases of successful technology transfers with 8.9 million USD of technology profits from fees were finalized.

04 Product unit patent portfolio set-up project

To assist the transfer of outstanding patent technologies at university-public research institutions, and ease the adoption of such patent technologies by private businesses, KIPO has been conducting a "Product Unit Patent Portfolio Set-up Project" since 2011.

This project helps individual patents owned by many university-public research institutions to be re-aligned into a product unit based patent portfolio, and transfers them to individual companies. In 2016, 20 cases of the Product Unit Patent Portfolio Set-up Project were selected, and through successful technology marketing, 40 transfer cases resulted in a technology fee profit of 10.9 million USD.

03 Invention interviews and public IP utilization support project

KIPO has been conducting an "Invention Interview Project" and a "Public IP Utilization Support Project" for the past 10 years to promote outstanding IP creation and utilization at university-public research institutions.

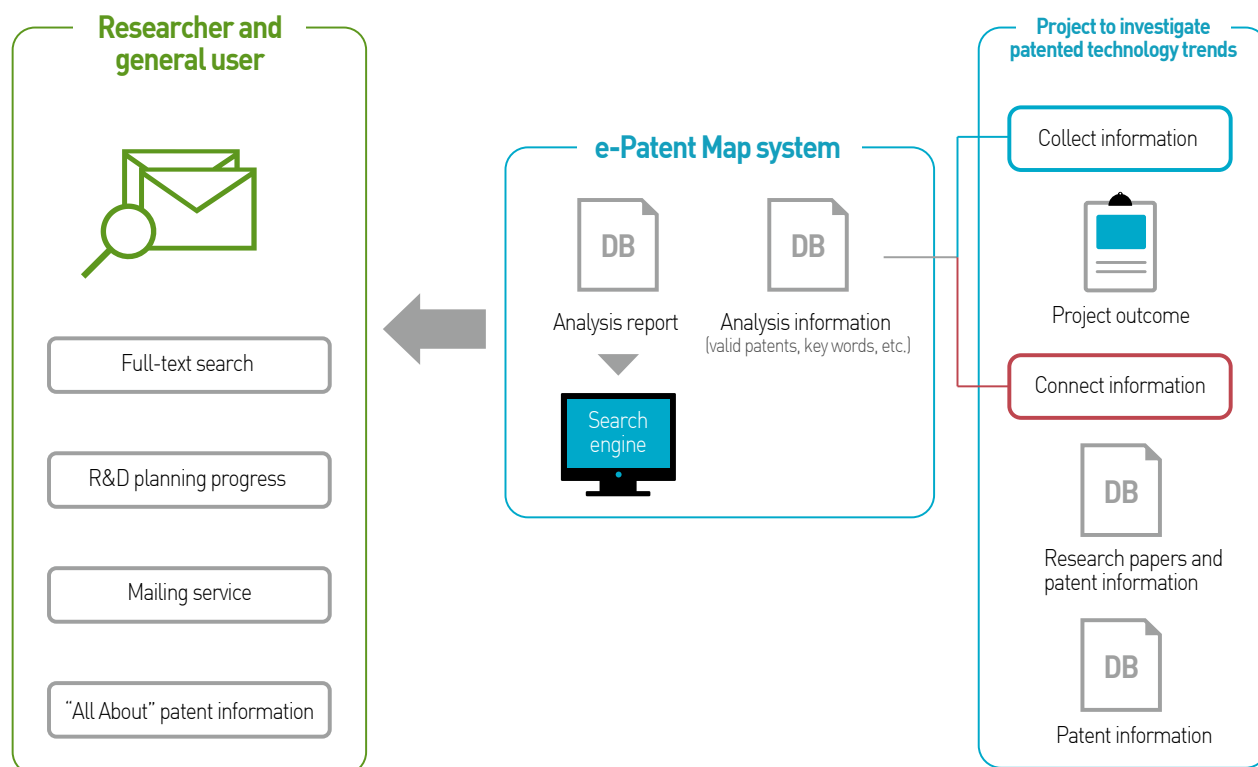
The "Invention Interview Project" invites patent lawyers and other experts to review the contents of an invention, before a patent for the invention is registered, to encourage only the best inventions. In 2016, 30 university-public research institutions participated in the Invention Interview Projects, where 3,506 cases of inventions were reviewed. 1,137 outstanding inventions were discovered, whereas 640 cases of inventions were decided as not being suited for a patent application.

The "Public IP Utilization Support Project" helps university-public research institutions to transfer their outstanding patent technologies to businesses by presenting utilization strategies to the research institutions and assisting them

05 IP utilization network set-up project

To ensure a smooth supply of patent technologies to actual users, that is, businesses, KIPO has been operating the IP utilization network (IP-PLUG) project since September 2015. IP-PLUG is a technology networking session that brings together diverse individuals and groups of IP users (businesses), IP suppliers (university and public research institutions, businesses), IP investors (venture capital and banks), IP brokers (Korea IP Strategy Agency and Korea Invention Promotion Association), IP utilization experts, and other private IP trading agencies to share IP information, discuss difficulties in working with IPs and to connect with necessary partners for better utilization of IPs. In 2016, 28

Diagram of government patent trend analyses



Regional IP Capacity Building

IP-PLUG sessions were hosted to transfer 155 cases of patent technologies to 85 SMEs, 5 of which also received an additional 1.5 million USD of private investments and loans.

The IP-PLUG started as a medical device and electronic parts network set-up in September 2015. Then, in March 2016, the network expanded to four other sectors including robots and atomization machines, construction and transportation technologies, maritime biology, as well as Internet of Things (IoT). Now, it provides excellent networking opportunities within the six top technology sectors.

Since 2013, KIPO has been working with SMEs in hosting the “Public Technology Roadshow,” which support outstanding patent technologies of university-public research institutions to be transferred to SMEs and turn them into new business opportunities. In 2015, Korea’s Ministry of Science, ICT and Future Planning participated in the Roadshow, and in 2016, the Ministry of Trade, Industry and Energy as well as the Ministry of Land, Infrastructure and Transport also joined. It has now become a prime example of a successful joint Ministry cooperation project. In 2016, KIPO held two Roadshows, identifying 1,035 cases of outstanding public technologies, resulting in the signing of 93 technology transfer MOUs.

01 Regional IP Centers

To promote awareness of the importance of IPRs and to encourage more inventions, creation as well as utilization of IPRs at the regional level, KIPO operates 29 regional IP Centers nationwide.

The regional IP Centers are run with regional and central government support and serve as an IPR support channel. In 2016 alone, 6,856 cases of domestic and international IPR registrations, along with 208 cases of customized patent maps, and 55 cases of brand development in non-English speaking markets were supported through the regional IP Centers.

The IP Centers in 8 major provinces and cities (Gangwon, Gwangju, Daegu, Busan, Incheon, Jeonju, Jeju and Cheonan) operates an ‘IP creation zone’ where a variety of IPR training is conducted and outstanding ideas are identified and cultivated. In 2016, 980 people received training at the Centers, 606 ideas were identified and ultimately 181 cases became registered IPRs.

The IP talent sharing project invites patent lawyers, designers and university students to volunteer their IP

related talents to society. In 2016, the IP talent sharing project became a nationwide project, bringing together and partnering up 259 talent volunteers with 149 recipients in 216 talent sharing projects. 83 cases of IP consultation, 45 cases of design development support, 33 cases of brand development support, 20 cases of prior art searches, 19 cases of IP training, and 16 other cases (i.e. writing up specifications) were performed.

02 Providing regional IP awareness

Regional IP forums and IP policy meetings

It has become mandatory for regional governments to draw up their IP plans in accordance with the Korea’s Enforcement Decree of the Framework Act on Intellectual Property (effective as of 2011), resulting in a growing need for improved understanding of IP throughout Korea. In 2016, we responded to this need by holding IP forums in the cities of Incheon, Ulsan, Sejong and Jeju, as well as in the provinces of Gangwon, Jeonnam, Gyeongnam and Gyeongbuk.

In addition, 2013 saw the launch of regional IP policy meetings for discussing ways to jointly implement, together with regional governments, advanced IP policies for building a virtuous cycle of IP creation, utilization, and protection. These meetings in which we have been actively participating in, along with 17 regional governments, are held twice a year to implement consistent IP policies between the federal and regional governments.

Customized IP training across all demographics and promoting IP ecosystem through customized training and invention competitions

KIPO operates diverse education programs through the regional IP Centers for SME management, local government officials, students and the public. These education programs demonstrate the importance of IPs and their values, and in 2016, 22,805 individuals participated in the various education and training programs.



In 2016, KIPO hosted the following different types of training sessions for both public and private audiences:

- ① 344 sessions of general education on the basics of the IP system for 12,235 individuals including students, to-be entrepreneurs and the public;
- ② 308 sessions of customized training for 3,715 people in the business community with tailored contents to match the company’s IPR capacities and needs;
- ③ 230 sessions of focused training for 4,861 individuals with the aim of improving the corporate IP capacities and training IP experts within companies; and
- ④ 65 sessions of ‘public sector IPR training’ for 1,994 local government officials.

To promote IP awareness and encourage invention activities of the members of our armed forces, KIPO is working with the Ministry of Defense, the Military, Navy and Air Force Headquarters to conduct IPR training. In 2016, KIPO visited 93 units, and trained 6,630 soldiers through 71 training sessions. In addition, KIPO hosted separate invention competitions for the men and women of the armed forces and for the maritime police in which 34 cases of the armed forces and 11 cases of the maritime police were recognized with awards.



Enhancing the IP Capacities of SMEs and Promising Enterprises

01 Expanding IP financial services

IP financial services evaluate the value of IP of outstanding IP companies and provide support for guarantees, loans, and investments from financing institutions based on such evaluation results.

In 2013, together with the Korea Development Bank, we enabled SMEs to acquire loans using only their IPRs as collateral. We recently expanded our IP financing service to include the Industrial Bank of Korea in 2014 and the Kookmin Bank in 2015. In 2016, funding in the amount of 261.3 million USD was provided to companies, and over the past four years, a total of 642.4 million USD in funding has been provided.



02 Fostering the Star IP Company Project

We are working to nurture the potential of Korea's Star IP companies as a method for improving IP creation and utilization among SMEs. The Star IP Company Project involves identifying regional SMEs with impressive growth potential and, over a three-year period, assisting them with transforming their ideas into patents through the use of customized patent maps, as well as brand and design development.

Through this Project, we provide professional consultations on IP management strategies in order to foster regional business that stand out. Since 2010, we have nurtured a total of 1,166 promising SMEs into Star IP companies and we provided intensive customized support to such Star IP companies.



Fostering the Development of an IP Workforce

01 Increasing IP competency in academic institutions

IP courses in university

Since 2006, KIPO has supported universities and graduate schools in providing courses (both elective and required)

that incorporate IP-related content. We also sponsor the hiring of IP-focused professors in order to build a foundation for independent IP education at universities and support selected schools as IP Education Leaders to further disseminate IP knowledge within academia. KIPO also runs its IP Professor Fostering Programs to increase the number of university professors qualified to teach IP-related courses.

Undergraduate and graduate IP education courses (Science and Engineering Departments)

Stage	Year	Education module						
		Introduction to IP	Patents and creative thinking	IP creation	Patent information investigation	IP protection	IP utilization	R&D patent strategies
Introduction	Freshman		Creative thinking and basic design		Basic creative design			
	Sophomore	Introduction to IP				Introduction to IP		
		Students can choose from the following courses: Patent analyses and invention application, Business startup, and IP I, and IP II						
	Senior		Comprehensive creative design		Comprehensive creative design			
In-depth	Graduate students	R&D strategies from a patent viewpoint						

IP University Courses

Type of Course	2012		2013		2014		2015		2016	
	Number of Courses	Number of Participants	Number of Courses	Number of Participants	Number of Courses	Number of Participants	Number of Courses	Number of Participants	Number of Courses	Number of Participants
Regular IP Courses	57	8,345	57	8,057	64	8,569	56	7,308	33	3,260
Training for Teachers	71	285	64	268	88	303	84	350	84	318
Selected IP Leading Education Institutions	3	3,441	6	7,638	9	16,002	12	20,028	15	28,936

We have developed, and are now distributing to universities, standardized IP education curriculum at both undergraduate and graduate levels, culminating in an engineering certificate and enabling students to systematically build upon their IP knowledge. In addition, we produced and distributed IP education textbooks targeting people with different knowledge levels and academic background

Master of Intellectual Property (MIP) program

Since 2010, we have operated a special Master of IP course at the Korea Advanced Institute of Science and Technology (KAIST) and Hongik University as a way of systematically nurturing Chief Intellectual Property Officers (CIPOs). The program provides an interdisciplinary approach based on IP-related subjects, such as engineering, law, and business management. Furthermore, in 2015, we selected two Korean universities to manage a scholarship program for SMEs lacking in staff members exclusively responsible for handling IP.

02 Promoting academic-industrial cooperation

Campus Patent Strategies Universiade

Since 2008, we have held the Campus Patent Strategies Universiade to raise collegiate interest in patent education, expand practical patent education at the university level, nurture engineers who possess the patent-related knowledge that companies need, and keep industry supplied with innovative ideas coming from universities.

