ANNUAL REPORT
2017

Message from the Commissioner

As the Korean governmental agency primarily responsible for overseeing intellectual property rights (IPRs), the Korean Intellectual Property Office (KIPO) strives to implement its intellectual property (IP) administration in such a way to strengthen national 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.

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 various types of cooperation examinations including consultative examination among examiners and on-site public examination. This enables examiners to maximize time efficiency and helps them stay focused on their examinations.

This has resulted in some significant changes which increases the quality of our examination. The ratio of patent registration and ratio of appeal against a decision of rejection was lower compared to 2016.

In celebration of the 52th occasion of Korea's Invention Day, KIPO hosted an event which included a commemorative movie screening, ceremony performance, and outstanding invention exhibition to raise IP awareness. Further, inventors were honored who made significant contributions to society.

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 IP as collateral for attaining substantial loans. In 2017, 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 324.5 million USD lent to SMEs.

Moreover, 199 Invention Education Centers funded by 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 pool of talented inventors.

We endeavored to raise the level of Korea's IPR protection. We launched nationwide campaigns to promote public participation 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.

Throughout 2017, we participated in working group meetings to expand global IP services, in particular the PCT, Madrid, and Hague systems. We also participated in WIPO standing committees—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.

In April 2017, KIPO hosted a Heads of Intellectual Property Office Conference (HIPOC) under the theme "Client–centric IP Services." Many heads of IP offices attended the event including those from 13 countries in South Asia, Southeast Asia, and Iran, as well as Deputy Director General Mario Matus from WIPO.

At the event, discussions were held on various topics, including sharing experience of IP rights policies and encouraging IP administration leadership. The heads agreed that IP capacity and economic development were closely related. They also recognized the need for an IP ecosystem in order to adapt to the 4th Industrial Revolution (4IR).

We conducted appropriate technology(AT) and brand development projects with Uganda and Sri Lanka in 2017, and held appropriate technology competitions in four Latin American countries (Panama, El Salvador, Dominican Republic and Costa Rica). With these projects, we shared global IP sharing to resolve everyday difficulties and to help increase quality of life in developing countries.

Last but not least, KIPO, the JPO, the EPO, SIPO and the USPTO, the world's five largest patent offices (IP5), celebrated their 10th anniversary of cooperation forum at the 2017 IP5 Heads Meeting held in Malta. There we adopted a new vision to reflect the changing IPR environment that further incorporates efficiency, cost effectiveness and user friendliness. Furthermore, "IPR protection in the 4IR era" under the umbrella cooperation of the IP5 was discussed. From here on, individual policy efforts made by each patent office will be shared and joint projects can be promoted as we deal with the challenges of the 4IR.

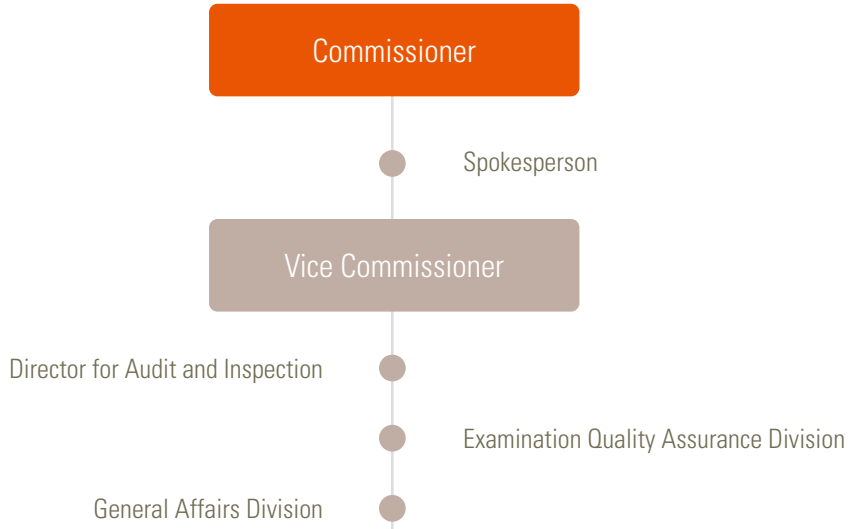
The progress we have made so far has been possible because of the continued interest and support of our numerous stakeholders and IP users, both foreign and domestic. We at KIPO will lead the creation of strong and flexible IP and confidently advance into the era of the 4IR with resolve to facilitate economic growth and innovation.

The Annual Report contains information on KIPO's primary activities and overall performance results for 2017, which I hope will serve to provide a better understanding of our recent projects and vision for the future. It is my honor and pleasure to present to you this year's annual report.

Sung Yunmo | Commissioner

> "KIPO will lead the creation of strong and flexible IP and confidently advance into the era of the 4IR with resolve to facilitate economic growth and innovation."

Organizational Chart of **KIPO**



Director General for Planning & Coordination

- Director for Planning & Finance
- Director for Organization & Management Innovation
- Director for Regulatory Reform & Legal Affairs

Intellectual Property Policy Bureau

- Intellectual Property Policy Division
- Intellectual Property Utilization Division
- Intellectual Property Human Resource Division
- Regional Intellectual Property Division
- Intellectual Property Creation Strategy Division

Intellectual Property Protection & International Cooperation Bureau

- Intellectual Property Protection Policy Division
- Intellectual Property Protection Support Division
- Intellectual Property Investigation Division
- International Cooperation Division
- Multilateral Affairs Division

Information & Customer Service Bureau

- Information & Customer Policy Division
- Information System Division
- Information Management Division
- Application Division
- Registration Division
- International Application Division

Trademark & Design Examination Bureau

- Trademark Examination Policy Division
- Design Examination Policy Division
- Trademark Examination Division 1
- Trademark Examination Division 2
- Trademark Examination Division 3
- Complex Trademark Examination Division
- International Trademark Examination Division
- Design Examination Division
- Convergence Design Examination Division

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

Patent Examination Policy Bureau

- Patent Examination Policy Division
- Patent System Administration Division
- Energy Technology Examination Division
- Automobile Convergence Technology Examination Division
- Information Technology Convergence Examination Division
- Measurement & Analysis Technology Examination Division
- Medical Technology Examination Division
- PCT International Search & Preliminary Examination Division
- PCT International Search & Preliminary Examination Division

Patent Examination Bureau 1

- Home Appliance Examination Division
- Office Equipment Examination Division
- Living Appliance Examination Division
- Civil Engineering & Environment Examination Division
- Residential Technology Examination Division
- Electric Power Technology Examination Division
- Fine Chemistry Examination Division
- Food, Agriculture, Forestry and Fisheries Examination Division
- Electronic Components Examination Division

Patent Examination Bureau 2

- Processing System Examination Division
- Precision Component Examination Division
- Semiconductor Examination Division
- Automobile Examination Division
- Polymer & Textile Examination Division
- Computer System Examination Division
- Pharmaceutical Examination Division
- Telecommunication Network Examination Division
- Resources Recovery & Reutilization Examination Division

Patent Examination Bureau 3

- Applied Materials Examination Division
- Robot & Automation Examination Division
- Advanced Transportation Examination Division
- Biotechnology Examination Division
- Mobile Communication Examination Division
- Metals Examination Division
- Display Device Examination Division
- Multimedia Broadcasting Examination Division

CONTENTS

Intellectual Property is

the driving force behind

the 4th Industrial Revolution

Innovation

KIPO fosters IP innovation through fast patent examination service and reliable quality

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 is as follows:

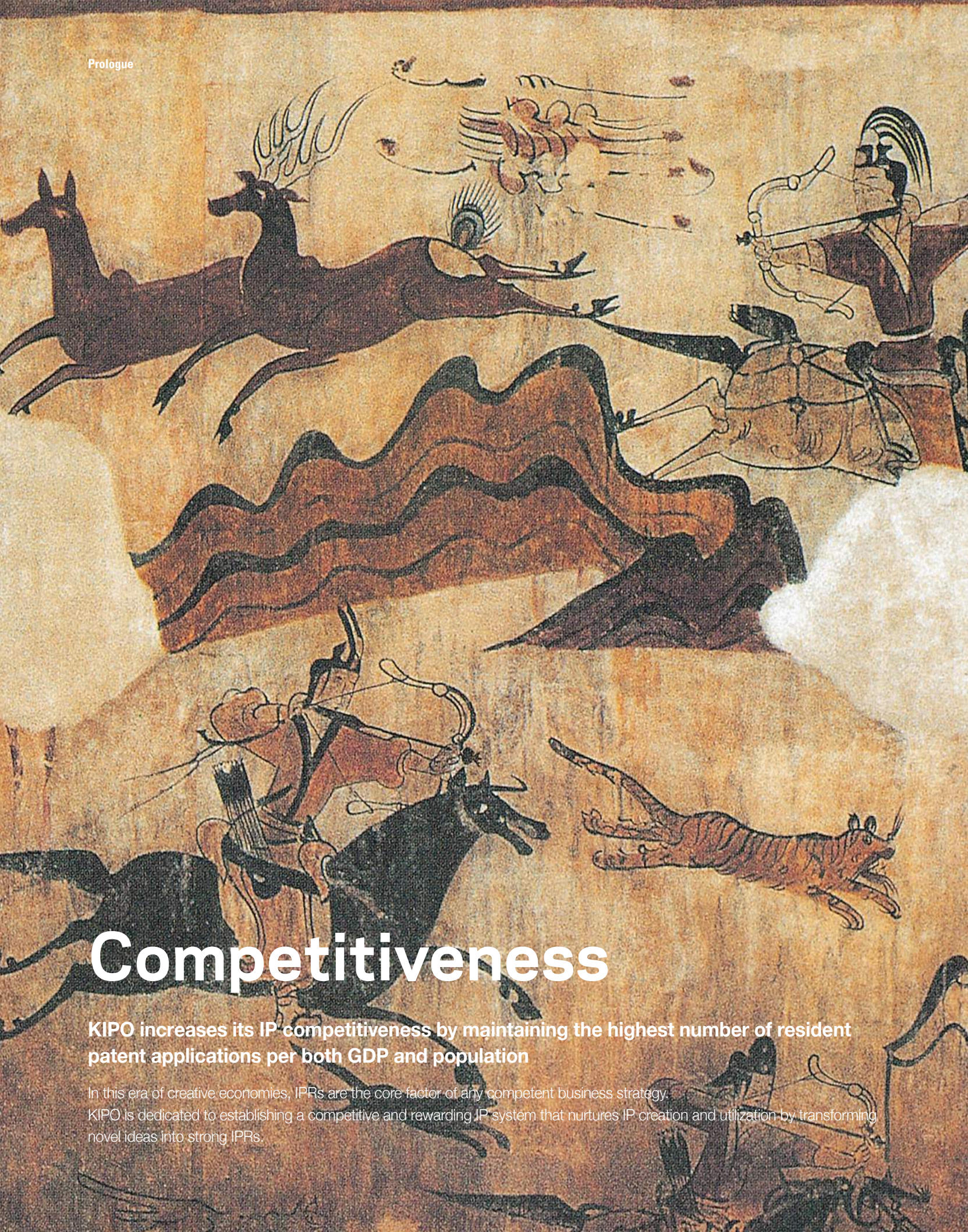
- Patents and utility models: 13.2 months in 2013 → 11.0 months in 2014 → 10.0 months in 2015 → 10.6 months in 2016 → 10.4 month in 2017
- Trademarks: 7.7 months in 2013 → 6.4 months in 2014 → 4.7 months in 2015 → 4.8 months in 2016 → 5.0 month in 2017
- Designs: 7.3 months in 2013 → 6.5 months in 2014 → 4.4 months in 2015 → 4.7 months in 2016 → 4.9 month in 2017

◂OLED Tunnel

At the Consumer Electronics Show (CES), the world's largest consumer electronics exhibition, LG Electronics installed the 'OLED Tunnel' using curved OLEDs.