At this Universiade, students at both graduate and undergraduate level, with help from their academic advisors, draw up future strategies and offer solutions to questions prepared by private companies. The private companies then screen the answers and award monetary prizes to their top choices. The Universiade represents a new type of cooperation among government, industry, and universities. Students can quickly grasp the corporate R&D process as a result of the IP-related knowledge they

have gained, while participating companies are provided with new creative ideas. In 2016, we had participation from 38 companies, as well as 147 universities represented by 3,415 teams.

Design to Business (D2B) Fair

Since 2006, Design to Business (D2B) Fairs have been held as part of a concerted effort to raise design right awareness and, in doing so, reinforce national industrial competitiveness. D2B Fairs are distinctive in that companies gain creative designs through the open innovation of talented designers, while designers retain the IPRs to their innovative designs. At the fair, companies propose designs for goods in need of a makeover, and designers submit their designs to companies. When companies commercialize an award-winning design, both the award-winners and the companies sign a licensing



contract. The award-winners receive royalties in relation to the product's generated revenue. In 2016, 23 companies presented goods for the contest, and 5,385 designs from 77 universities were submitted to the D2B Fair, resulting in 108 design applications.

Collegiate invention activities and academic-industrial cooperation

As yet another way to boost inventions from universities, as well as to turn their inventions into IPRs, commercialize their inventions, and foster creative inventors well-versed in IP, we have been holding university invention contests ever since 2012. For each contest, we operate IP summer camps, and IP experts train and actively support students in conducting prior art searches and preparing patent applications. Furthermore, when it comes to especially innovative ideas and IPRs, we take care of the patent application fee, the testing of product prototypes, commercialization, etc.

During the 2016 contest, a total of 4,636 ideas were submitted from 134 universities, posing an 8% growth rate in the number of requests made compared to 2015.

03 Fostering creative inventors

Management of invention classes

KIPO enhanced national invention education by supporting invention classes and special class activities. Furthermore, we designated four universities to educate teachers, and we operate education centers there to train and nurture professional invention teachers, both prospective and current. In 2015, we operated creative invention education centers for primary, middle, and high school students in a total of 199 schools in 17 cities and provinces nationwide in order to develop and provide invention education programs targeted not only to students, but also their parents and the general public, thus contributing to enhanced IP awareness and invention education throughout those regions. We plan to continue to finance such programs in hopes of cultivating awareness of and interest in IP among students

and their parents.

Invention promotional programs for youth

We conduct various invention and creativity activities in order to discover creative, talented inventors, and further, we select and support excellent students and teachers actively engaged in invention classes. The Korean Student Invention Exhibition has been held ever since 1988 to discover and nurture promising inventors that can lead tomorrow's knowledge-based society by encouraging them to design and produce innovative inventions. Since 2002, the Korean Student Creativity Championship has been jointly held by KIPO and Samsung Electronics, with the aim of nurturing outside-the-box thinking among today's youth by having them collaborate with each other to solve problems. This championship is distinctive in that students form teams, and their creativity is evaluated as they resolve





various tasks given to them both in advance and during the event.

The Youth Inventors Program (YIP) is a program that nurtures creativity, collaboration, and entrepreneurship among today's youth by having middle and high school students present creative solutions to dilemmas proposed by companies, which then help support the students in submitting patent applications. In addition, we award scholarships to promising student inventors.

In 2011, we established a new grand prize for outstanding invention instructors in order to recognize those who promote invention-oriented thinking and the spread of invention education.

In 2016, a total of 10 companies participated in YIP. Seventy teams (193 students total) were selected to present their ideas, and 70 patent applications were filed.

Education for the next generation of entrepreneurs

We have run educational programs, at KAIST and the POhang University of Science and TECHNOlogy (POSTECH), aimed at middle and high school students who have the potential to become creative IP-based entrepreneurs. We offered various educational programs on core

entrepreneurial skills, including creative problem solving and future technology forecasting, while simultaneously fostering IP expertise. In addition, as part of an effort to enhance the business startup capacities of students who completed the next generation talented entrepreneur course, we run a step-by-step business startup program covering everything from conceiving new inventions to the early stages of a business startup.

The Gifted Future Generation of Businesses is a 2-year program that, as of 2016, has been completed by 677 students.

04 Events to promote inventions

Invention Day was established to celebrate the world's first rain gauge, which was invented on May 19, 1441, during the reign of King Sejong of Joseon Dynasty. Every year, we host an annual Invention Day Ceremony to promote the importance of invention and inspire members of the general public to become inventors.

In 2016, we hosted the 51st Invention Day Ceremony, which

was attended by such high-ranking government officials as the Chairperson of the Presidential Council on IP, and this type of participation demonstrates the government's strong will in supporting IP growth. At the ceremony, 80 inventors were specially awarded for their contributions to Korea's industrial development.

To further celebrate the occasion and raise IP awareness, a commemorative movie screening, ceremony performance, outstanding invention exhibition and many other exciting events were held. We also selected the "Inventor of the Year" in recognition of how new products and new technologies have contributed to our national competitiveness. The Inventor of the Year's photo and invention are publically displayed in the Inventor Hall of Fame as a way of affording inspiration to other inventors.

On December 1, 2016, KIPO hosted the Korea IP Exhibition in Seoul, which is a culmination of three exhibitions: Korea Invention Patent Exhibition, Trademark and Design Right Exhibition, and Seoul International Invention Fair sponsored by WIPO and the IFIA. It featured 643 inventions from 31 countries, including the US, Germany, and Russia. It also featured about 93 outstanding inventions and 22 outstanding trademarks and designs of Korea.

As part of KIPO's efforts to encourage female inventors to create and commercialize inventions, we host the Korea International Women's Invention Exposition alongside with WIPO and the Korea Women Inventors Association. This expo was held on June 16 to 19, 2016 at the KINTEX and was a huge success, with more than 60,000 visitors as well

as 296 inventions submitted by female inventors from 25 different countries.

In conjunction with the International Exposition, we hosted the IP Wave for Creative Women Leaders on June 20 to 22, 2016. It was attended by a total of 100 female inventors and business leaders, who came from 19 different countries and each of whom had previously received IP management training from WIPO.

At the 2016 Woman Idea Living Show, women submitted creative, fun, and sophisticated ideas for everyday inventions. Women whose ideas were selected received support in filing patent applications and manufacturing prototypes. The online community was invited to vote on the prototypes displayed on the homepage (<http://www.womanidea.net>), and the inventors gave presentations explaining their ideas.



Enhancing IPR Protection



IPR Protection in Korea

01 Enhancing IPR protection against counterfeits

In September 2010, KIPO launched the Special Investigation Police for Trademark (SIP) as a way of enhancing law enforcement on counterfeits, and we established offices in the cities of Seoul, Busan, and Daejeon.

In 2016, SIP criminally arraigned 351 suspects found producing and/or selling counterfeit goods, with a total of 584,094 counterfeit goods being seized.

Due to the boom in e-commerce, online transactions of counterfeit goods have been rapidly increasing. To efficiently tackle this issue, in November 2011, we established an online law enforcement task force equipped with digital forensic equipment to firmly regulate online transactions of counterfeits. We arrest sellers of online counterfeit goods and block and/or shut down offensive websites.

In addition, we actively reinforce investigations into those counterfeit goods that have a great impact on people's lives, such as the large-scale illegal manufacturing and distribution of counterfeits related to health and safety.

02 Increasing the public's awareness on IPR protection

KIPO conducted a series of public awareness activities to enhance IPR protection and consumer awareness of the



illegality of counterfeit goods. KIPO, in collaboration with leading universities in the IP field, along with conducting street campaigns, educated the public about the illegality of counterfeit goods, methods of harm prevention from false indications and comparisons between genuine and fake products.

Also, KIPO intensified promotions through sites, blogs and SNS to catalyze public opinion and establish a culture that respects IP and its protection. KIPO carried out competitions to eradicate IP technology theft, prevent purchases of counterfeits and false indications. A total of 144 items were submitted, and among them, 28 were prized and such prized items were used as part of public advertisements. And, KIPO developed teaching materials about IPR protection from 2014 to 2016, and subsequently, disseminated them to elementary, middle and high school students.

Law Enforcement Results

Category		2010 (September–December)	2011	2012	2013	2014	2015	2016	Subtotal
Criminal arrests	Number of individuals	45	139	302	376	430	340	351	1,983
	Number of seized goods	28,629	28,589	131,599	822,360	1,114,192	1,192,988	584,094	3,902,451

03 Improvements to IPR protection laws and systems

KIPO has worked on amendments for the compensation system of infringements against IPRs since the second half of 2013. The 2016 Patent Act amendment reflects this and are demonstrated in the following change of contents:

- ① If an appraisal is ordered to assess the amount of damages in an action against infringement of a patent, the parties in the lawsuit are responsible for explaining the case details to the appraiser;
- ② The evidence to be presented may include not only documents, but also other reference materials. The purpose of submission of reference materials should be proof of a patent infringement; and
- ③ In the case where a party is unable to follow the court's order to submit reference material, and is unable to provide other evidence, it is recognized as that party admitting to the other party's claims as being true.

Through these amendments, we expect a more just compensation system which will contribute significantly to fostering a sound IP ecosystem.



04 Trade secret protection projects

According to the Enforcement Decree of the Unfair Competition Prevention and Trade Secret Protection Act, a certification that is issued by a certification institute results in a presumption, so it can be used as proof when trade secret disputes occur. Therefore, KIPO began to operate the Trade Secret Certification Service, which was introduced in November 2010, to alleviate the difficulty of authenticating trade secret ownership during infringement litigation. Time stamps are generated by combining unique codes, called "hash values," from trade secret e-documents with authorized time values. Time stamps are then registered with the Korea Institute of Patent Information to prove the existence of original copies of trade secrets, as well as their initial dates of possession. The number of cases involving the Trade Secret Certification Service has steadily grown, and was expected to reach an accumulative total of 87,641 cases by the end of 2015. In fact, since 2010, this system was used for an accumulative total of 102,061 cases, as of 2016.

KIPO also established the Trade Secret Protection Center and this center conducted various support projects including consultations and the provision of information. KIPO conducted regional seminars in densely business



Overseas IPR Protection

populated areas to enhance understanding about trade secret systems by developing on/offline education materials to demonstrate the seriousness of leaking trade secrets and how to protect trade secrets, as well as disseminating online and offline education at company visits.

In addition, we developed and distributed the Trade Secret Protection Management System to help SMEs manage their trade secrets at minimal cost and manpower. In 2016, the use of this system by SMEs continued to increase as shown by the fact that 128 companies introduced this system.

01 IP-DESK

KIPO operates IP-DESKs to protect and further promote IPRs belonging to Korean companies doing business overseas. Recently, additional IP-DESKs were added in areas where Korean companies are frequently embroiled in IPR disputes. In 2014, we set up an IP-DESK in Frankfurt, Germany and an IP-DESK in Tokyo, Japan was then added in 2015. In 2016, we set up an IP-DESK in Xi'an, China, which is an economic hub of western China. As of

December 2016, we were operating a total of 12 IP-DESKs in 6 countries.

IP-DESKs provide Korean companies, whether active in or preparing to enter foreign markets, with consultations on registering and protecting IPRs and resolving IPR disputes. In addition, we hold seminars to share information on how to prevent infringements.

KIPO also held seminars to help IPR-related government officials of China, Thailand, and Vietnam to enhance their capabilities of enforcing protection against counterfeit goods. And we are making efforts to develop cooperative channels with foreign IPR related organizations in order to protect the IPRs of Korean companies operating overseas.

In collaboration with those industrial associations that generally face the greatest amount of IPR disputes, we hosted IPR protection capacity and awareness seminars, and supported site inspections of counterfeit goods distribution channels overseas. This was done in order to advise Korean companies on the best ways to secure trademark rights before entering overseas markets. We also monitored the online distribution of counterfeit goods and illegal usage of K-brands by overseas trademark trolls. The results of our monitoring were then shared with Korean companies to help them determine appropriate counter measures.

In 2016, KIPO monitored the infringements of 46 trademark trolls in China and then shared this with Korean companies to help them determine the appropriate counter measures. And in cooperation with the Alibaba Group, KIPO prosecuted about 19,000 counterfeit goods on Alibaba and blocked related sites.

02 Establishing methods for K-Brand protection

In response to the way that Korean goods are increasingly being counterfeited in certain overseas markets, in 2014, we implemented, through cooperation with other relevant government agencies, "Comprehensive Protection Measures for K-Brands" to increase the credibility of the Korean brands and prevent damage to the national image. And, in 2015, we provided systematic support to further protect Korean brands.

Korea's IP-DESKs around the world



Global IP Cooperation

- 58 Multilateral Cooperation and FTA
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- 67 International IT Cooperation
- 68 International Seminars and Training Courses



Incheon International Airport
It is the hub airport of Northeast Asia and ranked No. 1 for 12 consecutive years in the World Airport Service Assessment (ASQ) announced by the International Airport Association (ACI).