▸Yangkwan

The Chosun dynasty officials wore this cap with their uniforms on New Year's or national holidays.



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 2017 amounted to 442,670.
Patent applications stood at around 200 in 1949 before jumping to around 5,000 in 1980 and 100,000 in 2000. Over the past 17 years, this number has doubled to more than 200,000.

Patent application competitiveness

According to the World IP Indicator unveiled by WIPO in December 2017, Korea ranked first for 10 consecutive years (since 2007) in regard to the number of resident patent applications per GDP and population.

PCT applications

Korea increased its number of PCT applications by 1.2 percent, from 15,595 in 2016 to 15,790 in 2017, which is the 5th largest amount by country of origin.

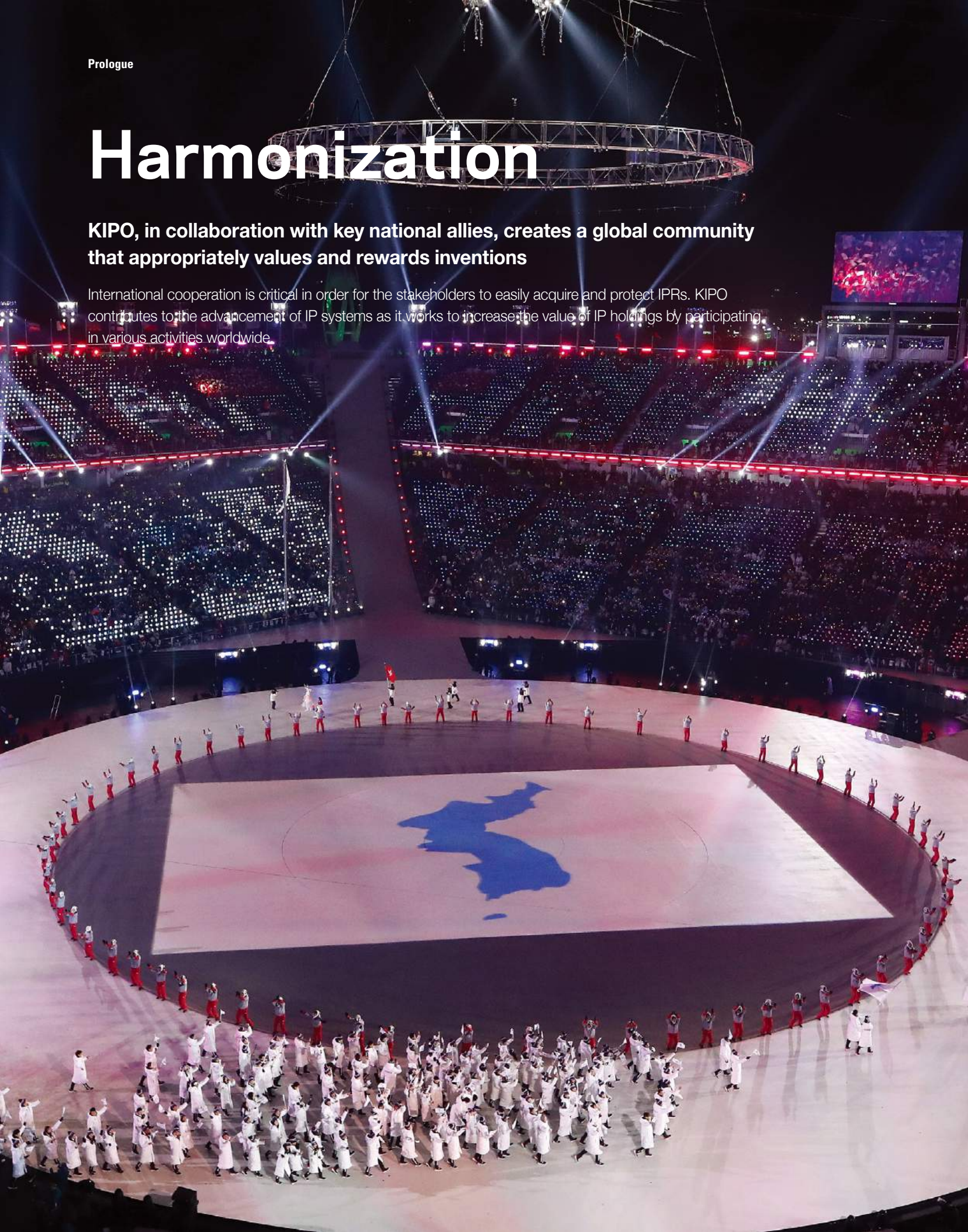
◂Hunting Scene(Koguryo Tomb Mural)
It is a mural depicting dynamic hunting of the Koguryo people. Koguryo was in the north of the Korean peninsula from the first century BCE to 668 AD.

▸Helmet
In the Chosun Dynasty, the general put this helmet in order to protect the head from enemy attack.

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, we have contributed around 11.2 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 28 Countries

In order to improve the efficiency and quality of examinations, we have become actively involved in the IP5 and the TM5.

The Patent Prosecution Highway is also implemented with 28 countries to reduce the time and costs required to obtain patents internationally.

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

27 IP Sharing Projects

In collaboration with WIPO and APEC, we implemented 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 insulationin 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.
- Crop dryer and solar controller for Makerere University in Uganda in 2017.
- Coconut oil extractor in Sri Lanka in 2017.

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 Quinua 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.
- Brand for coconut oil extractor and coconut certification mark in Sri Lanka in 2017

◂ Joint March by Two Koreas
At the 2018 PyeongChang Winter Olympic Games, south and north Korea marched together under one flag.

▸ Ongnorip
The Chosun dynasty officials wore this cap when they went abroad as a diplomatic envoy.

2017 Statistical Overview

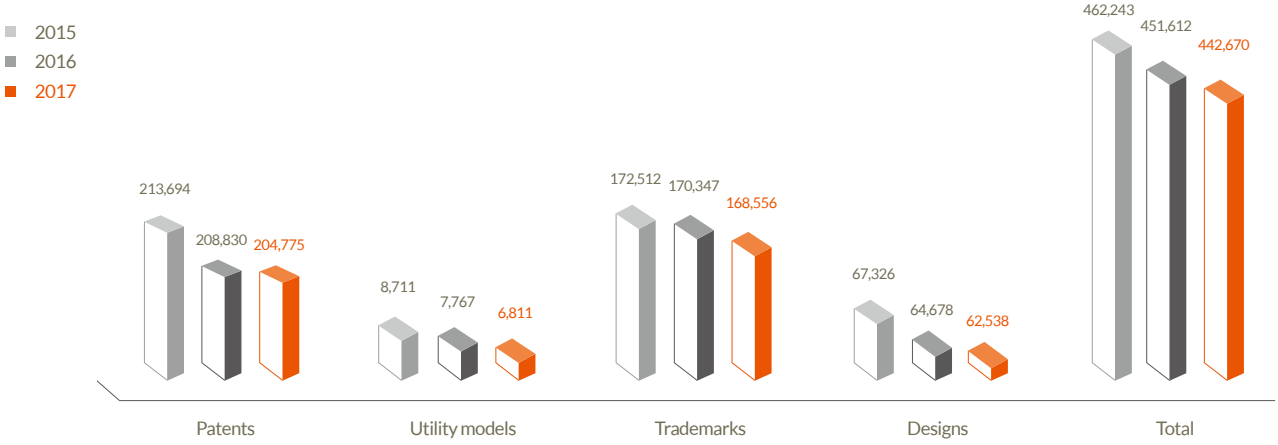
Applications

The total preliminary number of IPR applications, including patents, utility models, designs, and trademarks, submitted to KIPO in 2017 amounted to 442,670, a 2.0% decrease from 2016. In 2017, patent applications totaled 204,775, showing a 2.0% decrease. Utility model applications decreased 12.3% since 2016, totaling 6,811. Design applications decreased 3.4% for a total of 62,528 and trademark applications for 2017 totaled 168,556, a 1.1% decline rate compared to 2016.

Volatility caused by the financial crisis lowered the number of patent applications by 4.2% in 2009, but this was soon rectified in 2010 with 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 17 years.

There were 45,680 foreign applications, accounting for 22.3% of the total number of patent applications. The greatest number of patent applications (15,043) was from Japan, which was a 1.8% increase from 2016. This was followed by the United States (13,438, a 1.5% decrease from 2016), Germany (4,012), China (3,015, a 6.5% increase from 2016), and France(1,746).

(unit: cases)

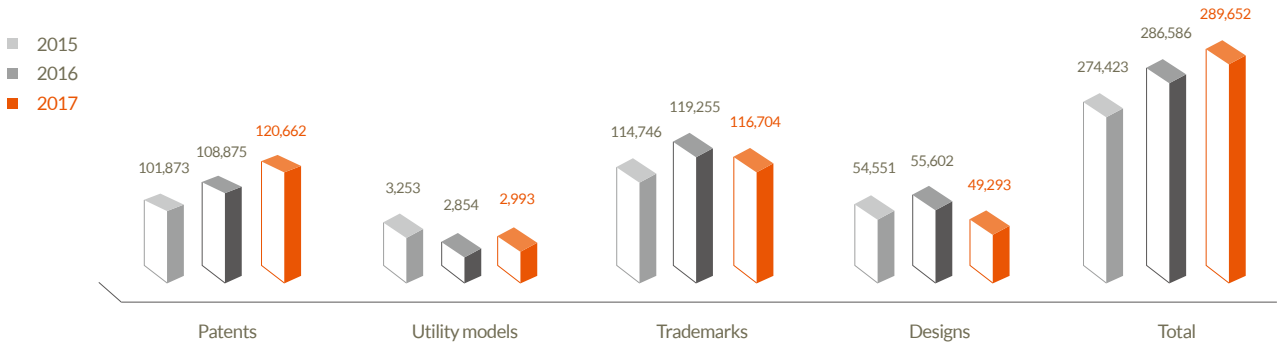


Registrations

The total number of registrations for intellectual property rights in 2017 reached 289,652, a 1.0% increase from 2016.

A breakdown of IP rights shows that: patent registrations reached 120,662, a 10.8% increase rate from 2016; utility models increased by 4.8% to 2,993; and trademark registrations decreased by 2.2%, totaling 116,704. Further, designs decreased by 11.4% to 49,293.

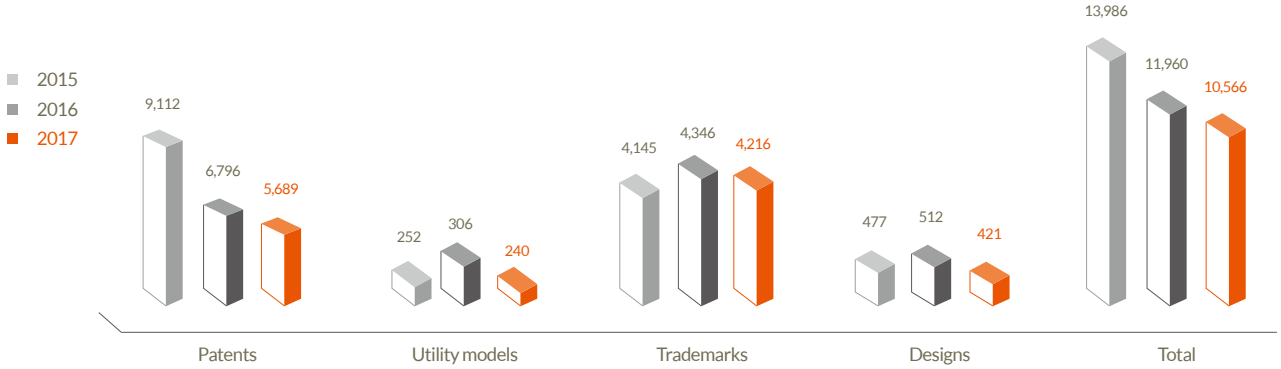
(unit: cases)



Trials

In 2017, the number of trial requests decreased by 11.6% from 11,960 to 10,566. A look at IP statistics shows that: patents decreased by 16.2% to total 5,689; utility models decreased by 21.5% to total 240; trademarks decreased by 2.9% for a total of 4,216; and designs decreased by 17.8% to total 421.

(unit: cases)

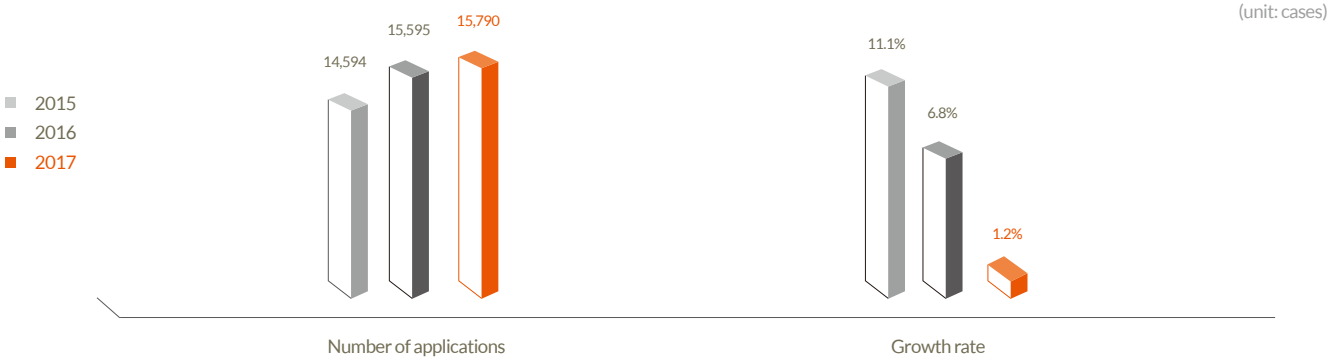


PCT system

PCT

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.

(unit: cases)



PCT international search reports and international preliminary examinations

The number of PCT international search reports by KIPO totaled 25,955 in 2017, this was a 7.8% decrease from 2016 which was 28,176. The number of international preliminary examinations undertaken by KIPO in 2017 was 169, a decrease of 19.1% in 2016. 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 was not requested.

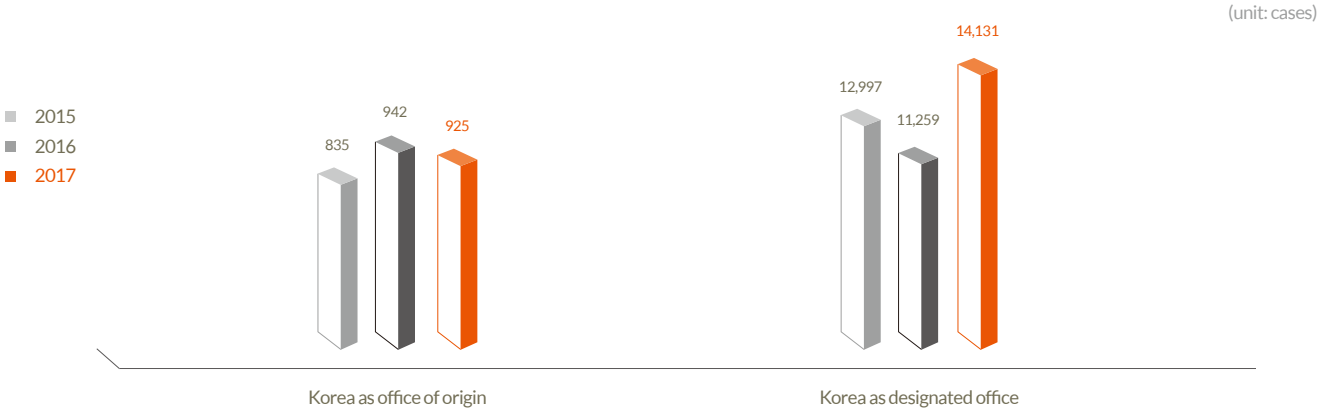
This trend is partly due to the International Searching Authorities reviewing the patentability of applications since 2004.

(unit: cases)

Madrid and Hague system

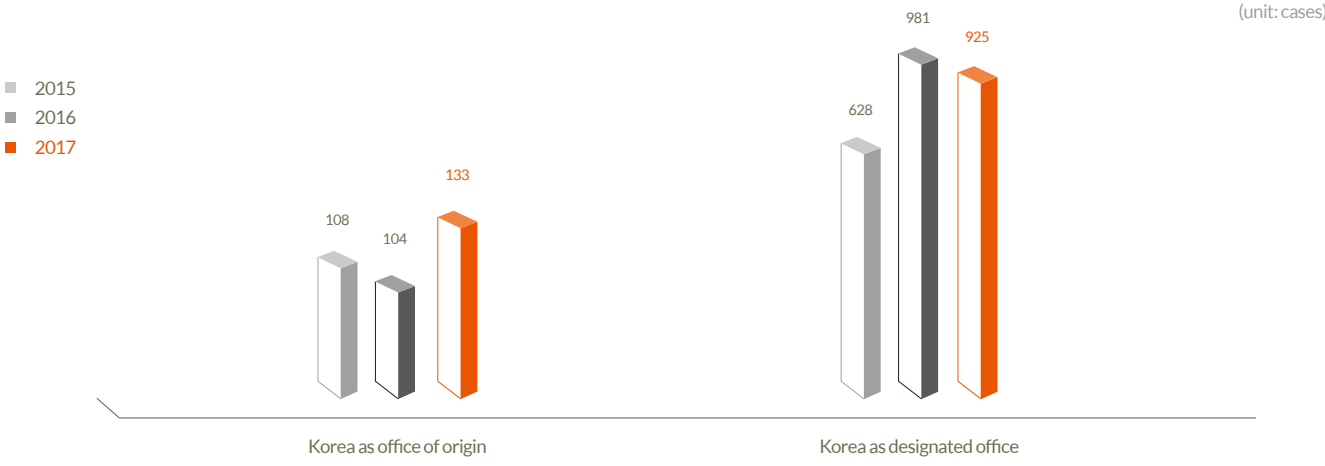
Madrid

The number of Madrid international applications submitted by foreigners that designate Korea as the office of origin reached 14,131 in 2017, a 25.5% increase from 11,259 in 2016.



Hague

As a result of Korea joining the Hague Agreement, in 2017, we oversaw a total of 133 international trademark applications as the office of origin, and 925 international applications as the designated office.



2017 Highlights

JANUARY

11 New Year's Gala for Inventors and Patent Users

23 Operation of the 6th IP Education Leading University Project

FEBRUARY

06~09 Korea-Hong Kong Heads of IP Office Meeting

14~18 Korea-ASEAN High-level Meeting, and Thailand IP-DESK Visit

18 APEC Publication of The Guidebook for SMEs' IP-Business Cycle by KIPO

MARCH

02 Launching of the ASEAN +1 Framework

13 Opening Ceremony for the Ylang Ylang Hub Oil Center in the Philippines

22 MOU Signing between KIPO-Daejeon District Prosecutor's Office

30 The Korean Wave Contents IPR Protection Meeting 2017

APRIL

11 The 30th Anniversary Celebration of IIPTI International Conference

11~12 IP5 Deputy Heads Meeting

12~14 Heads of Intellectual Property Offices Conference with Asian Countries

24~27 KIPO-WIPO Global Trademark and Design Conference in Cook Islands

MAY

17~18 The 7th International IP and Industrial Security Conference

19 Korea's 52nd Invention Day

23 Youth Invention Reporters Day

29 IP5 Heads and Deputy Heads Meeting and IP5 Heads and Industry Meeting

JUNE

01 The 10th IP5 Heads Meeting

08~11 Korea International Women's Invention Exposition and Korea International Women's Invention Forum

12~16 Government Officials of Vietnam Study Visit

JULY

03 PCT Training for Developing Countries

10~21 WIPO-Korea Summer School on IP

21 Youth Invention Festival

AUGUST

28 The 6th IP5 Statistical Working Group Meeting

31 Global IP Strategy Conference

SEPTEMBER

07~08 The 13th PATent INformation EXpo(PATINEX)

13 Korea-China-Japan Joint Seminar among IP Training Institutes

28 Opening Ceremony for IP-DESK in India

OCTOBER

02~11 WIPO General Assembly and Meeting between Heads of IP Offices Meeting

20 Korea-China-Japan IP International Conference

24 International Industrial Security Seminar

31 Opening Ceremony for IP-DESK in Indonesia

NOVEMBER

02 KINPA Global Conference

09 IP International Symposium

10 Award Ceremony for AT Competition in El Salvador

14 Korea-ASEAN Heads of IP Office Meeting

18 Korea-China Heads of IP Office Meeting

DECEMBER

01 The 20th Celebration of the Designation of KIPO as a PCT International Authority

05 KIPO-WIPO IPCC in the UAE

07 Korea-China-Japan User Symposium

Providing IP Services

Sungnyemun Gate
Korea National Treasure No. 1. It is a symbolic building that can feel the history and tradition of Seoul.