Multilateral Cooperation and FTA

01 *Multilateral meetings at WIPO*

At the WIPO (World Intellectual Property Organization) General Assembly held in Geneva, Switzerland, in October 2016, the Commissioner of KIPO, Choi Donggyou, delivered his General Statement, and stressed how the Fourth Industrial Revolution, based on artificial intelligence and big data, will affect the development of the IP system. He also introduced Korea's recent policies, which include revisions to the Korean Patent Act, that were aimed at ensuring the efficient granting of patents and preventing substandard patents. In addition, Mr. Choi participated in the Group B+ meeting where he participated in discussions regarding the global harmonization of patent systems.

Throughout 2016, we participated in working group meetings to expand such global IP services as the PCT, Madrid, and Hague systems. We also participated in WIPO standing committees— that is, the Standing Committee on the Law of Patents (SCP); the Standing Committee on the Law of Trademarks, Industrial Designs, and Geographical Indications (SCT); and the Committee on WIPO Standards (CWS)— to discuss global IP norm settings.

Furthermore, we participated in permanent WIPO committees, including the Program and Budget Committee



(PBC), the Committee on Development and Intellectual Property (CDIP), the Intergovernmental Committee (IGC), and the Advisory Committee on Enforcement (ACE), to discuss WIPO's budget and development agendas, genetic resource protection, as well as technical assistance and coordination in the field of IP enforcement.

02 *APEC Intellectual Property Rights Experts Group (IPEG)*

In 2015, within the framework of APEC's Intellectual Property Rights Experts Group (IPEG), KIPO proposed a new project called the "Guidebook for SMEs' IP Business Cycle" in hopes of producing an IP policy reference manual for SMEs. In 2016, we published the guidebook, which included research on IP policies, local analyses as well as online surveys, and fully completed it in March 2017. The guidebook is expected to contribute and provide IP support policies that will raise the innovation capacities of SMEs and enable them to better access regional and global markets. In addition, during the 43th and 44th IPEG meetings, KIPO not only updated the public on the current process of the project "Guidebook for SMEs' IP-business cycle", but also introduced KIPO's "Global IP-Sharing Projects." These activities illustrate the manner in which KIPO is increasing its role in the IPEG by introducing Korea's IP related policies and projects to APEC Member Economies.

03 *Free Trade Agreement negotiations on IP*

Korea's first free trade agreement (FTA) was signed with Chile (effective as of April 1, 2004), and since then, further FTAs have been agreed upon with Singapore (effective as of March 2, 2006), EFTA (effective as of September 1, 2006), ASEAN (effective as of June 1, 2007), the United States (effective as of March 15, 2012), the European Union (effective as of July 1, 2011), Peru (effective as of August 1,

Sharing IP

2011), and Turkey (effective as of May 1, 2013).

With India, Korea signed a Comprehensive Economic Partnership Agreement (CEPA) that went into effect on January 1, 2010. In addition, FTAs that were signed with Australia (effective as of December 12, 2014), Canada (effective as of January 1, 2015), China (effective as of December 20, 2015), New Zealand (effective as of December 20, 2015), Vietnam (effective as of December 20, 2015), and Colombia (effective as of July 15, 2016) were put into effect, and the Korea-Central America (Panama, Costa Rica, Honduras, El Salvador, Guatemala, Nicaragua) FTA is scheduled to come into effect in the near future.

The Regional Comprehensive Economic Partnership (RCEP), the Korea-China-Japan FTA, the Korea-Ecuador Strategic Economic Cooperation Agreement (SECA), and Korea-Israel FTA are under negotiation.

By signing FTAs with the European Union and the United States, Korea has already attained a high level of IPR protection that surpasses that of the World Trade Organization (WTO) Trade-Related aspects of IPRs (TRIPs).

01 *Appropriate technology development*

Appropriate technology (AT) refers to technology specifically tailored to the environmental, cultural, and socioeconomic factors of a particular region. Mainly developed to improve the quality of life for low-income households, it is more cost-effective, efficient, and easier to implement and maintain than cutting-edge technologies. In other words, it is technology with low-usage value in developed countries, but which can be highly revolutionary in developing ones. Using technological information obtained from patent documents, we were able to provide AT to several countries in need of a helping hand. In fact, KIPO is fast becoming a global leader in utilizing IP for AT development.

For example, in 2013, we developed an Ylang-Ylang oil extractor for the Anao province in the Philippines and bicycle-operated water pumps in Pinu, Papua New Guinea. In 2014, we also developed a decentralized sewage treatment system in Vietnam, as well as a beehive honey

extractor and corresponding manual in Ghana. In 2015, we developed a drainage system for a high school in Myanmar and natural dye extracting machines in Mongolia.

In 2016, KIPO provided the Aceh province, Indonesia, with technology that extracts oil from Patchouli, a type of herb grown in this area. The old oil extractor was susceptible to rust and produced oil of uneven quality. However, the new oil extractor exploits 5 different technologies that were extracted after reviewing 590 patent documents. As a result of this project, KIPO, in collaboration with Indonesia, opened the Herbal Oil Research Center in Aceh.

KIPO also developed and provided a grease separation system to the Vung Tau province, Vietnam. By disseminating



various forms of customized grease separation systems, KIPO contributed to the improvement of living conditions and the enhancement of technological capabilities of local residents.

02 Appropriate Technology Competition

The Appropriate Technology (AT) Competition began in September 2011. The AT competition supports students and inventors in developing countries by showing them how to utilize patent information in order to devise creative solutions to problems their local community face. The AT competitions were held 8 times in 6 different countries including: Ethiopia, Malaysia, Ghana, the



Philippines, Zambia, Vietnam, and Mongolia. In 2016, these competitions were implemented 2 times, once in the Dominican Republic in April and once in Thailand in November.

The AT Competition serves the most fundamental yet crucial step in appropriate technology development assistance: understanding the local needs and

environment. With this in consideration, the AT Competition provides the optimal route in understanding local needs as the stakeholders themselves voice the problems they face every day and propose potential solutions to such problems.

The AT Competition demonstrates a trilateral cooperation structure between KIPO, WIPO, and the national IP offices of the Member States. The trilateral cooperation offers an optimal structure to support the development of appropriate technology through three core phases: the WIPO AT Competition, AT Development Project by KIPO, and collaboration with external organizations such as NGOs. The trilateral cooperation allows a natural flow of inventions to subsequent assistance programs so that inventions can help develop both technical specifications and optimal business plans.

03 Brand development

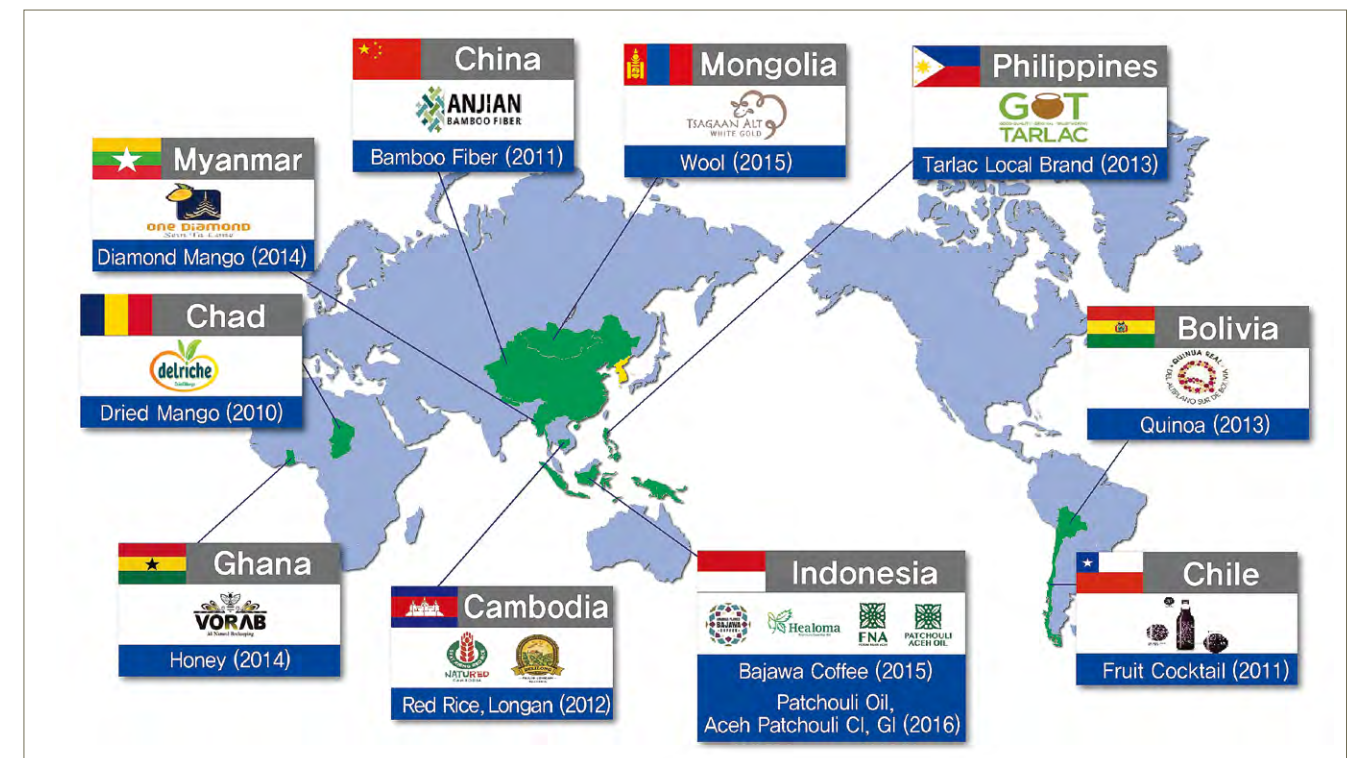
Although high-quality locally-farmed goods and other specialty items are found often in developing countries, due to a lack of attention to brand development, the majority of producers never receive the benefits of a proper marketing campaign. To solve this problem, in 2011 and 2012, APEC joined KIPO in supporting brand acquisition through the "One Village One Brand Project." In 2013, we developed a grain brand called "Quinoa" in Bolivia, as well as a certified



KIPO's Global IP Sharing (Appropriate Technology Development)



KIPO's Global IP Sharing (Brand Development)



local brand for the Tarlac province in the Philippines. In Tarlac, we also held a “One Village One Brand” seminar to share insights into brand development and proper methods for IP utilization.

In 2014, KIPO aided the citizens of Ghana by using brand development to help revolutionize their bee keeping industry. In Myanmar, we developed the brand “Diamond Mango” at the request of that country’s Fruit, Flower, and Vegetable Producers and Exporters Association. In 2015, through brand development, we were able to help boost Mongolia’s wool industry and the coffee industry for Indonesia’s Flores Bajawa region.

In 2016, along with supporting appropriate technology, in order to help local people sell Patchouli oil products in the market, KIPO developed a brand for Patchouli oil. The President of the Aceh Patchouli Forum said that in addition to the KIPO-developed oil extractors being easy to use and producing high quality oil, the Patchouli oil brand will help bring even more income to the local people.

04 WIPO Korea Funds-in-Trust (FIT) projects

Since 2004, KIPO has operated the WIPO Korea Funds-

in-trust (FIT) and applied it toward KIPO-WIPO projects that support developing countries. Through KIPO-WIPO’s Study Visit program, IP experts from all over the world were invited to Korea to learn about its IPR policies and discuss ways to further develop their IPR policies. Seven representatives including the Director General from the IP office of the Dominican Republic visited Korea in November.

On March 11th 2016, KIPO, in collaboration with WIPO Arbitration and Mediation Center, held a KIPO-WIPO Joint ADR Seminar in Seoul in order to enhance alternative dispute resolution (ADR) in the intellectual property field, as well as to promote usage thereof. Recent global increases in IP disputes have resulted in a growing demand for such expedited, cost-effective arbitration and mediation alternatives as ADR. Additionally, KIPO and WIPO introduced the “WIPO Guide on Alternative Dispute Resolution Options for Intellectual Property Offices and Courts,” which was published thanks to financial support from the WIPO Korea FIT.

WIPO Korea FIT also helps foster IP experts in developing countries. Through this fund, we sponsored six international students to enroll in the WIPO-QUT Joint Master’s Program offered by Australia’s Queensland University of Technology. In similar fashion, we sponsored two students from developing countries to attend the WIPO-SNU Master’s



Program offered by Seoul National University. Every July, KIPO hosts the IP Summer School, a course officially offered by WIPO. The program is held in Daejeon and open to the general public. In 2016, a total of 15 students took part.