Examination Services

01 / *Examination policies focused on quality*

In 2017, KIPO's first office action pendency was maintained as one of the fastest in the world while policy remained focused on examination quality. To ensure each examiner was allocated with a reasonable workload, we increased our outsourcing of prior art searches KIPO also promoted diverse forms of collaborative examinations by introducing consultative examinations and public examinations in which outside experts are invited to partake in necessary examinations.

The annual average first office action pendency period in 2017 was recorded at 10.4 months for patents and utility models, 5.0 months for trademarks and 4.9 months for designs.

Further outsourcing of prior art searches

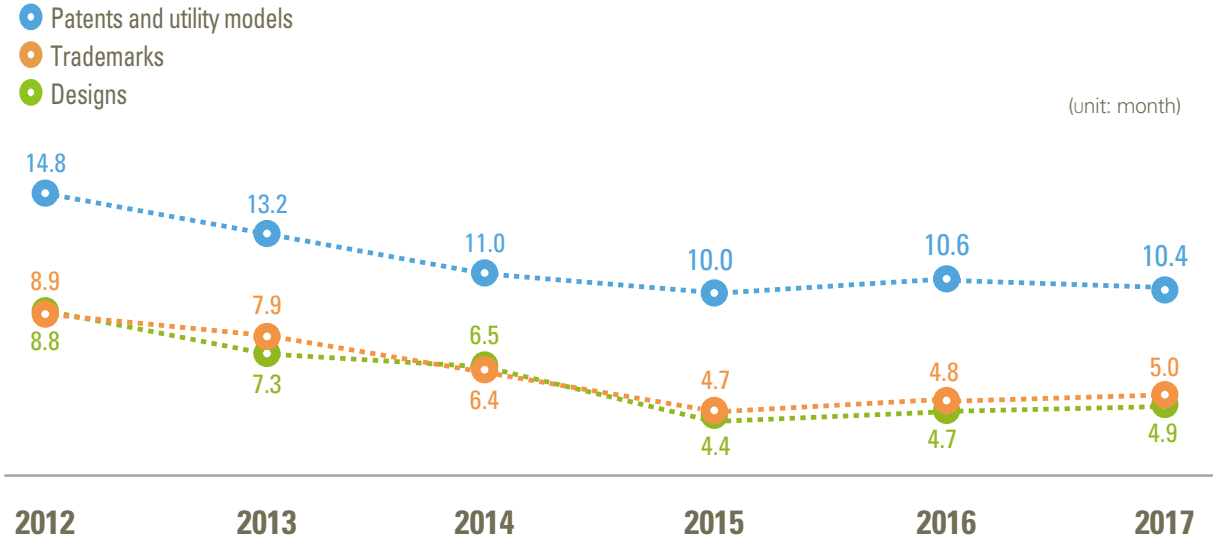
To maintain the level of first office action pendency, a total of 87,594 cases of patent and utility models applications, which was 49.3% of all examination cases handled in 2017, were subject to prior art searches.

A total of 101,609 cases of trademark applications, which was 77.6% of all trademark applications submitted in 2017, and 29,194 cases of design applications, 43.3% of all design applications submitted in 2017, were sent to independent agencies for prior trademark and design searches.

Consultative examination among examiners

Consultative examination among examiners are conducted to improve 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 performed for cases where it is difficult to search prior art of the concerned technical field because the overwhelming amount of field data. 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 opinion and advice on technical reference materials.

02 / *Enhancing examination quality*

Managing examination quality through examination review

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

Examination review is conducted by 17 people who belong to the Examination Quality Assurance Division (EQAD). The Examination Review System checks for possible errors before a final decision notification of registration or rejection is sent out to the applicant. The review assesses substantive requirements, such as for patentability as well as adequacy of the examination process.

In 2017, the EQAD reviewed examinations of 4,123 (2.3%) patents and utility models, 5,482 (2.4%) trademarks and designs, and 452 PCT reports were subjected to examination reviews.

KIPO analyzes each examiner's performance to manage quality of the different examination departments. Various statistical indicators are used to evaluate examination quality including rates of registration, rates of trials, rates of revocation, and rates of appeal. The findings are then shared with the examination departments for improvement.

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

KIPO organized a specialized training system in 2017 to enhance the capacity of examiners and administrative judges. There were four basic courses, 17 legal courses, 19 practical examination courses, 13 capacity-enhancing courses, and new technology training courses. In total, 54 courses were administered over 125 sessions.

The basic courses were organized into four levels of training for examiners and trial judges with different years of experience: new examiners course, mid-career examiners course, trial litigation system course and administrative judge course. Four sessions were administered in total with 205 examiners and administrative judges receiving training.

Legal courses provided training on fundamental theories of law essential for examinations and trials (Patent Act, Trademark Act, etc.) followed by in-depth training on key topics, case studies, issues and debates.

Additional training sessions were held on Civil Law, Unfair Competition Prevention and Trade Secret Protection Act and Copyright Act. A total of 18 sessions were held with 959 participants.

To enhance the capacity of examiners and administrative judges, 19 courses on examination practice including case studies (basic and advanced) were provided, as well as 13 courses on topics such as commercializing of IPR technology. A total of 33 sessions were held with 1,212 participants.

Moreover, 70 sessions were organized for new technology training in response to the rapidly advancing field of technology convergence. 1,679 examiners and administrative judges participated.

Public-Private Advisory Committee for patent quality

A Public-Private Joint Advisory Committee for patent quality improvement was set up to provide a channel for communicating with academics, researchers, industry experts, and patent lawyers from the private sector in order to collect ideas on how patent policies might be amended

to improve overall patent quality.

In 2017, Advisory Committee meetings were held on two separate occasions, once in June and once in December, to discuss KIPO policies that impact patent quality. Such policies include methods for improving patent and patent application quality, introduction of a video interviewing system and criteria establishment for judging the inventive step of the 4th Industrial Revolution (4IR) fields. 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 with large volumes of patent applications to introduce their cutting-edge technologies to patent examiners.

In June 2017, Electronics and Telecommunications Research Institute (ETRI) gave a seminar on three fields of 4IR related technology (including AI, IoT and Holography).

03 / *Customized examination services*

Examination 3.0

We shifted our examination from the existing system, in which examiners simply give their reason for refusal, to a more customer-oriented examination system. The "Patent Examination 3.0" helps 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, 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 2017, to enhance the effectiveness, the results of the preliminary examination were notified before the interview with the examiner.

B) Preliminary amendment review
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 2017, the number of applicants who requested reviews of preliminary amendment increased 1.9 times compared to 2016.

C) Batch examination
Batch examination is a customized service in which, at the

Statistics on three-track patent and utility model examination requests

Category	2013	2014	2015	2016	2017
Accelerated examination	25,609 (14.7%)	27,437 (15.4%)	28,574 (15.5%)	29,122 (16.2%)	30,270 (17.0%)
Enlarged accelerated examination	8,065 (4.6%)	7,392 (4.1%)	8,400 (4.5%)	7,750 (4.3%)	8,833 (4.9%)
Regular examination	148,427 (85.2%)	150,763 (84.6%)	155,525 (84.4%)	150,666 (83.8%)	148,166 (83.0%)
Customer-deferred examination	149 (0.0%)	54 (0.0%)	112 (0.0%)	91 (0.0%)	235 (0.0%)
Total requests for examination	174,185 (100%)	178,254 (100%)	184,211 (100%)	179,879 (100%)	178,671 (100%)

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.

Three-track patent and utility model examination system

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

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

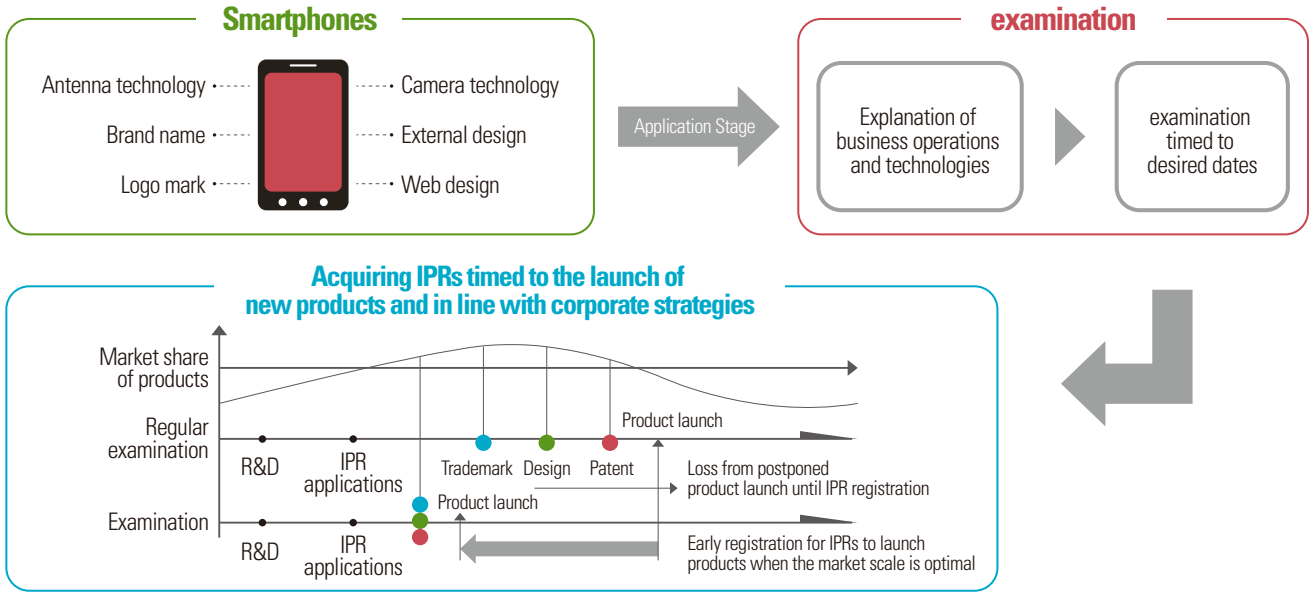
Two-track trademark and design examination service

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

Statistics on two-track trademark and design examination requests

Category	Trademarks				Designs			
	2014	2015	2016	2017	2014	2015	2016	2017
Total no. of applications (A)	150,226	185,443	181,592	182,919	64,345	67,954	65,626	63,451
Requests for expedited examination (B)	3,497	4,041	3,801	4,166	4,143	4,535	4,019	4,164
Requests for expedited examination as a percentage of the total (B/A)	2.3%	2.2%	2.1%	2.2%	6.4%	6.7%	6.1%	6.6%

Example of collective examination



Trial Services

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

In 2017, there were 4,166 requests (2.2% of all applications) for accelerated examination of trademarks and 4,164 requests (6.6% of all applications) for accelerated examination of designs.

01 *Management of the trial processing period*

IPR disputes are on the rise in emerging technology. IPR disputes can severely delay decision-making and investment decisions for a business. Therefore, prompt resolutions for IPR disputes are directly linked to business competitiveness, and that's why countries around the world are working 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, the IPTAB operates a three-track trial system where trials are categorized into regular, accelerated and fast track trials. The goal of the IPTAB is to more efficiently handle trials that require expedition.

Regular trials are handled on 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 a retrial 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.

Cases that require even faster trial proceedings compared to accelerated trials are dealt as fast track trials. 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 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, SME or one-person company is a direct party involved in the trial; and cases of invalidation trials for patents granted to an unentitled person(s).

By the end of 2017, 866 trials reached final ruling while 715

Statistics on super-accelerated, accelerated, and regular trials in 2017

Requests made in 2017	Patents and utility models	Trademarks and designs	Sub total
Fast track trials	242 (4.7%)	133 (2.8%)	375 (3.8%)
Accelerated trials	702 (13.8%)	192 (4.0%)	894 (9.1%)
Regular trials	4,159 (81.5%)	4,426 (93.2%)	8,585 (87.1%)
Total	5,023 (100%)	3,970 (100%)	9,854 (100%)

cases were in-progress. 79.3% of fast track trials were requested by SMEs and individual starts-ups (50.7% and 28.6% respectively) indicating a sufficient utilization of the specialized process

Of all trials presided in 2017, fast track trials increased to 3.8% since the year before and accelerated trials totaled 9.1%. Proper management of trial processing period has allowed urgent cases to be processed faster.

02 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 efforts to meet or exceed customer's expectations through 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 on-the-job training 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 evaluation committee meets every quarter to review cases with revoked 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 13.6% of the trial decisions by the IPTAB were submitted for appeals at the Patent Court, and 23.3% of these appealed cases had their trial decisions revoked.

03 Video Conference Oral Hearing

In April 2014, as a way of making 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 make a trip to 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 the grand trial courtroom which opened in November 2016, a video conference system was installed. The system will be used for major cases undertaken jointly by five judges. In 2017, 272 oral hearings were held by video conferencing, which is 9.7% higher compared to 2016. The video conference system has not only been used for oral hearings but also for technology explanation sessions and administrative judges meetings since 2016.

PCT IP System International Search Service

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 worldwide Receiving Offices (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 2017, these requests accounted for 96.4% of all international search requests we received.

Improving the IPR System

01 / *Patents and utility models*

Amendment of the Patent Act to strengthen patent application indications

Even though a filed patent and registered patent are considered distinct stages of patenting, there is often confusion by the general public. A product where an application has been filed for is considered a pending patent. However it is often mistaken as a registered patent that has already undergone examination and publication at KIPO.

To prevent further confusion, the Patent Act has been amended as of September 22, 2017 (promulgated as of March 21, 2017). Now, a product must indicate that a patent is pending by making a "patent pending" mark visible on the product. Also, all application or registration serial numbers must be clearly presented enough not to cause confusion for consumers.

Amendment of the Patent Act to enhance patent examination cooperation with other countries

Work-sharing with other countries is anticipated to increase under the aim of enhancing patent examinations quality. Accordingly, regulations are needed to proceed with information sharing between foreign patent offices on patent applications and examinations.

Requests for PCT international searches

Category		2013	2014	2015	2016	2017
Republic of Korea		11,971	12,442	13,579	14,555	14,798
Foreigners	U.S.A	16,968	17,162	14,480	13,208	9,992
	Others	592	556	409	413	369
	Subtotal	17,560	17,718	14,889	13,621	10,361
Total		29,531	30,160	28,468	28,176	25,159

The Patent Act will be amended on May 29, 2018 (promulgated on November 28, 2017) to include "working with foreign patent offices or international organizations" in the list of permissible reasons to take patent applications or examination related documents out of the office.

Amendment of the Patent and Utility Models Examination Guidelines

KIPO amended the Patent and Utility Models Examination Guidelines which came into effect on January 1, 2018. The amendment provides advanced guidelines and assessment criteria on obviousness, as well as relevant case studies for dealing with inventions and new technologies in the 4IR based on the field of Information & Communication Technology (ICT), namely IoT, AI, Big Data, autonomous driving, robots and 3D printing. This aims to take preemptive measures to protect relevant technologies in the aforementioned categories.

Under the amended guidelines, an advantageous effect of 4IR related inventions is considered as presence of an inventive step. When assessing inventive step of inventions of hyper-converged technologies, examiners are encouraged to conduct prior art searches in the field where the invention will ultimately be used.

Another amendment to the guidelines is related to the patent term extension of drugs. Previously, there have been divergent interpretations on the delay when a patent right holder seeks Korea Food & Drug Administration (KFDA) approval. Reflecting a recent Supreme Court decision, the amended guidelines clarify that the supplementary period caused during the regulatory review period of an approval document is construed as a liability period. A patent term can be extended, as long as the right holder registers as the patent licenses and documents are submitted before a certified copy of the ultimate decision to grant the patent term extension is mailed.

Translation of the Patent and Utility Models Examination Guidelines in English

KIPO published the English translation of the "Patent and Utility Models Examination Guidelines" in December 2017. The translation is to help the increasing number of foreigners who file patent applications with KIPO and also to adapt to the trend of international work-sharing. The guidelines available in English can assist foreigners gain a better understanding of Korea's patent system.

02 / *Trademark and design*

Amendment in Trademark and Design Examination Guideline

The Trademark and Design Examination Guideline were amended to improve convenience for applicants and to realign examination criteria.

In 2017, the following amendments were made for trademarks:

- In the process of partially abandoning identification of goods after being granted registration and before paying the registration fee, it is sufficient for the applicant to merely submit a form for payment with an indication of abandonment of the partial identification of goods instead of submitting a waiver of rights.

- Examination will no longer be suspended for a junior trademark which was provisionally refused due to the similarity of the senior mark as long as the applicant for the senior mark has unpaid registration fees, thus ensures that the pendency for the final registration will be shortened.

- The judgement criteria have been alleviated for the registration of 3D trademarks.

- The judgement criteria have been established for the registration of trademarks which consists of geographic names alongside the term "university".

The following amendments were made for design:

- The judgement criteria have been eased for uniformity of partial design creation. Multiple partial designs expressed as separate parts of an item can be broadly recognized as a single (1) design.

- The judgement criteria now clearly states for examination

accuracy, unregistrable design conditions such as a name of a country incorporated in the design, an unregistrable part of a partial design, or a reference drawing independent from the basic drawing.

- New judgement criteria has been added to reflect the uniqueness of on-screen design for visibility.

- Design application for 4IR related technologies are now eligible to apply for expedited examinations.

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, which only had 15,000 entries in 2014, rose to 46,000 entries in 2015 and to 62,000 entries in 2016. By deleting the overlapping or vague identification of goods, the number was adjusted to 55,000 entries in 2017. The identification of goods accepted by the TM5, as well as by WIPO's International Bureau and the EUIPO has been reflected in KIPO's list of acceptable identification of goods.

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

In the field of design, KIPO revised the notification on the catalog, which aims to correct misclassifications of design goods and to adjust the classification to reflect market conditions, to ensure that examination of design classification is consistent and accurate.

In order to solve problems caused by concurrent operation of two classification systems (Locarno classification and Korean classification), we developed a new design classification system based on the Locarno classification in 2016 and a classification definition project in 2017.

03 Patent Trials

Amendments to trial procedure regulations

The amendment to the trial procedure regulations in May 2017 made it possible for trials related to prosecution cases with criminal charges that need a presiding judge to be regarded as fast track trials. As MOU for cooperation with the prosecution is concluded, it is possible to provide judgment records when the prosecution and related organizations request investigation of industrial property law violations.