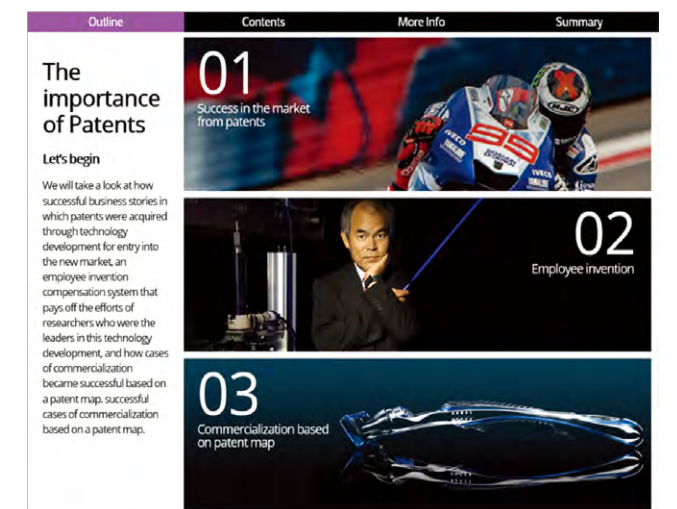
05 Development of IP education contents

In 2006, in collaboration with WIPO, we developed an English e-learning program called IP PANORAMA, which tackles IP issues from a business perspective. As of now, it is available in 24 different languages and we have utilized it for both online and offline international IP training for WIPO Member States. For example, ever since 2010, we have offered the Advanced International Certificate Course with WIPO and Korea Advanced Institute of Science and Technology. In 2016, 645 people from 72 different countries participated in this online course, and, over the past 7 years, more than 4,700 people from WIPO Member States have taken part. In 2014, in collaboration with WIPO Academy, we also developed the IP e-learning program “IP IGNITE”, an audio-visually enhanced version of WIPO’s DL-101. Within its 12 modules, “IP IGNITE”

covers everything from basic IP fundamentals to advanced information on international IP law and WIPO-administered treaties. In 2015, KIPO launched the IP education game “Invention Savers JIN”, which nurtures creativity in young people by teaching them the basic principles of invention. In 2016, KIPO also launched another IP education game “Invention City” and disseminated it to 97 countries and about 220,000 people have been playing it. Also, we have offered game-based learning classes about inventions to elementary students. Lastly, a mobile version of “IP PANORAMA” that incorporates live-action video footage, rather than animation, was launched in collaboration with WIPO.

06 “Global IP-Sharing Korea” Event

In Seoul, KIPO held the “Global IP-Sharing Korea” event in conjunction with the “Patent War 2016” conference in August 2016 to share the experiences of Korea’s IP sharing projects. About 300 people, including the Commissioner of KIPO, the Director General of WIPO Dr. Francis Gurry and members of National Assemblies, attended this event.



Bilateral Cooperation

01 Bilateral cooperation

In 2016, KIPO has actively pursued bilateral cooperation with overseas IP authorities through 20 summit meetings.

KIPO discussed ways for further cooperation with China in a meeting on trademarks with the Commissioner of China's State Administration for Industry and Commerce (SAIC). At the Commissioner's meeting on patents with the State Intellectual Property Office of China (SIPO), we discussed issues of shared interest and agreed on cooperating in joint examination on patents and patent classification. At the 2016 Korea-China-Japan Commissioner Summit, we discussed ways to effectively streamline cooperation among the three countries. It was also decided that the title of the Commissioner's summit be changed to 'TRIPO Heads Meeting', thereby further elevating the level of IPR cooperation among the three East Asian countries.

Through annual bilateral meetings with the EPO/OHIM, our cooperation within the patent, trademark, and design fields of European countries continue to be strengthened. KIPO and the Visegrad Patent Institute met for the first time, and opened the doors for further cooperation, demonstrated through the signing of a comprehensive IPR cooperation MOU.

With KIPO's outstanding examination capacities and IP system management experience, Korea continues to



At this event, KIPO introduced AT & brand development projects, invention learning animation for kids, invention learning game for youth, IP learning contents for adults and SME employees, as well as international cooperation activities with WIPO and IP5.

During his ceremony speech, Dr. Francis Gurry showed high appreciation for the KIPO-WIPO cooperation projects that acknowledge IP and advance developing countries. He also stated that they are exemplary cases which have resulted in great success, and he took the stance for further cooperation between KIPO and WIPO.



share its IP administrative expertise with other countries. KIPO and the Turkish Patent Institute worked together on a consulting project for Turkey to obtain approval as a new PCT international investigation institute. In another consulting project, KIPO has agreed to work with the UAE Ministry of Economy to set up an IP organization and IP legal system in the UAE.

KIPO continues to expand examination cooperation projects. The number of countries carrying out the PPH with Korea has increased to 26 countries in 2016 from 24 in 2015. A new examination cooperation program, Collaborative Search Program (CSP) which first began with the US in 2015, was launched with China in December 2016. In the past, examination cooperation programs referred to one patent office referencing prior art search results already performed by another patent office. The CSP takes this one step further and enables two patent offices to start the examination process by sharing relevant prior art search information. This induces examination results to be more consistent across different countries.

02 IP5 cooperation

The IP5 consists of the world's largest patent offices, in terms of the volume of patent applications, and Korea is not only a member of the IP5, but actively participates



in IP5 cooperation initiatives. With a rapid increase in patent application volumes around the world, delays in examination are becoming a global issue. The EPO, JPO, KIPO, SIPO and USPTO first came together in 2007, and in October 2008 met again for the IP5 Heads Meeting in Jeju. At this meeting, the Commissioners agreed on 10 foundational projects to discuss work-sharing among the Members, and subsequently, 4 working groups were set up and have been working on said 10 foundational projects ever since.

The IP5 first started as an effort to improve the overall quality of patent examinations and reduce workloads by sharing information related to patent applications that were being submitted to all 5 offices. In 2012, the GDTF (Global Dossier Task Force) and the PHEP (Patent Harmonization Expert Panel) were set up to build a global IT system, Global Dossier, and harmonize the patent system across the 5 offices. Now, the IP5's work scope has extended to cover informatization and search system harmonization.

At the 2016 IP5 Heads Meeting held in Tokyo, Japan, it was agreed that the IP offices would, through adopting a joint declaration, explore cooperating in terms of office responses to emerging technologies, such as the Internet of Things (IoT) and Artificial Intelligence (AI) as well as the impact of these newly emerging technologies on the overall IPR system. The offices also agreed on the execution of a third round of the pilot project, collaborative search and examination (CS&E), as part of the PCT examination cooperation for the PCT international phase applications

in which one application can be jointly examined by all five offices. This pilot project will begin as early as the second half of 2017.

To further strengthen communication with those who are the actual users of the IP system, the industry, an industry consultation group (ICG) was set up in October 2016. The first ICG meeting was held in January 2017 in Munich, Germany to discuss cooperation projects.

03 *TM5 cooperation*

TM5 is a consultative body of five major players in the trademark field, that is, Korea, US, Europe, Japan and China. Officially launched in May 2012, Korea hosted the 2013 TM5 meeting as the chair country. In July and October 2016, Korea participated in the TM5 midterm meeting and annual meeting to discuss cooperation directions for further harmonizing trademark systems around the world.

At the TM5 meeting, the countries discussed ways to harmonize the trademark system through 14 cooperation projects, as well as ways to enhance user convenience. KIPO is currently leading the following projects: comparison and analysis of examination results project, providing information on how to describe goods and services project and the TM5 website project. Brief summaries of the projects are as follows:

① Comparison and analyses of examination results project compares the examination results of patent applications that have been submitted to all 5 offices. 47 selected examination results of patent applications which have been submitted to all five offices are currently being analyzed for power of discernment and similarities.

② Providing information on how to describe goods and services project reviews the indication of goods that are written up in the applications. A final report is being prepared and will contain a comparison of lists of indication of goods, and how they are written up in the applications. We hope this report will help businesses and patent lawyers who plan to register trademarks overseas, and the

plan is to upload the final version on the TM5 website.

③ TM5 website project consisted of opening a renewed TM5 website in October 2016 (<http://www.tmfive.org>).

04 *ID5 cooperation*

Subsequent to the founding of the ID5 in 2015, in 2016, KIPO, JPO, EUIPO, SIPO and USPTO came together in Beijing, China for the 2016 ID5 working group meetings and annual conference. The ID5 is a consultative body where representatives from five countries which are responsible for more than 90% of design applications worldwide come together to discuss key issues in the design field. Like the IP5 in patents and the TM5 in trademarks, the ID5 in the design field serves as an important pillar in sustaining the global industrial property rights system.

At the 2016 annual conference in China, the Member Offices adopted a joint statement incorporating the future vision and directions of cooperation for the ID5. Also, of the 13 cooperative projects discussed at the 2015 meeting, 12 projects were approved. The Member Offices also agreed on the need for a framework for managing the ID5 cooperation and came up with the necessary regulations. This comes as a part of an overall effort to outline the framework of the ID5 cooperation scheme. During user-centered sessions, different associations, design companies and patent lawyers, all representing their respective countries, shared ideas and suggestions on how to further improve the ID5 system. This achievement is in line with the original goal of the ID5, which is to create a user-friendly cooperation network in the design field.

KIPO will lead three cooperative projects. Two being "Development and Maintenance of ID5 Website" and "Catalog of Eligibility for Industrial Design Protection". KIPO will also co-lead with JPO, "Study of Design Classification Conventions & Practices". As for the ID5 website project, the temporary website for the ID5 was presented at the 2016 annual conference and was well received by all the Member Offices, thereby becoming the first visible outcome of the cooperative projects.

International IT Cooperation

01 *IT-related bilateral cooperation*

Through bilateral IT cooperation, KIPO is continuing discussions with the offices of Japan, China and the US to set up the necessary infrastructure and management protocols for increasing the overall convenience and efficiency of the patent application and examination work process.

As part of this effort, bilateral IT expert meetings were held in July 2016 with Japan and China in Daejeon. These meetings covered various issues related to IT ranging from data exchanges, machine translation quality to public relations services. In October, Korea-China-Japan IT cooperation meeting was hosted in Tokyo, Japan, where issues of common interest were discussed.

In August 2016, a Korea-US IT expert meeting was held to discuss exchanges of e-certificates on design priority and standardization of applicant names. In November, a bilateral IT cooperation meeting, presided by directors from Korea and the US, and 6 cooperation projects on IT, including having regular CIO meetings as well as working level meetings and exchanges of e-certificates on design priority, were decided.

In May and November 2016, both high- and working-level meetings were held between KIPO and WIPO on IT. The meetings laid out PCT related IT cooperation plans, and discussed expanding and enhancing the quality of e-exchanges of PCT documents, including ePCT and eSearchCopy.

In October 2016, KIPO signed MOUs with Russia and Sweden, respectively, on data exchanges. Patent, utility models, trademark, and design data from each office can now be utilized by each other during search and examination procedures, as well as public services. This will further increase the level of overseas IP information utilization.

02 *IP5 IT cooperation*

In February 2016, KIPO participated in the 10th IP5 WG2 on IT, hosted in China, where active exchange of information and ideas on IT, One Portal Dossier (a comprehensive information inquiry service provided to IP5 patent examiners and the general public on family patent examination proceeding), machine translation and reference document took place.

At the meeting, five key tasks (standardization of applicant names, alert service, XML, information on legal statuses document exchange) were identified, reflecting opinions from the industry. This will propel the IP5 Global Dossier project, which aims to create a global system that enables all applicants and examiners around the globe to apply for patents and check examination status in real time without any language barriers. KIPO led the discussion on the 'standardization of applicant names'. Using the patent applications that are published through the IP5, a mapping table will be created incorporating identical applicant names submitted in Korean, Japanese, Chinese and English, so that it can be used in search, management, and statistical analyses in the patent application process.

03 *Assisting IP automation in developing countries*

As a part of Official Development Assistance (ODA) activities, we were able to develop a patent automation system for the African Regional Intellectual Property Organization (ARIPO). The system, which began operation in April 2015, allows for a paperless work process, including electronic services for application submission, fee payments, and patent information searches.

In 2015, Mongolia and Myanmar were selected to receive IP informatization assistance. As a result, we conducted consulting services to diagnose their current IT infrastructures and further enrich their patent automation systems.

International Seminars and Training Courses

In February 2016, KIPO signed an MOU with the UAE agreeing to cooperate on constructing the patent information system of the UAE, and in August 2016, KIPO dispatched an IP information system specialist. Also, KIPO and the UAE agreed to pursue administrative support for the next two years.

Also, in cooperation with ODA related organizations, KIPO shared its experiences and know-how with the Kazakhstan IP office. Concurrently, KIPO and the Kazakhstan IP office signed an MOU on information cooperation and conducted consultations about establishing and enhancing patent administrative information system for the Kazakhstan IP office in 2016.

In 2016, KIPO cooperated with WIPO to hold international seminars for patent examiners and IP public officials in the Asia-Pacific Region. Furthermore, KIPO held the 5th Korea-China-Japan joint seminar for IP related employees in the private sector, and thereby contributed to enhancing the IP capacity and raising awareness of the public.

In addition, with cooperation from WIPO and the Korea International Cooperation Agency, KIPO held international courses in 2016 for patent and trademark examiners, public officials and education-related employees of developing countries, and also provided 13 IP training courses which were attended by 170 foreigners.

KIPO held the 7th Korea-China-Japan Heads meeting of IP Training Institutes, a cooperation meeting between Korea and Japan IP Training Institute, as well as a cooperation meeting between Korea and China IP Training Institute to enhance the effectiveness and seek future development of IP training.