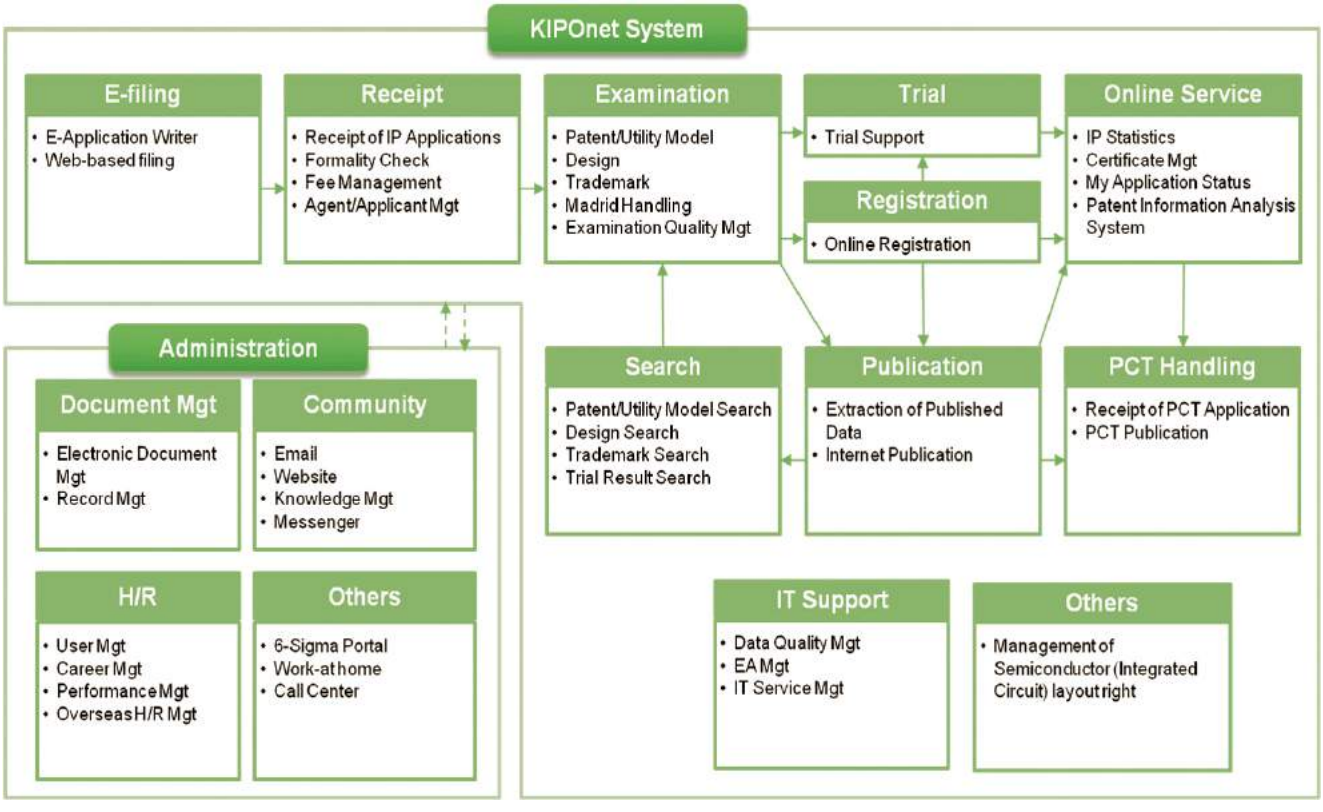
IP Administrative Automation System

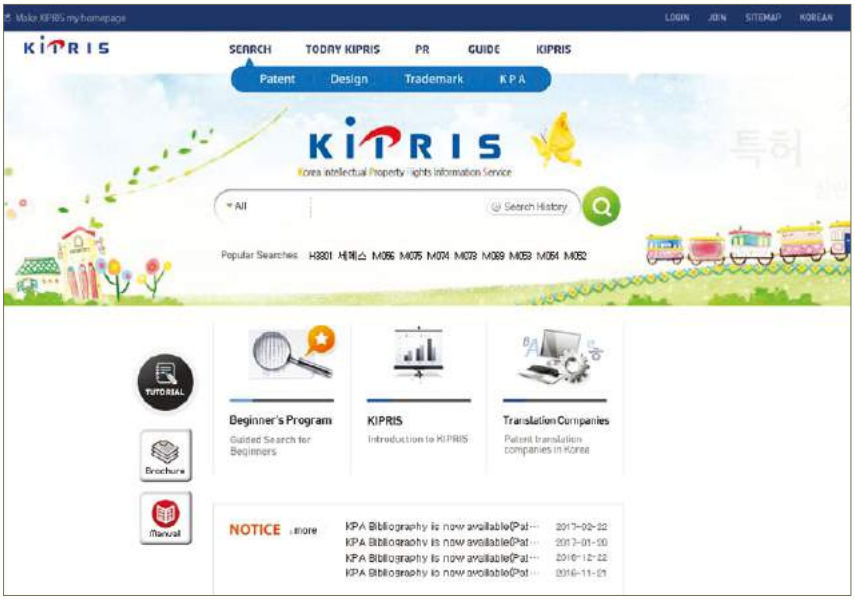
01 / *KIPOnet*

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 server based cloud (SBC) platform to further enhance our security, and we converted the fee payment system to Swiss francs (CHF). In 2014, we improved our filing 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 fill out notifications. Such errors include applying the wrong law to the application, omitting a claim, etc.

In the 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





auto-fill processing. Also, it strengthens the automatic goods classification function through use of a record of goods classification and keywords.

In 2017, the Error Detection function for PCT examination and trial quality was improved. The Error Detection function will quickly detect inaccuracies found in application documents and notify the PCT examiner. Frequent errors found in trial decision documents have been analyzed, identified and reflected in the Error Detection function thereby improving the overall quality of trial decision documents.

02 / *Korea IPRs Information Service (KIPRIS)*

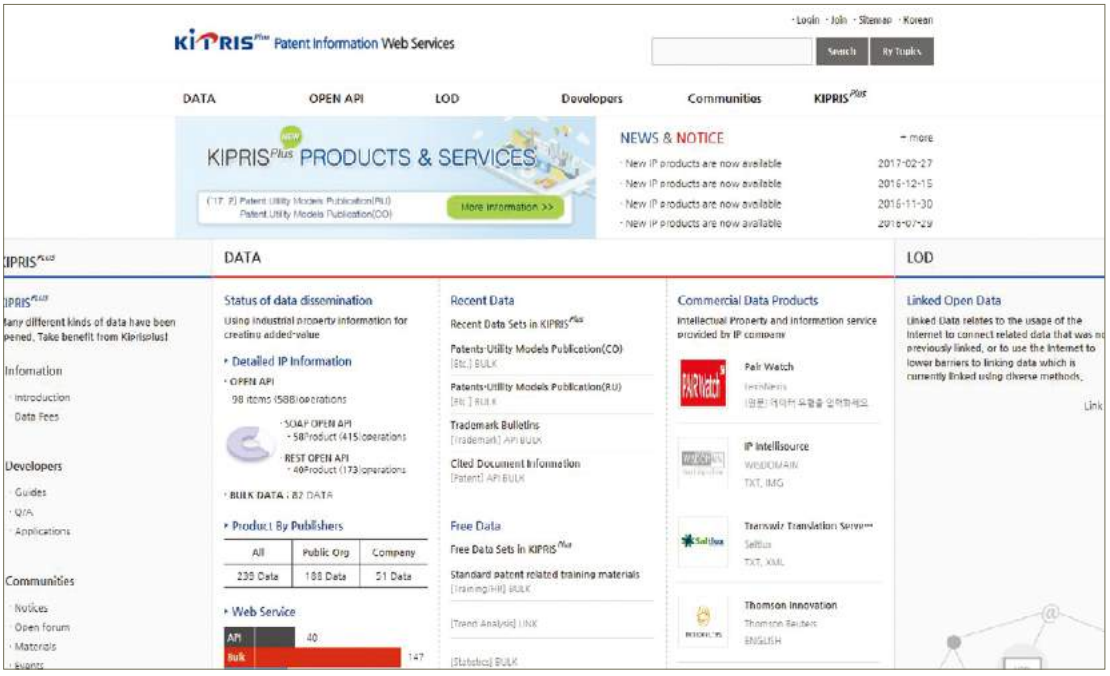
The Korea Intellectual Property Rights Information Service (KIPRIS, http://www.kipris.or.kr) is a free online search service we provide to the general public so they can conveniently browse both international and domestic IP information.

KIPRIS made IP information accessible to the public. The available information includes new information on Chinese designs, full publications of Taiwanese patents, information on design related administrations, and citations. In 2017, the system added a search function for similar patents. To promote the use, PR activities include site-visits upon request, distribution of KIPRIS's magazine, and hosting seminars on how to better utilize KIPRIS.

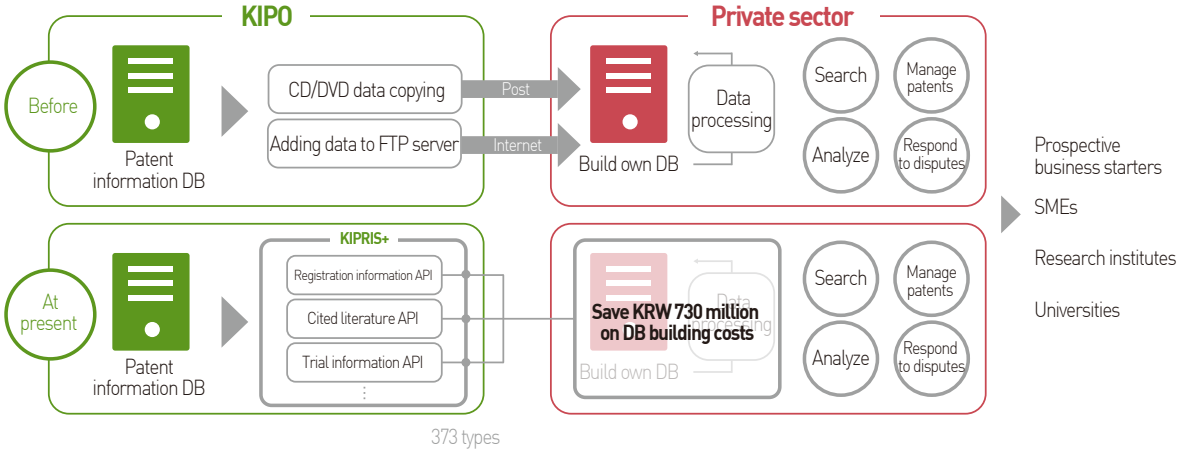
03 / *Korea IPRs Information Service (KIPRIS^{Plus})*

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, and other entities, to reduce the time and cost involved with developing an IP information databases.

As of the end of 2016, KIPRIS^{Plus} contains information—



Development of IP information database before and after KIPRIS Plus



information such as patents, designs, and trademarks—on 90 different kinds of goods (44 domestic goods 46 overseas goods), in addition to 51 types of information from the private sector of 63 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.

04 / *Information security systems*

KIPO continuously develops and implements 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.

Since 2005, KIPO's 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 outsourcing firms.

KIPO improved its overall information security at its main office as well as affiliated organizations by conducting security audits, providing assessment and consultations to our subsidiaries and prior art search agencies. KIPO's efforts have been well-recognized by receiving high scores from various government information security assessments, such as "the Information Security Management Status Evaluation" and "the Privacy Protection Management Level Assessment".

Improving Customer-oriented Claim Handling Services

01 / *Improvements made in the Fee System*

In 2014, to ease burden caused by the registration fee and also to promote utilization and commercialization of IPR, KIPO introduced a registration fee reduction and exemption system for patents, utility models, and designs for economically disadvantaged groups, including individuals and SMEs.

The registration fee reduction and exemption system, which initially covered 4 to 6 years after registration, has expanded to cover 7 to 9 years after registration in 2016. KIPO also introduced the intellectual property management certification system. Participating companies are given an additional 20% reduction for their registration fee that covers 4 to 6 years.

02 / *Improvements made in the application and registration aystem*

In an effort to provide more customer-oriented and effective services, KIPO amended portions of its intellectual property policies and examination services. However, some changes and have caused more confusion and errors upon implementation.

To address this, KIPO has taken measures through system changes and adopted various alert services, as well as revised notification documents sent out for examinations.

To further protect the IPR of those financially and environmentally disadvantaged, KIPO initiated the "IP Application System Explanation Sessions" in 2017 that accommodates the needs of users by reaching out to schools and correctional facilities. The sessions were widely popular with high satisfaction. KIPO plans to expand this program further in 2018 by securing a budget and recruiting specialized lecturers.

KIPO has also simplified the required documents for patent registration in order to minimize inconvenience and

maximize ease for applicants.

1. In the past, when the original and new rights holder of registration (through transfer of rights) visited the KIPO office to apply for the new registration, they had to bring their Identification Stamps and Authentication Certificates.

Now, as long as both the original and new rights holder come to the KIPO office in person, proper identification is enough for registration.

2. When joint ownership of the patent is established during initial application with no changes since, confirmation of the joint ownership was required when submitting payment papers for registration of establishment. Having to resubmit the joint ownership document and an Authentication Certificate of the Identification Stamp was inconvenient.

With the new measures in place, joint ownership documents and the Authentication Certificate were no longer needed when submitting the payment papers, as the joint ownership information already exists in the registration system.

3. For the issuance of a new registration certificate under the name of the new rights holder, the new rights holder had to submit a separate request form for the re-issuance of the registration certificate after the rights transfer registration process was completed.

In the new simplified process, the new rights holder can simply check a box in the application form to receive a new registration certificate issued under the new rights holder.

03 / *Improvements in customer feedback services*

KIPO invited 30 patent users to be part of their "IP Administration Monitoring Team," including employees from large businesses and SMEs, patent lawyers, law firm personnel and university students, that have experience in IP related matters. The team monitors overall IP administrative work and conveys customer opinion to KIPO.

In 2017, the team submitted a total of 280 ideas for systemic and institutional improvements of which 182 ideas (67 cases in the first half of the year, 115 cases in the second half) were adopted.

Promoting the Creation and Utilization of IP

Virtual Reality Experience
As the era of the 4th industrial revolution approaches, many people are paying attention to virtual reality contents.

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.

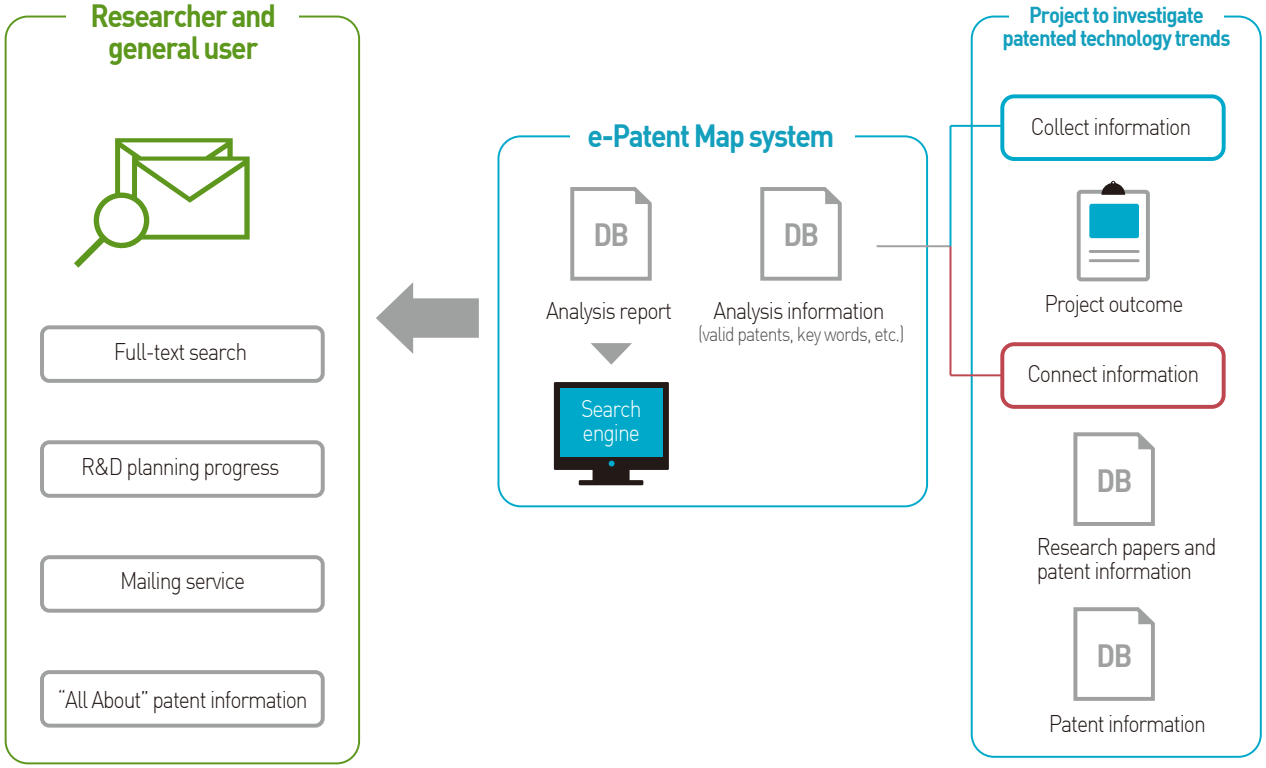
These analyses are to guide the carrying out of medium- and long-term R&D projects which aim to create strong patents that have the appeal to enter into the future market by providing patent analysis results about the project at the research planning phase or task selection phase.

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. In 2017, duplicate are dealt with within the department, and 623 patent trend surveys were carried out.

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.

Diagram of government patent trend analyses



02 Project for dispatching patent management experts

In 2006, we launched a project for dispatching patent management experts, 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 IPR consultations, seminars and briefings, and a patent management system, thereby benefitting each university and public research institute.

In 2017, by dispatching 14 patent management experts, we provided 483 consultations, held 219 seminars as well as briefings, and performed 1,502 technology transfers.

03 Invention interviews and public IP utilization support project

KIPO has been implementing the "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 applying for a patent, to encourage only the best inventions. In 2017, 30 university-public research institutions participated in the Invention Interview Projects, where 3,157 inventions were reviewed. 1,262 outstanding inventions are discovered, whereas 296 cases were considered unfit for a patent application.

The "Public IP Utilization Support Project" helps university-public research institutions transfer their outstanding patent technologies to businesses by presenting the institutions with utilization strategies and assisting them with technology marketing. In 2017, 30 patent technologies owned by university-public research institutions were identified for the project. As a result, 55 cases of technology were successfully transferred.

04 Product unit patent portfolio set up project

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

This project helps individual patents owned by many university-public research institutions be re-aligned into a product unit based patent portfolio, and transfer them to individual companies. In 2017, 24 cases of the Product Unit Patent Portfolio Set up Project were selected, and through successful technology marketing, 63 transfer cases resulted in a technology fee profit of 10.9 million USD.

05 IP utilization network set up project

To ensure a steady 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 technology networking 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 (i. e. Korea IP Strategy Agency and Korea Invention Promotion Association), IP utilization experts, and other private IP trading agencies to share IP information, to discuss difficulties and to connect with necessary partners for better utilization of IPs. In 2017, 18 IP-PLUG sessions were hosted to transfer 72 cases of patent technologies to 85 SMEs. 12 cases also received an additional 1.5 million USD in private investments and loans.

IP-PLUG started as a network for medical devices and electronic parts which was 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 eight top technology sectors including medical device and healthy foods,

material and energy, IoT, biology, mobile communication, information communication, transportation technologies and display, electronic and chemistry.

Since 2013, KIPO has been working with SMEs to host 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. In 2017, the Ministry of Oceans and Fisheries was the latest to join. It has now become a prime example of a successful joint Ministry cooperation project. In 2017, KIPO held two Roadshows, identifying 1,448 cases of outstanding public technologies and resulting in the signing of 84 technology transfer MOUs.

Regional IP Capacity Building

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 27 regional IP Centers nationwide.

The regional IP Centers are run with local and central government support and serve as an IPR support channel.

The IP Centers in eight major cities (Busan, Cheonan, Daegu, Gangwon, Gwangju, Incheon, Jeonju and Jeju) operates an 'IP Creation Zone' where a variety of IPR training is conducted and outstanding ideas are identified and cultivated.

02 / *Providing regional IP awareness*

Regional IP Forums and IP policy meetings

Efforts have been made to improve public awareness of IP following the Framework Act on Intellectual Property set in 2011. Such efforts can be seen through mandatory action plans for IP set up by municipal and provincial governments.

KIPO has been hosting regional "IP Forums" since 2012. Then starting in 2017, the Forum opened its doors to invite local residents. Regional IP Forums are hosted in eight different regions and cities including Geyongsangbuk-do, Gyeongsangnam-do, Gyunngi-do, Gangwon-do, Jeollanam-do, Jeju Island, Incheon and Gwangju.

Sharing IP culture and promoting IP sharing for supporting the socially disadvantaged

The IP talent sharing project invites patent lawyers, designers and university students to volunteer their talents and skills in the field of intellectual property. They donate their talents to help the socially disadvantaged create IP. In 2017, 264 people offered their talents to 157 recipients which resulted in a total of 222 talent sharing projects. Assistance for prior art searches recorded the most needed at 55 cases; support for design development followed with 45 cases; support for brand development at 44 cases; IP consulting with 39 cases; IP education had 15 cases; and 24 cases for miscellaneous projects (i.e. writing up specifications).

Customized IP training across all demographics and promoting IP ecosystem through customized trainning 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 2017, 11,192 individuals participated in the various education and training programs.

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

① 192 sessions of general education on the basics of the IP system for 6,477 individuals including students, to-be entrepreneurs and the public;

② 165 sessions of customized training for 2,108 people in the business community with tailored content to match the company's IPR capacities and needs;

③ 99 sessions of focused training for 1,882 individuals with the aim of improving corporate IP capacities and training IP experts within companies; and

④ 25 sessions of public sector IPR training for 725 local government officials.

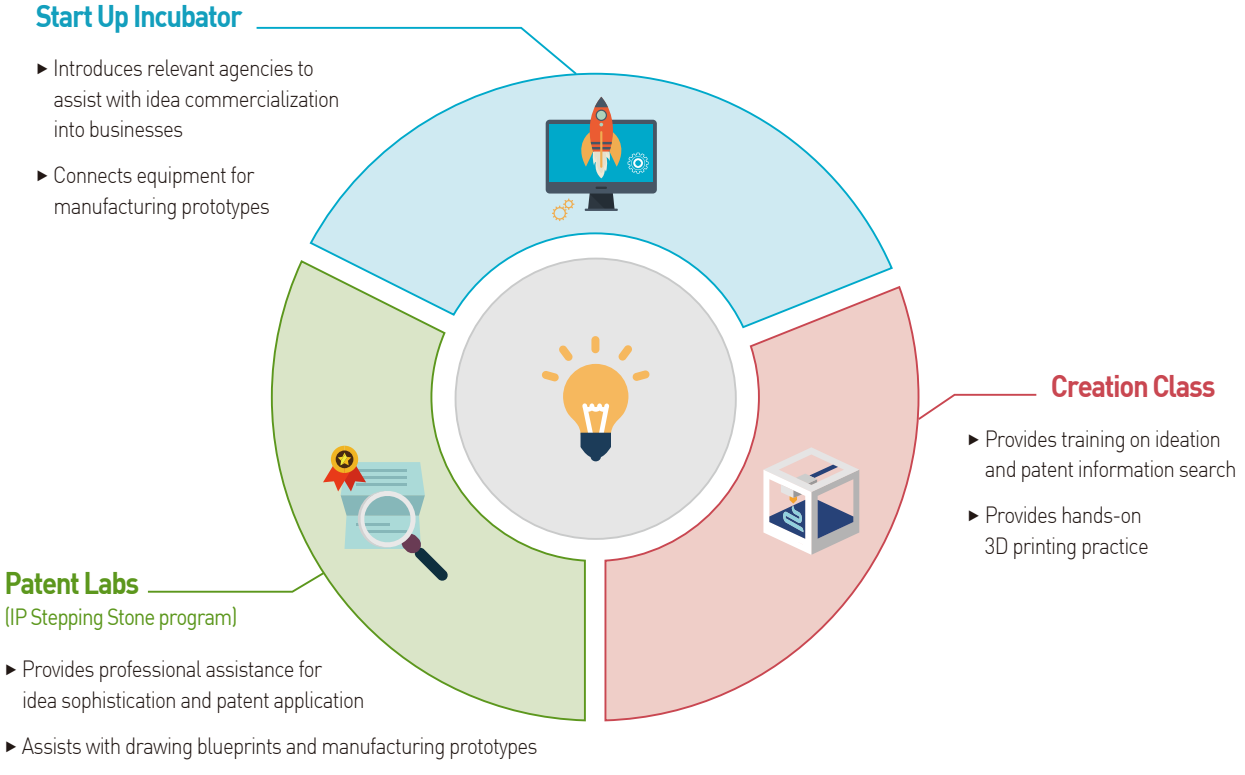
To promote IP awareness and encourage invention activities of the members of our armed forces, KIPO is working with the Ministry of Defense, the army, naval and air force headquarters to conduct IPR training. In 2017, KIPO visited 50 units and trained 3,782 soldiers through 48 training sessions. The top 7 winners of the military invention competitions and 20 winners of the maritime invention contest received support. This year, the winners of the competitions were provided consulting on idea development and acquisition of rights.