International Training Courses Offered in 2016

Program	Course Title	Contents	Dates (in 2016)	Number of participants
WIPO Program	WIPO Patent Law, Patent Examination Course	Training on Korea's patent system and patent examination work	3. 23-4. 1	19
	WIPO Patent Examiner Course (OJT)	OJT for Mongolian Patent examiners	4. 4 -4. 8	2
	WIPO Trademark Law, Trademark Examination Course	Training on Korea's trademark system and trademark examination work	5. 10-5. 17	20
	WIPO Trademark Examiner Course (OJT)	OJT for Uzbekistan Trademark examiners	5. 18-5. 20	2
	WIPO IP Summer School	IP education for university students and young adults	7. 11-7. 22	24
	WIPO Asia Pacific Regional Seminar	Joint research on IPR development in the Asia Pacific region	10. 25-10. 27	24
KOICA Program	KOICA-Azerbaijan IP System Course	Training on Korea's patent system and patent examination work	6. 9-6. 22	15
	KOICA Creative Invention Course	Training on creative invention promotion policies	4. 14-5. 4	14
	KOICA IP System Course	Training on understanding of Korea's patent policies and industrial site visits	9. 22-10. 13	15
Customized Program	China Hubei Province Patent Examiner Course	Searching method for examinations and case studies	4. 4-4. 8	5
	Saudi Arabia Patent Examiner Course	Introduction to Korea's Patent Act and examination system	11. 7-11. 10	15
	The UAE Preliminary Examiner Demonstration Course	Patent Act and examination system and enhancing capability of examiners	11. 20-11. 24	8
	IP5 Examiner Interaction Course	Comparative discussion about examination guidelines and cases between IP5 Offices	12. 6-12. 9	7
Total	13 courses			170

IP Statistics

Applications

Application by IPR type

(unit: cases)

Category	2012	2013	2014	2015	2016
Patents	188,915	204,589	210,292	213,694	208,830
Utility models	12,424	10,968	9,184	8,711	7,767
Subtotal	201,339	215,557	219,476	222,405	216,597
Designs	63,135 (65,469)	66,940 (70,054)	64,345 (67,586)	67,954 (70,190)	64,678 (66,728)
Trademarks	132,522 (160,447)	147,667 (177,685)	150,226 (183,815)	185,443 (239,334)	170,347 (204,012)
Total	396,996 (427,255)	430,164 (463,296)	434,047 (470,877)	475,802 (533,929)	451,622 (696,167)

Note: Figures in parentheses include multiple applications.

PCT applications

(unit: cases)

Category	2012	2013	2014	2015	2016
Number of applications	11,869	12,439	13,138	14,594	15,595
Growth rate	13.9%	4.8%	5.6%	11.1%	6.8%

International trademark applications under the Madrid System

(unit: cases)

Category	2012	2013	2014	2015	2016
Korea as office of origin	499	502	671	835	942
Korea as designated office	10,090	10,967	10,402	12,997	11,259

International design applications under the Hague System

(unit: cases)

Category	2015	2016
Korea as office of origin	153	104
Korea as designated office	628	981

Comparison of domestic and foreign applications

(unit: cases)

Category			2012	2013	2014	2015	2016
Patents	Domestics	Cases	148,136	159,978	164,073	167,273	163,424
		Ratio	78.4%	78.2%	78.0%	78.3%	78.3%
	Foreign	Cases	40,779	44,611	46,223	46,421	45,406
		Ratio	21.6%	21.8%	22.0%	21.7%	21.7%
	Total		188,915	204,589	210,292	213,694	208,830
	Utility models	Domestics	Cases	11,899	10,463	8,754	8,294
Ratio			95.8%	95.4%	95.3%	95.2%	95.2%
Foreign		Cases	525	505	430	417	372
		Ratio	4.2%	4.6%	4.7%	4.8%	4.8%
Total		12,424	10,968	9,184	8,711	7,767	
Designs		Domestics	Cases	59,487 (60,867)	63,102 (65,485)	65,485 (60,795)	64,081 (65,895)
	Ratio		94.2% (93.0%)	94.3% (93.5%)	93.5% (94.5%)	94.3% (91.3%)	95.1% (93.8%)
	Foreign	Cases	3,648 (4,602)	3,838 (4,569)	4,569 (3,550)	3,873 (6,295)	3,187 (4,110)
		Ratio	5.8% (7.0%)	5.7% (6.5%)	6.5% (5.5%)	5.7% (8.7%)	4.9% (6.2%)
	Total		63,135 (65,469)	66,940 (70,054)	70,054 (64,345)	67,954 (72,190)	64,678 (66,728)
	Trademarks	Domestics	Cases	120,341 (140,908)	135,231 (158,058)	158,058 (138,045)	160,033 (191,485)
Ratio			90.8% (87.8%)	91.6% (89.0%)	89.0% (85.9%)	86.3% (80.0%)	92.2% (90.0%)
Foreign		Cases	12,181 (19,539)	12,436 (19,627)	22,618 (41,624)	25,410 (47,849)	13,240 (20,400)
		Ratio	9.2% (12.2%)	8.4% (11.0%)	14.1% (20.2%)	13.7% (20.0%)	7.8% (10.0%)
Total		132,522 (160,447)	147,667 (177,685)	160,663 (205,859)	185,443 (239,334)	170,347 (204,012)	
Total		Domestics	Cases	339,863 (201,775)	368,774 (223,543)	371,667 (227,311)	399,681 (257,380)
	Ratio		85.6% (47.2%)	85.7% (48.3%)	83.6% (46.1%)	84.0% (48.2%)	86.2% (85.6%)
	Foreign	Cases	57,133 (24,141)	61,390 (24,196)	72,817 (46,134)	76,121 (54,144)	62,205 (70,288)
		Ratio	14.4% (5.7%)	14.3% (5.2%)	16.4% (9.4%)	16.0% (10.1%)	13.8% (14.4%)
	Total		396,996 (427,255)	430,164 (463,296)	444,484 (492,921)	475,802 (533,929)	451,622 (487,337)

Note: Figures in parentheses include multiple applications.

Patent and utility model applications by technological field in 2016

(unit: cases)

Classification	Patents			Utility models		
	Domestic	Foreign	Subtotal	Domestic	Foreign	Subtotal
Electrical machinery, apparatus, energy	12,429	3,265	15,694	538	39	577
Audio-visual technology	5,659	1,537	7,196	150	8	158
Telecommunications	2,913	666	3,579	88	4	92
Digital communication	5,770	2,785	8,555	9	1	10
Basic communication processes	653	345	998	1	2	3
Computer technology	8,673	3,156	11,829	74	7	81
IT methods for management	9,381	522	9,903	35	-	35
Semiconductors	6,425	3,738	10,163	19	16	35
Optics	4,136	1,922	6,058	71	17	88
Measurement	6,715	1,414	8,129	126	14	140
Analysis of biological materials	690	175	865	8	-	8
Control	2,750	370	3,120	96	4	100
Medical technology	6,290	1,714	8,004	317	28	345
Organic fine chemistry	3,233	2,088	5,321	1	1	2
Biotechnology	2,648	1,365	4,013	9	-	9
Pharmaceuticals	2,418	1,537	3,955	-	-	-
Macromolecular chemistry, polymers	1,903	1,816	3,719	-	-	-
Food chemistry	4,091	221	4,312	38	7	45
Basic materials chemistry	3,066	1,719	4,785	21	2	23
Materials, metallurgy	3,418	1,355	4,773	35	5	40
Surface technology, coating	2,188	1,465	3,653	40	10	50
Micro-structural and nano-technology	77	48	125	-	1	1
Chemical engineering	3,274	812	4,086	90	11	101
Environmental technology	3,017	444	3,461	113	3	116
Handling	3,818	731	4,549	567	27	594
Machine tools	3,643	1,023	4,666	186	11	197
Engines, pumps, turbines	2,886	1,279	4,165	78	9	87
Textile and paper machines	1,760	536	2,296	53	7	60
Other special machines	6,045	1,347	7,392	495	14	509
Thermal processes and apparatus	3,080	375	3,455	171	6	177
Mechanical elements	3,155	1,014	4,169	213	8	221
Transport	9,486	1,563	11,049	529	11	540

(unit: cases)

Classification	Patents			Utility models		
	Domestic	Foreign	Subtotal	Domestic	Foreign	Subtotal
Furniture, games	5,849	504	6,353	1,052	33	1,085
Other consumer goods	5,595	679	6,274	1,088	42	1,130
Civil engineering	8,728	487	9,215	652	15	667
Others	7,562	1,389	8,951	432	9	441
Total	163,424	45,406	208,830	7,395	372	7,767

Note: Figures for 2016 are preliminary.

Patent applications in biotechnology

(unit: cases)

Category	2012		2013		2014		2015		2016	
	Cases	Ratio	Cases	Ratio	Cases	Ratio	Cases	Ratio	Cases	Ratio
Domestic	4,852	74.6%	5,152	72.8%	5,091	73.3%	5,601	74.0%	6,700	75.1%
Foreign	1,654	25.4%	1,929	27.2%	1,856	26.7%	1,972	26.0%	2,222	24.9%
Total	6,506	100%	7,081	100%	6,947	100%	7,572	100%	8,922	100%

Note1: Figures for 2016 are preliminary.

Note2: Based on the following biotechnological categories of the Eighth Edition of the International Patent Classification: A01H; A01K 67/00-67/04; A01N 63/00-65/00; A61K 8/97-8/99; A61K 8/64-8/68; A61K 35/12-35/76; 36/00-36/9068; A61K 38/00-38/58, 39/00-39/44, 48/00, 51/00-51/10; C02F 3/00-3/34, 11/02-11/04; C07H 19/00-21/04; C07K; C12C-M; C12N; C12P; C12Q; C12S; G01N 33/50-33/98.

Patent applications in business methods

(unit: cases)

Category	2012		2013		2014		2015		2016	
	Cases	Ratio	Cases	Ratio	Cases	Ratio	Cases	Ratio	Cases	Ratio
Domestic	7,259	95.8%	6,828	94.9%	6,813	93.5%	8,621	94.4%	9,381	94.7%
Foreign	315	4.2%	365	5.1%	476	6.5%	510	5.6%	522	5.3%
Total	7,574	100%	7,193	100%	7,289	100%	9,131	100%	9,903	100%

Note1: Figures for 2016 are preliminary.

Note2: Based on the Eighth Edition of the International Patent Classification.

Applications by residents of foreign countries in 2016

(unit: cases)

Countries	Patent & Utility models		Designs		Trademarks		Total
	Domestic	PCT	Domestic	Hague	Domestic	Madrid	
United States of America	1,763	11,940	1,000 (1,292)	117 (306)	3,783 (6,196)	2,351 (3,941)	20,954 (25,438)
Japan	4,677	10,128	941 (1,140)	96 (184)	2,152 (3,623)	944 (1,875)	18,938 (21,627)
China	623	2,304	323 (347)	21 (29)	3,456 (4,204)	1,106 (1,852)	7,833 (9,359)
Germany	689	3,435	155 (305)	121 (400)	230 (514)	1,543 (4,155)	6,173 (9,498)
France	227	1,541	92 (101)	119 (343)	349 (515)	826 (1,919)	3,154 (4,646)
Switzerland	299	1,114	29 (52)	234 (755)	251 (361)	674 (1,545)	2,601 (4,126)
United Kingdom	104	802	104 (172)	21 (42)	536 (1,086)	526 (1,319)	2,093 (3,525)
Italy	38	434	40 (55)	66 (141)	197 (300)	729 (1,589)	1,504 (2,557)
Netherlands	102	813	155 (156)	72 (122)	86 (138)	227 (532)	1,455 (1,863)
Taiwan	817	89	56 (69)	-	411 (539)	-	1,373 (1,514)
Sweden	70	524	41 (147)	29 (53)	66 (128)	175 (444)	905 (1,366)
Canada	52	293	43 (49)	1 (3)	303 (519)	13 (31)	705 (947)
Australia	17	188	22 (23)	-	147 (197)	296 (653)	670 (1,078)
Singapore	26	121	4 (4)	3 (3)	217 (344)	158 (302)	529 (800)
Austria	51	256	6 (6)	2 (2)	7 (15)	122 (293)	444 (623)
Spain	15	125	9 (9)	4 (17)	38 (52)	251 (388)	442 (606)
Finland	20	266	8 (8)	5 (6)	21 (51)	102 (361)	422 (712)
Belgium	25	250	5 (5)	9 (14)	26 (59)	97 (180)	412 (533)
Israel	16	225	17 (17)	1 (2)	46 (65)	63 (128)	368 (453)
Denmark	24	142	2 (2)	4 (12)	25 (59)	138 (313)	335 (552)
Luxembourg	6	136	45 (46)	5 (24)	31 (49)	104 (265)	327 (526)
Ireland	8	91	2 (2)	1 (2)	39 (63)	82 (117)	223 (283)
India	12	109	1 (1)	-	31 (61)	28 (51)	181 (234)
New Zealand	1	42	2 (2)	-	43 (64)	77 (156)	165 (265)
Norway	2	89	10 (12)	4 (20)	5 (10)	38 (107)	148 (240)
Russian Federation	4	55	1 (1)	1 (5)	17 (23)	70 (160)	148 (248)
Cayman Islands	4	68	-	-	60 (207)	1 (1)	133 (280)
Turkey	2	23	1 (1)	13 (27)	5 (8)	89 (165)	133 (226)
Thailand	4	14	3 (3)	-	77 (100)	2 (4)	100 (125)
Poland	2	12	2 (2)	2 (5)	11 (16)	68 (157)	97 (194)
Saudi Arabia	1	76	-	-	13 (17)	-	90 (94)
Malaysia	6	9	5 (5)	-	65 (83)	3 (3)	88 (106)
Mexico	3	24	2 (5)	-	38 (73)	6 (6)	73 (111)
Indonesia	2	1	1 (1)	-	69 (77)	-	73 (81)

(unit: cases)

Countries	Patent & Utility models		Designs		Trademarks		Total
	Domestic	PCT	Domestic	Hague	Domestic	Madrid	
Barbados	2	30	22 (25)	-	18 (34)	-	72 (91)
Liechtenstein	2	41	3 (3)	1 (3)	1 (1)	19 (28)	67 (78)
Czech Republic	-	12	1 (4)	1 (5)	3 (3)	46 (95)	63 (119)
Brazil	1	34	-	-	24 (34)	1 (3)	60 (72)
Viet Nam	4	2	1 (1)	-	23 (25)	24 (50)	54 (82)
Portugal	-	16	-	4 (6)	4 (10)	26 (48)	50 (80)
Malta	2	21	-	-	4 (8)	21 (46)	48 (77)
Chile	1	6	-	-	40 (54)	-	47 (61)
Hong Kong	-	-	11 (11)	-	36 (54)	-	47 (65)
Greece	-	15	4 (4)	2 (2)	6 (15)	17 (21)	44 (57)
Virgin Islands (British)	-	3	1 (1)	-	23 (34)	16 (30)	43 (68)
United Arab Emirates	1	10	-	-	23 (47)	5 (8)	39 (66)
Monaco	4	1	2 (2)	-	19 (19)	11 (54)	37 (80)
Cyprus	2	9	1 (3)	3 (4)	8 (8)	13 (19)	36 (45)
Argentina	-	2	-	-	22 (23)	2 (2)	26 (27)
Hungary	-	12	-	1 (2)	2 (2)	11 (23)	26 (39)
Bermuda	1	1	-	-	18 (20)	2 (3)	22 (25)
South Africa	-	14	1 (1)	-	4 (4)	-	19 (19)
Slovenia	1	6	1 (1)	3 (17)	2 (4)	6 (16)	19 (45)
Bahamas	-	9	-	-	5 (7)	4 (28)	18 (44)
Lithuania	-	3	-	2 (3)	1 (3)	11 (17)	17 (26)
Bulgaria	1	1	-	2 (6)	-	10 (18)	14 (26)
Iran	-	1	-	-	4 (4)	9 (54)	14 (59)
Philippines	-	1	-	-	4 (4)	8 (8)	13 (13)
Bangladesh	1	11	-	-	-	-	12 (12)
Ukraine	1	1	-	-	-	10 (20)	12 (22)
Macao	-	-	6 (6)	-	4 (25)	-	10 (31)
Seychelles	1	4	-	-	4 (4)	1 (1)	10 (10)
Estonia	-	1	1 (2)	2 (9)	-	6 (8)	10 (20)
Mauritius	-	4	-	-	4 (8)	-	8 (12)
Cuba	-	4	-	-	4 (4)	-	8 (8)
Latvia	-	-	-	-	-	7 (14)	7 (14)
Romania	1	2	-	-	2 (6)	2 (5)	7 (14)
Samoa	-	2	-	-	5 (7)	-	7 (9)

(unit: cases)

Countries	Patent & Utility models		Designs		Trademarks		Total
	Domestic	PCT	Domestic	Hague	Domestic	Madrid	
Qatar	-	-	-	-	7 (23)	-	7 (23)
Slovakia	-	-	1 (1)	1 (4)	-	4 (9)	6 (14)
Iceland	-	-	-	-	3 (3)	3 (4)	6 (7)
Ecuador	-	-	-	-	6 (6)	-	6 (6)
Colombia	1	2	-	-	2 (4)	1 (1)	6 (8)
Croatia	-	1	-	-	1 (1)	4 (5)	6 (7)
Mongolia	-	-	-	-	4 (6)	1 (3)	5 (9)
Belize	-	-	-	-	5 (6)	-	5 (6)
Georgia	-	-	-	-	-	4 (6)	4 (6)
Nigeria	-	-	-	-	4 (5)	-	4 (5)
Netherlands Antilles	-	-	-	-	4 (4)	-	4 (4)
Venezuela	1	1	-	-	-	2 (4)	4 (6)
Sri Lanka	-	-	-	-	4 (9)	-	4 (9)
Uzbekistan	3	1	-	-	-	-	4 (4)
Egypt	-	1	-	-	1 (1)	2 (2)	4 (4)
Curacao	-	-	-	-	1 (1)	3 (3)	4 (4)
Pakistan	-	-	-	-	4 (4)	-	4 (4)
Greenland	-	-	-	-	3 (4)	-	3 (4)
Namibia	-	1	-	-	2 (3)	-	3 (4)
Belarus	-	-	-	-	-	3 (10)	3 (10)
Serbia	-	-	-	-	-	3 (4)	3 (4)
Gibraltar	-	-	-	-	-	3 (6)	3 (6)
Costa Rica	-	-	-	-	3 (3)	-	3 (3)
Panama	-	1	2 (3)	-	-	-	3 (4)
Liberia	-	-	2 (2)	-	-	-	2 (2)
Libya	-	-	-	-	2 (2)	-	2 (2)
Macedonia	-	-	-	-	-	2 (4)	2 (4)
Morocco	1	-	-	-	1 (1)	-	2 (2)
Bahrain	-	-	-	-	-	2 (2)	2 (2)
Andorra	-	-	-	-	-	2 (7)	2 (7)
Jersey (U.K.)	-	-	-	-	-	2 (8)	2 (8)
Jordan	-	1	-	-	1 (1)	-	2 (2)
Cambodia	1	-	-	-	1 (1)	-	2 (2)
Kenya	-	-	-	-	1 (4)	1 (1)	2 (5)

(unit: cases)

Countries	Patent & Utility models		Designs		Trademarks		Total
	Domestic	PCT	Domestic	Hague	Domestic	Madrid	
Kuwait	-	-	-	-	2 (4)	-	2 (4)
Paraguay	-	-	-	-	2 (6)	-	2 (6)
Dominican Republic	-	-	-	-	1 (1)	-	1 (1)
Lao People's Democratic Republic	-	-	-	-	1 (1)	-	1 (1)
Lebanon	-	-	-	-	1 (1)	-	1 (1)
Isle of Man	-	-	-	-	-	1 (4)	1 (4)
Republic of Moldova	-	-	-	-	-	1 (1)	1 (1)
Bosnia and Herzegovina	-	-	-	-	-	1 (1)	1 (1)
Brunei Darussalam	-	1	-	-	-	-	1 (1)
Saint Vincent and the Grenadines	-	-	-	-	1 (1)	-	1 (1)
Saint Kitts and Nevis	-	1	-	-	-	-	1 (1)
Armenia	-	1	-	-	-	-	1 (1)
Albania	1	-	-	-	-	-	1 (1)
Yemen	-	-	-	-	1 (1)	-	1 (1)
Iraq	-	1	-	-	-	-	1 (1)
Peru	-	-	-	-	1 (1)	-	1 (1)
Puerto Rico	-	-	-	-	-	1 (1)	1 (1)
Others	1	-	-	-	2 (5)	-	3 (6)
Total	9,747	36,031	3,187 (4,110)	973 (2,578)	13,240 (20,400)	11,243 (23,717)	74,421 (96,583)

Note: Figures in parentheses include multiple applications.

Examinations

Patents and utility models

(unit: cases)

Category		2012	2013	2014	2015	2016	
Patents	First Action	Approval of registration	17,115	18,713	15,798	10,433	7,872
		Notice of preliminary rejection or amendment	141,890	158,828	146,959	149,484	163,347
		Other notices	477	431	879	947	991
		Withdrawal or abandonment	3,764	3,899	3,288	3,909	2,582
		Total	163,246	181,871	166,924	164,773	174,792
	Final Decisions	Approval of registration	108,236	121,866	120,353	92,748	101,678
		Rejection or cancellation	51,912	54,029	53,611	52,963	66,055
		Withdrawal abandonment, annulment, or rejection	3,764	3,899	3,288	3,909	4,320
		Total	163,912	179,794	177,252	149,620	172,053
	Utility models	First Action	Approval of registration	1,714	1,451	874	425
Notice of preliminary rejection or amendment			11,352	10,085	8,015	6,856	6,848
Other notices			51	41	45	39	25
Withdrawal or abandonment			432	441	390	249	131
Total			13,549	12,018	9,324	7,569	7,321
Final Decisions		Approval of registration	7,003	6,086	5,067	3,204	2,935
		Rejection or cancellation	7,459	6,192	4,937	3,775	4,214
		Withdrawal abandonment, annulment, or rejection	432	441	390	249	268
		Total	14,894	12,719	10,394	7,228	7,417

Designs and trademarks

(unit: cases)

Category		2012	2013	2014	2015	2016		
Designs	First Action	Publication/approval of registration	30,398 (31,168)	29,809 (30,757)	33,182 (34,149)	27,800 (28,987)	31,398 (32,755)	
		Notice of preliminary rejection	32,436 (33,871)	34,612 (36,264)	35,665 (37,702)	38,041 (40,394)	31,540 (33,951)	
		Other notices	-	-	-	-	-	
		Total	62,834 (65,039)	64,421 (67,021)	68,847 (71,851)	65,841 (69,381)	62,938 (66,706)	
	Final Decisions	Approval of registration	50,960 (52,560)	51,636 (53,538)	58,878 (61,323)	57,006 (59,068)	55,783 (58,302)	
		Rejection	10,165 (10,477)	10,945 (11,381)	11,075 (11,713)	9,404 (10,072)	8,396 (9,496)	
		Total	61,125 (63,037)	62,581 (64,919)	69,953 (73,036)	66,410 (69,140)	64,179 (67,798)	
	Trademarks	First Action	Publication/approval of registration	57,215 (63,777)	74,674 (81,674)	83,475 (94,136)	96,005 (108,545)	98,921 (112,521)
			Notice of preliminary rejection	55,921 (73,897)	70,398 (90,933)	64,127 (84,104)	68,578 (90,758)	73,377 (106,332)
			Other notices	-	-	-	-	-
Final Decisions		Total	113,136 (137,674)	145,072 (172,607)	147,602 (178,240)	164,583 (199,303)	172,298 (218,853)	
		Approval of registration	85,875 (103,660)	110,118 (130,158)	111,917 (134,745)	128,500 (154,670)	136,948 (173,024)	
		Rejection	26,943 (32,711)	32,168 (38,601)	28,771 (34,092)	31,745 (38,463)	33,015 (41,813)	
Total	112,818 (136,371)	142,286 (168,759)	140,688 (168,837)	160,245 (193,133)	169,963 (214,837)			

Note: Figures in parentheses include multiple applications.

Average first action pendency

(unit: month)

Category	2012	2013	2014	2015	2016
Patents / Utility models	14.8	13.2	11.0	10.0	10.6
Trademarks	8.9	7.7	6.4	4.7	4.8
Designs	8.8	7.3	6.5	4.4	4.7

Average total pendency

(unit: month)

Category	2012	2013	2014	2015	2016
Patents / Utility models	21.6	19.1	16.7	16.0	16.2
Trademarks	13.5	12.7	11.5	10.0	9.6
Designs	10.5	9.2	8.5	6.8	5.9

PCT international search reports and preliminary examinations undertaken by KIPO

(unit: cases)

Category	2012	2013	2014	2015	2016
International Search Reports	27,080	29,531	30,160	28,468	28,176
International Preliminary Examinations	301	252	236	208	209

Note: Based on KIPO data

Registrations

Registrations by IPR type

(unit: cases)

Category	2012	2013	2014	2015	2016
Patents	113,467	127,330	129,786	101,873	108,875
Utility models	6,353	5,959	4,955	3,253	2,854
Subtotal	119,820	133,289	134,741	105,126	111,729
Designs	46,146	47,308	54,010	54,551	55,602
Trademarks	77,903	100,093	99,791	114,746	119,255
Total	243,869	280,690	288,542	274,423	286,586

Note: Trademark registration renewals are excluded.

Comparison of domestic and foreign registrations

(unit: cases)

Category		2012	2013	2014	2015	2016	
Patents	Domestics	Cases	84,061	95,667	97,294	76,319	82,400
		Ratio	74.1%	75.1%	75.0%	74.9%	75.7%
	Foreign	Cases	29,406	31,663	32,492	25,554	26,475
		Ratio	25.9%	24.9%	25.0%	25.1%	24.3%
	Total		113,467	127,330	129,786	101,873	108,875
	Utility models	Domestics	Cases	6,151	5,718	4,682	3,073
Ratio			96.8%	96.0%	94.5%	94.5%	94.4%
Foreign		Cases	202	241	273	180	160
		Ratio	3.2%	4.0%	5.5%	5.5%	5.6%
Total		6,353	5,959	4,955	3,253	2,854	
Designs		Domestics	Cases	42,628	43,866	49,856	49,933
	Ratio		92.4%	92.7%	92.3%	91.5%	90.4%
	Foreign	Cases	3,518	3,442	4,154	4,618	5,360
		Ratio	7.6%	7.3%	7.7%	8.5%	9.6%
	Total		46,146	47,308	54,010	54,551	55,602

(unit: cases)

Category			2012	2013	2014	2015	2016
Trademarks	Domestics	Cases	61,505	80,372	80,645	95,484	99,934
		Ratio	79.0%	80.3%	80.8%	83.2%	83.8%
	Foreign	Cases	16,398	19,721	19,146	19,262	19,321
		Ratio	21.0%	19.7%	19.2%	16.8%	16.2%
	Total		77,903	100,093	99,791	114,746	119,255
Total	Domestics	Cases	194,345	225,623	232,477	224,809	235,270
		Ratio	79.7%	80.4%	80.6%	81.9%	-
	Foreign	Cases	49,524	55,067	56,065	49,614	51,316
		Ratio	20.3%	19.6%	19.4%	18.1%	-
	Total		243,869	280,690	288,542	274,423	286,586

Note: Figures in parentheses include multiple applications.

Patent and utility model registrations by technological field in 2016

(unit: cases)

Classification	Patents			Utility models		
	Domestic	Foreign	Subtotal	Domestic	Foreign	Subtotal
Electrical machinery, apparatus, energy	6,862	1,921	8,783	262	26	288
Audio-visual technology	3,334	1,143	4,477	34	1	35
Telecommunications	2,276	607	2,883	16	1	17
Digital communication	3,518	1,946	5,464	2	-	2
Basic communication processes	493	287	780	-	-	-
Computer technology	4,591	2,212	6,803	28	18	46
IT methods for management	3,145	204	3,349	5	-	5
Semiconductors	3,458	2,797	6,255	19	8	27
Optics	2,129	1,209	3,338	23	13	36
Measurement	3,459	737	4,196	72	3	75

(unit: cases)

Classification	Patents			Utility models		
	Domestic	Foreign	Subtotal	Domestic	Foreign	Subtotal
Analysis of biological materials	216	69	285	-	-	-
Control	1,185	158	1,343	19	2	21
Medical technology	3,369	1,034	4,403	143	9	152
Organic fine chemistry	1,381	1,270	2,651	-	-	-
Biotechnology	1,638	588	2,226	1	-	1
Pharmaceuticals	1,320	652	1,972	2	-	2
Macromolecular chemistry, polymers	1,125	1,033	2,158	-	-	-
Food chemistry	1,603	100	1,703	16	2	18
Basic materials chemistry	1,357	969	2,326	5	1	6
Materials, metallurgy	2,275	965	3,240	1	-	1
Surface technology, coating	1,221	645	1,866	14	1	15
Micro-structural and nano-technology	131	29	160	-	-	-
Chemical engineering	1,877	540	2,417	43	4	47
Environmental technology	1,684	249	1,933	38	1	39
Handling	2,050	472	2,522	218	8	226
Machine tools	2,182	515	2,697	98	9	107
Engines, pumps, turbines	1,772	656	2,428	34	4	38
Textile and paper machines	949	314	1,263	18	4	22
Other special machines	2,966	666	3,632	178	6	184
Thermal processes and apparatus	1,862	246	2,108	83	5	88
Mechanical elements	1,558	622	2,180	82	6	88
Transport	5,654	839	6,493	272	4	276
Furniture, games	2,433	244	2,677	319	11	330
Other consumer goods	2,299	229	2,528	362	9	371
Civil engineering	5,022	308	5,330	287	4	291
Others	6	-	6	-	-	-
Total	82,400	26,475	108,875	2,694	160	2,854

Note: Figures for 2016 are preliminary.

Patent registrations in biotechnology

(unit: cases)

Category	2012		2013		2014		2015		2016	
	Cases	Ratio	Cases	Ratio	Cases	Ratio	Cases	Ratio	Cases	Ratio
Domestic	2,757	74.4%	3,294	76.9%	3,604	79.6%	2,917	77.3%	3,507	78.6%
Foreign	951	25.6%	989	23.1%	926	20.4%	857	22.7%	955	21.4%
Total	3,708	100%	4,283	100%	4,530	100%	3,774	100%	4,462	100%

Note1: Figures for 2016 are preliminary.

Note2: Based on the following biotechnological categories of the Eighth Edition of the International Patent Classification: A01H; A01K 67/00-67/04; A01N 63/00-65/00; A61K 8/97-8/99; A61K 8/64-8/68; A61K 35/12-35/76; 36/00-36/9068; A61K 38/00-38/58, 39/00-39/44, 48/00, 51/00-51/10; C02F 3/00-3/34, 11/02-11/04; C07H 19/00-21/04; C07K; C12C-M; C12N; C12P; C12Q; C12S; G01N 33/50-33/98.

Patent registrations in business methods

(unit: cases)

Category	2012		2013		2014		2015		2016	
	Cases	Ratio	Cases	Ratio	Cases	Ratio	Cases	Ratio	Cases	Ratio
Domestic	1,959	89.0%	1,860	91.0%	2,087	92.8%	2,023	92.9%	3,145	93.9%
Foreign	243	11.0%	185	9.0%	162	7.2%	154	7.1%	204	6.1%
Total	2,202	100%	2,045	100%	2,249	100%	2,177	100%	3,349	100%

Note1: Figures for 2016 are preliminary.

Note2: Based on the Eighth Edition of the International Patent Classification.

Registrations by resident of foreign countries in 2016

(unit: cases)

Countries	Patent & Utility models		Designs		Trademarks		Total
	Domestic	PCT	Domestic	Hague	Domestic	Madrid	
United States of America	842	6,666	1,283 (1,415)	132 (132)	3,315 (5,748)	1,938 (3,169)	14,176 (17,972)
Japan	3,302	6,674	1,183 (1,225)	42 (42)	1,672 (2,801)	934 (1,761)	13,807 (15,805)
China	200	948	239 (243)	4 (4)	2,283 (2,995)	587 (882)	4,261 (5,272)
Germany	495	1,838	204 (454)	250 (250)	209 (422)	1,105 (2,788)	4,101 (6,247)
France	97	926	71 (240)	169 (169)	276 (428)	654 (1,422)	2,193 (3,282)
Switzerland	92	552	105 (569)	464 (464)	191 (270)	640 (1,260)	2,044 (3,207)
United Kingdom	18	365	167 (194)	27 (27)	440 (907)	488 (1,287)	1,505 (2,798)

(unit: cases)

Countries	Patent & Utility models		Designs		Trademarks		Total
	Domestic	PCT	Domestic	Hague	Domestic	Madrid	
Netherlands	31	601	223 (304)	81 (81)	129 (195)	185 (455)	1,250 (1,667)
Italy	24	186	58 (165)	107 (107)	157 (242)	535 (1,027)	1,067 (1,751)
Taiwan	579	51	68 (68)	-	349 (477)	-	1,047 (1,175)
Sweden	91	338	106 (136)	30 (30)	43 (58)	153 (375)	761 (1,028)
Canada	32	174	28 (30)	2 (2)	234 (420)	10 (25)	480 (683)
Australia	8	66	19 (19)	-	103 (217)	176 (337)	372 (647)
Spain	2	63	14 (19)	5 (5)	60 (88)	211 (344)	355 (521)
Finland	15	189	22 (31)	9 (9)	18 (59)	96 (389)	349 (692)
Singapore	55	42	6 (6)	-	115 (231)	78 (164)	296 (498)
Austria	18	159	7 (12)	5 (5)	15 (21)	82 (189)	286 (404)
Belgium	11	121	29 (33)	4 (4)	26 (38)	80 (162)	271 (369)
Luxembourg	4	58	40 (40)	-	68 (98)	91 (191)	261 (391)
Israel	3	131	22 (22)	-	18 (31)	52 (81)	226 (268)
Denmark	15	49	18 (20)	2 (2)	28 (62)	98 (217)	210 (365)
Ireland	9	61	3 (3)	-	28 (58)	71 (101)	172 (232)
Norway	2	39	9 (16)	7 (7)	12 (49)	45 (173)	114 (286)
Thailand	-	6	9 (9)	-	97 (121)	1 (1)	113 (137)
India	2	69	1 (1)	-	12 (14)	28 (47)	112 (133)
New Zealand	1	15	5 (5)	-	39 (64)	46 (83)	106 (168)
Turkey	-	9	1 (3)	2 (2)	5 (5)	75 (141)	92 (160)
Russian Federation	-	15	6 (6)	-	7 (10)	57 (120)	85 (151)
Malaysia	-	13	4 (6)	2 (2)	61 (92)	1 (2)	81 (115)
Cayman Islands	9	25	-	-	42 (206)	4 (8)	80 (248)
Liechtenstein	2	14	21 (24)	3 (3)	1 (1)	31 (77)	72 (121)
Virgin Islands (British)	2	8	-	-	44 (94)	18 (52)	72 (156)
Brazil	-	16	2 (2)	-	47 (68)	-	65 (86)
Mexico	-	11	-	-	36 (50)	12 (14)	59 (75)
Barbados	-	26	10 (10)	-	4 (6)	6 (7)	46 (49)
Poland	1	9	- (2)	2 (2)	8 (16)	24 (62)	44 (92)
Cyprus	-	6	4 (5)	1 (1)	11 (18)	22 (65)	44 (95)
Bermuda	12	3	-	-	19 (23)	2 (4)	36 (42)
Hong Kong	2	-	9 (9)	-	25 (34)	-	36 (45)
Indonesia	1	1	-	-	26 (30)	2 (8)	30 (40)
Saudi Arabia	-	26	-	-	4 (4)	-	30 (30)

(unit: cases)

Countries	Patent & Utility models		Designs		Trademarks		Total
	Domestic	PCT	Domestic	Hague	Domestic	Madrid	
Viet Nam	1	-	-	-	12 (12)	15 (28)	28 (41)
Chile	-	3	-	-	25 (38)	-	28 (41)
Czech Republic	1	1	- (2)	2 (2)	4 (7)	19 (35)	27 (48)
Qatar	-	-	-	-	27 (60)	-	27 (60)
Monaco	-	1	-	-	18 (19)	7 (56)	26 (76)
Bulgaria	2	1	- (1)	1 (1)	2 (2)	19 (24)	25 (31)
Portugal	-	2	-	-	5 (11)	15 (21)	22 (34)
Greece	-	8	-	-	6 (23)	8 (15)	22 (46)
South Africa	-	10	-	-	10 (11)	-	20 (21)
Malta	-	10	-	-	4 (5)	5 (16)	19 (31)
Bahamas	-	16	-	-	3 (12)	-	19 (28)
Hungary	-	6	-	-	2 (2)	8 (15)	16 (23)
United Arab Emirates	1	-	-	-	11 (29)	4 (8)	16 (38)
Ukraine	1	2	- (5)	5 (5)	2 (2)	4 (6)	14 (21)
Slovakia	-	3	-	-	-	8 (10)	11 (13)
Philippines	1	-	1 (1)	-	1 (1)	6 (11)	9 (14)
Lithuania	-	1	- (1)	1 (1)	4 (6)	3 (5)	9 (14)
Mongolia	-	-	-	-	8 (13)	1 (3)	9 (16)
Iran	-	-	-	-	3 (3)	5 (10)	8 (13)
Sri Lanka	-	-	-	-	8 (9)	-	8 (9)
Estonia	-	3	1 (1)	-	-	3 (4)	7 (8)
Belize	2	-	-	-	5 (8)	-	7 (10)
Macao	-	-	1 (1)	-	6 (6)	-	7 (7)
Mauritius	-	1	-	-	6 (8)	-	7 (9)
Curacao	-	-	-	-	-	6 (9)	6 (9)
Romania	-	-	-	-	-	6 (10)	6 (10)
Slovenia	-	1	- (1)	1 (1)	1 (1)	3 (6)	6 (10)
Cuba	-	3	-	-	3 (3)	-	6 (6)
Samoa	-	-	-	-	6 (13)	-	6 (13)
Iceland	-	-	-	-	-	5 (15)	5 (15)
Colombia	-	-	-	-	4 (6)	1 (1)	5 (7)
Georgia	-	-	-	-	-	4 (4)	4 (4)
Brunei Darussalam	-	-	-	-	4 (4)	-	4 (4)
Ecuador	-	-	-	-	4 (4)	-	4 (4)

(unit: cases)

Countries	Patent & Utility models		Designs		Trademarks		Total
	Domestic	PCT	Domestic	Hague	Domestic	Madrid	
Jersey (U.K.)	-	-	-	-	4 (4)	-	4 (4)
Croatia	-	-	-	-	2 (2)	1 (2)	3 (4)
Morocco	-	2	-	-	-	1 (1)	3 (3)
Seychelles	-	-	-	-	3 (3)	-	3 (3)
Antigua and Barbuda	-	-	-	-	-	2 (2)	2 (2)
Belarus	-	-	-	-	-	2 (4)	2 (4)
Guernsey	-	-	-	-	-	2 (4)	2 (4)
Kazakhstan	-	-	-	-	-	2 (4)	2 (4)
Latvia	-	-	-	-	-	2 (2)	2 (2)
Montenegro	-	-	-	-	-	2 (6)	2 (6)
Panama	-	1	-	-	-	1 (2)	2 (3)
Serbia	-	1	-	-	-	1 (2)	2 (3)
Argentina	-	-	-	-	2 (3)	-	2 (3)
Dominican Republic	-	-	-	-	2 (2)	-	2 (2)
Egypt	1	-	-	-	1 (1)	-	2 (2)
Jordan	-	1	-	-	1 (3)	-	2 (4)
Kuwait	-	-	-	-	2 (2)	-	2 (2)
Lebanon	-	-	-	-	2 (9)	-	2 (9)
Syrian Arab Republic	-	-	-	-	2 (2)	-	2 (2)
Uzbekistan	-	1	-	-	1 (1)	-	2 (2)
San Marino	-	-	-	-	-	1 (3)	1 (3)
Afghanistan	-	-	1 (1)	-	-	-	1 (1)
Armenia	-	1	-	-	-	-	1 (1)
Netherlands Antilles	-	-	-	-	1 (1)	-	1 (1)
Libya	-	-	-	-	1 (1)	-	1 (1)
Paraguay	-	-	-	-	1 (3)	-	1 (3)
Saint Vincent and the Grenadines	-	-	-	-	1 (1)	-	1 (1)
Yemen	-	-	-	-	1 (1)	-	1 (1)
Others	-	-	-	-	-	13 (26)	13 (26)

Trials and appeals

Trials and appeals requested

(unit: cases)

Category		2012	2013	2014	2015	2016
Appeal against examiner's decision to reject application	Patents	8,887	7,019	6,123	6,093	5,470
	Utility models	190	147	116	112	200
	Designs	141 (141)	124 (135)	154 (156)	119	109
	Trademarks	1,854 (2,899)	1,907 (2,776)	1,816 (2,656)	1,559 (2,293)	1,626 (2,284)
	Subtotal	11,072 (12,117)	9,197 (10,077)	8,209 (9,051)	7,883 (8,617)	7,405 (8,063)
Appeals against examiner's decision to dismiss amendment	Patents	3	1	-	-	1
	Utility models	-	-	-	-	-
	Designs	4 (4)	12 (12)	11 (11)	7 (15)	5
	Trademarks	1 (1)	4 (8)	1 (1)	6 (7)	5 (11)
	Subtotal	8 (8)	17 (21)	12 (12)	13 (22)	11 (17)
Appeals against examiner's decision of cancellation	Patents	-	1	-	-	-
	Utility models	9	2	1	1	-
	Designs	10 (10)	2 (1)	4 (4)	4	2
	Trademarks	-	-	-	-	-
	Subtotal	19 (19)	5 (5)	5 (5)	5	2
Trials for correction	Patents	131	142	140	134	145
	Utility models	9	6	6	6	9
	Designs	-	-	-	-	-
	Trademarks	-	-	-	-	-
	Subtotal	140 (140)	148 (148)	146 (146)	140	154
Invalidation	Patents	664	573	687	2,194	548
	Utility models	101	96	64	80	50
	Designs	260 (267)	191 (201)	254 (255)	209 (210)	247
	Trademarks	423 (493)	443 (544)	467 (550)	584 (658)	492 (553)
	Subtotal	1,448 (1,525)	1,303 (1,414)	1,472 (1,556)	3,067 (3,142)	1,337 (1,398)

(unit: cases)

Category		2012	2013	2014	2015	2016
Trials to confirm scope of IP right	Patents	354	375	385	691	632
	Utility models	93	84	64	53	47
	Designs	154 (155)	125 (126)	149 (149)	138	149
	Trademarks	80 (122)	83 (186)	90 (119)	93 (132)	101 (170)
	Subtotal	681 (724)	667 (771)	688 (717)	975 (1,014)	929 (998)
Cancellation trials on trademark registration	Patents	-	-	-	-	-
	Utility models	-	1	-	-	-
	Designs	-	-	-	-	-
	Trademarks	1,379 (1,686)	1,676 (2,069)	1,449 (1,826)	1,903 (2,305)	2,122 (2,526)
	Subtotal	1,379 (1,686)	1,677 (2,070)	1,449 (1,826)	1,903 (2,305)	2,122 (2,526)
Grand total	Patents	10,039	8,111	7,335	9,112	6,796
	Utility models	402	336	251	252	306
	Designs	569 (577)	454 (476)	572 (575)	477 (486)	512
	Trademarks	3,737 (5,201)	4,113 (5,583)	3,823 (5,152)	4,145 (5,395)	4,346 (5,544)
	Grand total	14,747 (16,219)	13,014 (14,506)	11,981 (13,313)	13,986 (15,245)	11,960 (13,158)

Note: Figures in parentheses include multiple applications.

· Ex partes: Appeals against examiners' decisions of refusal / Appeals against examiners' decisions of cancellation / Appeals against examiners' decisions to dismiss amendments / Trials for correction

· Inter partes: Invalidation trials / Trials to confirm scope of IP rights / Trials for invalidation of correction / Trials for granting non-exclusive licenses / Trials for invalidation of registrations for extension of patent right term / Trials for invalidation of registration for renewals of trademark right term / Cancellation trials on trademark registrations / Cancellation trials on registrations of exclusive or non-exclusive licenses / Trials for invalidation on registrations for conversion of classification of goods

* Rejection refers to appeals against examiners' decisions of refusal and appeals against examiners' decisions to dismiss utility models.

** Invalidation refers to invalidation trials and trials for invalidation of corrections.

Successful petitions

(unit: cases)

Category		2012		2013		2014		2015		2016	
		Acceptance	Ratio	Acceptance	Ratio	Acceptance	Ratio	Acceptance	Ratio	Acceptance	Ratio
Ex partes	Patents	1,473	33.3%	1,394	32.1%	1,190	27.8%	1,046	30.4%	1,036	29.0%
	Utility models	61	30.2%	65	38.7%	29	25.0%	29	27.6%	32	33.0%
	Designs	50 (50)	37.3% (37.0%)	37 (37)	30.6% (30.6%)	66 (77)	42.0% (45.8%)	46 (54)	35.4% (39.1%)	50	43.1%
	Trademarks	1,025 (1,652)	53.1% (56.6%)	1,062 (1,825)	52.9% (58.1%)	864 (1,321)	49.3% (53.4%)	844 (1,368)	52.4% (58.7%)	655 (1,053)	48.4% (53.1%)
	Subtotal	2,609 (3,236)	39.0% (42.2%)	2,558 (3,321)	38.6% (42.8%)	2,149 (2,617)	34.0% (37.1%)	1,965 (2,497)	37.2% (41.5%)	1,773 (2,171)	41.5% (37.6%)
Inter partes	Patents	576	49.5%	463	45.6%	457	50.7%	687	38.7%	526	42.2%
	Utility models	105	47.3%	95	47.0%	52	38.8%	66	56.9%	52	50.5%
	Designs	173 (174)	48.7% (48.9%)	160 (176)	46.5% (48.9%)	167 (169)	51.1% (51.4%)	161 (161)	47.5% (47.5%)	164 (166)	54.8% (55.1%)
	Trademarks	1,194 (1,376)	61.6% (59.6%)	1,321 (1,579)	66.1% (66.3%)	1,218 (1,490)	65.1% (66.3%)	1,401 (1,653)	69.0% (68.1%)	1,436 (1,691)	65.2% (64.0%)
	Subtotal	2,048 (2,231)	55.7% (55.1%)	2,039 (2,313)	57.3% (58.4%)	1,894 (2,168)	58.6% (60.0%)	2,315 (2,567)	54.4% (55.1%)	2,178 (2,435)	56.6% (56.7%)
Grand total	Patents	2,049	36.7%	1,857	34.7%	1,647	31.7%	1,733	33.2%	1,562	32.4%
	Utility models	166	39.2%	160	43.2%	81	32.4%	95	43.0%	84	42.0%
	Designs	223 (224)	45.6% (45.6%)	197 (213)	42.4% (44.3%)	233 (246)	48.1% (49.5%)	207 (215)	44.1% (45.1%)	214 (216)	51.6% (51.8%)
	Trademarks	2,219 (3,028)	57.4% (57.9%)	2,383 (3,404)	59.5% (61.6%)	2,082 (2,811)	57.4% (59.5%)	2,245 (3,021)	61.7% (63.5%)	2,091 (2,744)	58.8% (59.3%)
	Grand Total	4,657 (5,467)	44.9% (46.6%)	4,597 (5,634)	45.1% (48.0%)	4,043 (4,785)	42.3% (44.9%)	4,280 (5,064)	44.8% (47.5%)	3,951 (4,606)	43.9% (45.8%)

Note1: Figures in parentheses include multiple applications.

Note2: The successful petitions refer to the number of petitions granted. These figures exclude cases where the registration was decided on the basis of an examiners' reconsideration before a trial and invalidation of a patent process. The figures in parentheses indicate the percentage of the petitions granted.

- Ex partes: Appeals against examiners' decisions of refusal / Appeals against examiners' decisions of cancellation / Appeals against examiners' decisions to dismiss amendments / Trials for correction

- Inter partes: Invalidation trials / Trials to confirm scope of IP rights / Trials for invalidation of correction / Trials for granting non-exclusive licenses / Trials for invalidation of registrations for extension of patent right term / Trials for invalidation of registration for renewals of trademark right term / Cancellation trials on trademark registrations / Cancellation trials on registrations of exclusive or non-exclusive licenses / Trials for invalidation on registrations for conversion of classification of goods

Comparison of domestic and foreign trial requests

(unit: cases)

Category		2012	2013	2014	2015	2016
Patents	Domestics	4,848	4,098	3,814	5,809	3,891
	Foreign	5,191	4,013	3,521	3,303	2,905
Utility models	Domestics	396	329	244	240	301
	Foreign	6	7	7	12	5
Designs	Domestics	515	419	514	432	459
	Foreign	62	57	61	54	53
Trademarks	Domestics	2,528	2,957	2,869	3,057	3,014
	Foreign	2,673	2,626	2,283	2,338	2,530
Total		16,219	14,506	13,313	15,245	13,158

Note: Multiple applications for trademarks and designs are treated as single applications.

Income and expenditures / KIPO staff

Income

(unit: USD)

Category	2012	2013	2014	2015	2016
Income from fees	345,367,273	375,804,545	394,844,545	414,455,455	394,988,244
Income carried over from the previous year	34,099,091	28,054,545	33,515,455	31,426,364	22,215,525
Internal income and others	8,350,000	15,750,000	15,640,000	49,564,545	93,975,976
Total	387,816,364	419,609,091	444,000,000	495,843,636	511,179,745

Expenditures

(unit: USD)

Category	2012	2013	2014	2015	2016
Non-personnel resources (projects)	228,000,909	236,025,455	263,656,364	276,374,545	363,328,537
Personnel resources	95,822,727	100,612,727	102,949,091	109,799,090	123,341,800
Deposit for special fund	41,818,182	52,727,273	48,370,000	91,670,000	24,509,407
Total	365,641,818	389,365,455	414,975,455	477,843,636	511,179,745

KIPO staff

(unit: number of positions)

Category	2012	2013	2014	2015	2016	
Examiners	Patent and utility models	711	710	724	741	734
	Industrial designs and Trademarks	145	148	151	159	162
Trial judges	88	88	90	95	95	
Administrative staff	635	622	622	605	601	
Total	1,579	1,568	1,587	1,600	1,592	

Advanced degrees/special certificates possessed by KIPO staff at the time of their hiring

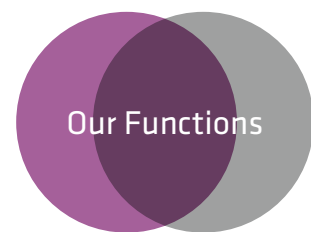
(unit: number of staff)

Category	Ph. D	Master's Degrees	Patent attorney certificate only	Lawyer certificate only	Professional Engineer certificate only
Examiners	Patent and utility models	314	35	19	19
	Trademark	3	1	5	0
	Industrial designs	6	2	1	0
	Total	323	38	25	7

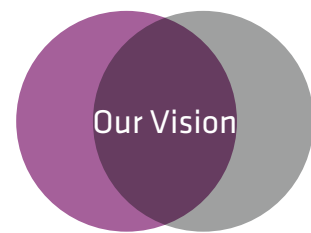
About KIPO



The Korean Intellectual Property Office is the governmental authority in charge of affairs regarding patents, utility models, industrial designs, and trademarks. It was established in 1949 as an external bureau of the Ministry of Commerce and Industry under the name of Patent Bureau. In 1977, the Patent Bureau became an independent office of the Ministry of Commerce and Industry and took the name of Korean Industrial Property Office. In 2000, it was renamed the Korean Intellectual Property Office (KIPO).



The main functions of KIPO include: the examination and registration of intellectual property rights; the conducting of trials on intellectual property disputes; the management and dissemination of information on intellectual property rights; the promotion and enhancement of public awareness of invention activities; the advancement of international cooperation; and the training of experts on intellectual property rights.



In response to the competitive global environment where intellectual property is becoming increasingly valuable, we aim to advance Korea and its position in the world through innovative intellectual property.



We support technological innovation and industrial development by promoting the creation, protection, and utilization of intellectual property. We strive to provide world-class intellectual property services; to promote the economic and industrial use of intellectual property; and to create an environment respectful of the intellectual property system.