03 / *Foster an IP based start up environment*

Since 2014, KIPO has been working with local municipalities to set up IP Creative Zones to promote local IP based start ups. In 2017, two additional IP Creation Zones opened (in Gyeongsangbuk-do and Ulsan). Currently operating are 10 IP Creation Zones (Busan, Deagu, Gwang ju, Incheon, Ulsan, Gangwon-do, Jeollabuk-do, Jeju Island, Chungchungnam-do, Gyeongsangbuk-do). The program provides training and consulting to secure rights and commercialization of creative ideas. The IP Creation Zone invites local residents to participate in various programs which accommodate different levels of expertise and needs such as Start Up Incubator, Patent Labs, and Creation Class.

Another support program, IP Stepping Stone, is known for its rate of success obtaining solid patents that lead to successful business creations. The program provides consultations based on patent trend surveys so that ideas

IP Creation Zone Program Structure

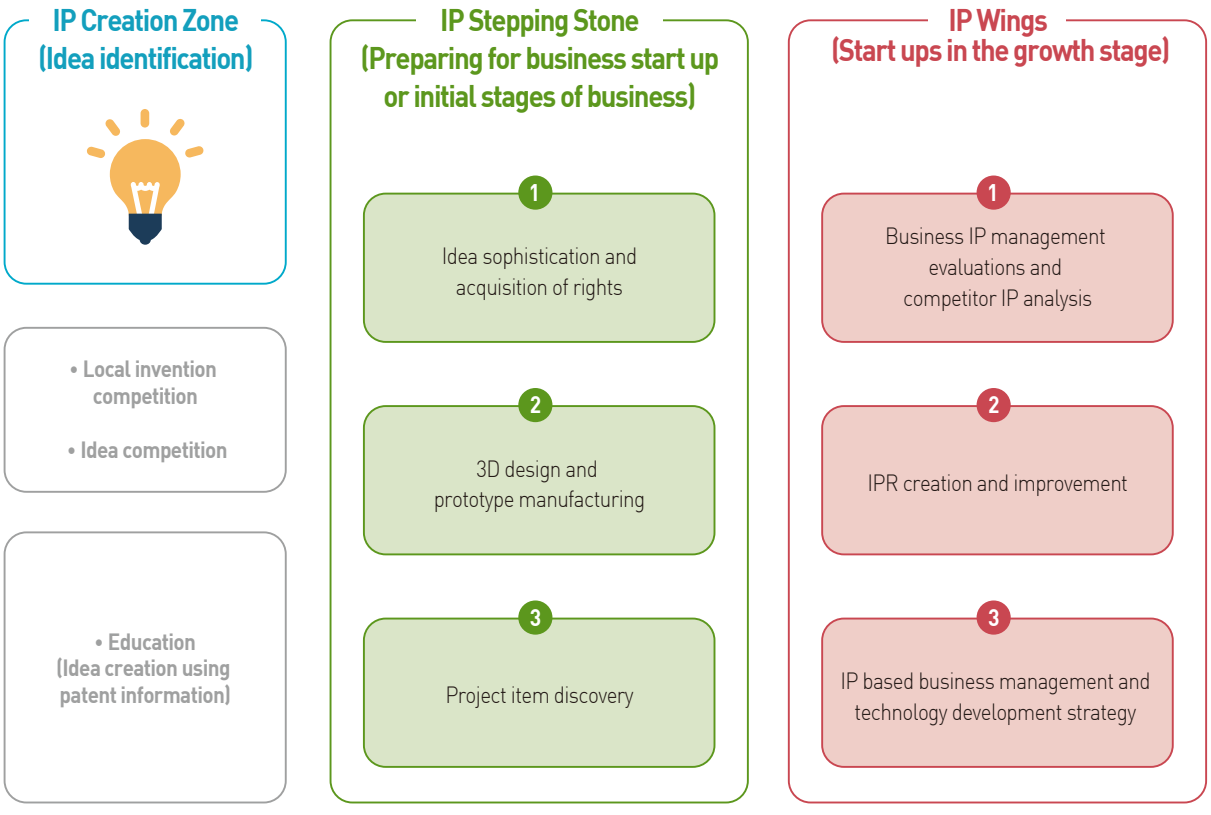


can be differentiated for patent filling. In 2017, 758 ideas were filed for patents, 129 ideas of which successfully landed in business start-ups.

KIPO also began operating its IP Wings Program in 2017 to support businesses with less than 7 years of maturity. This program provides IP consulting to early businesses that face challenges related to IP and provides assistance for growth. 294 start ups received consultations on business management and technology development strategies.

KIPO aims to provide full business life-cycle assistance for individual entrepreneurs to growing businesses as they create and utilize IP. This will further allow the local IP environments to flourish.

IP Based Start Up Support Program



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. An MOU was signed in 2017 among KIPO – KOTEC - five banks (Shinhan, Woori, IBK, Kookmin, DGB Daegu Bank) to expand benefits such as additional discounted rates for companies with IP-based certificates.

In 2017, funds amounting 324.5 million USD were provided to companies, and over the past four years, a total of 984.1 million USD in funding has been provided.

02 / *Fostering the Star IP Company project*

Through a project to foster Global IP Star Companies, KIPO assists export-oriented SMEs to develop and better utilize IP.

KIPO identified 16 promising SMEs with high export potential and assisted them financially, provided surveys and trends, gave strategy advice, as well as supported their product and brand development, packaging, and creating PR materials. Assistance is provided for a three year term.

Since beginning of the 'Global IP Star Companies Growth Projects' in 2010, KIPO has assisted 1,454 promising SMEs. In 2017 alone, 288 companies have been added to the list and many have succeeded in entering the global market even with no prior export experience. To clearly demonstrate the effectiveness of the project, key corporate management indicators also recorded a 6.9% increase in revenue, 8.2% increase in employment and 7.9% in export as of 2016.

Key corporate management indicators of Global IP Star Companies Growth Projects

(Units: %)

Increase of	2016 Global IP Star Companies	2017 Global IP Star Companies
Revenue	5.9	6.9
Employment	7.3	8.2
Exports	6.9	7.9

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)

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

Summary of IP university courses

Type of Course	2013		2014		2015		2016		2017	
	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	8,057	64	8,569	56	7,308	33	3,260	33	3,270
Training for Teachers	64	268	88	303	84	350	84	318	54	210
Selected IP Leading Education Institutions	6	7,638	9	16,002	12	20,028	15	28,936	17	43,664

We have developed a standardized IP education curriculum at both undergraduate and graduate levels. In addition, we produced and distributed IP education textbooks targeting people with different knowledge levels and academic backgrounds.

Master of Intellectual Property (MIP) program

Since 2010, we have operated a special Master of IP (MIP) 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. In 2015, we selected two Korean universities to manage a scholarship program for SMEs lacking in staff responsible for handling IP. Korea University in 2014 and Dankook University in 2015 were selected by KIPO to sponsor professional degree programs.

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 patent-related knowledge that companies need, and keep industry supplied with innovative ideas.

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 understand corporate R&D process while participating companies are provided with new creative ideas. In 2017, we had participation from 41 companies and 154 universities represented by 3,608 teams.

Design to Business (D2B) Fair

Since 2006, Design to Business (D2B) Fairs have been in an effort to raise design right awareness and 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 present outdated designs for goods in need of a revamping, and designers submit their re-designs to companies. The companies will commercialize an award-winning design by, signing a licensing contract. The award-winners receive royalties according to the product's generated revenue. In 2017, 27 companies presented goods for the contest, and

5,569 designs from 84 universities were submitted to the D2B Fair, resulting in 136 design applications.

03 Fostering creative inventors

Management of invention school classes

KIPO enhanced national invention education by supporting invention classes and special class activities. Furthermore, we designated four universities to educate teachers, and continuously operate education centers there to train and nurture both prospective and current professional invention teachers. We also operated creative invention education centers for primary, middle, and high school students nationwide in order to develop and provide invention education programs. This 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 and interest in IP among students and their parents.

Recognizing students and teachers involved in inventions activities

We manage various inventions and creative activities in order to discover talented inventors. KIPO selects and supports excellent students and teachers actively engaged in invention classes. The Korean Student Invention Exhibition has been held since 1988 to discover 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. In addition, we award scholarships to promising student inventors.

Since 2011, KIPO has been awarding the 'Grand Prize for Invention in Education' to teachers who contributed to promoting inventions in school.

Education for the next generation of entrepreneurs

Educational programs are run at the Korea Advanced Institute of Science and Technology (KAIST) and the POhang University of Science and TECHnology (POSTECH), aimed at middle and high school students with 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, in an effort to enhance the business start up capacities of students who completed the next generation talented entrepreneur course, we run a step-by-step business start up program covering everything from conceiving new inventions to the early stages of a business.

The Gifted Future Generation of Businesses is a 2-year program that has seen participation from 1,342 students as of 2017.

04 Events to promote inventions

Invention Day was established to celebrate the world's first rain gauge, which was invented during the reign of King Sejong of Joseon Dynasty on May 19, 1441. 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 2017, we hosted the 52nd Inventions Day with the theme, "The 4th Industrial Revolution, Opening a New Era with Inventions" which was attended by Prime Minster

Nak-yeon Lee and other key figures. The government reaffirmed its resolve to lead the 4IR with innovation, job creation, and start up support. At the ceremony, 80 people were recognized for their contributions to Korea's industrial development.

A commemorative movie screening, ceremony performance, outstanding invention exhibition and many other exciting events were held to further celebrate the occasion and raise IP awareness, 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 November 30, 2017, 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 International Federation of Inventors' Association (IFIA). It featured 633 inventions from 30 countries, including the US, Taiwan, and Russia. It also featured about 100 outstanding inventions and 100 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 year's expo was held on June 8 to 11, 2017 at the KINTEX and was a huge success, with more than 57,000 visitors as well as 238 inventions submitted by female inventors from 24 different countries.

In conjunction with the International Exposition, we hosted the IP Wave for Creative Women Leaders on June 12 to 13, 2017. It was attended by a total of 93 female inventors and business leaders, who came from 10 different countries and each of whom had previously received IP management

training from WIPO.

At the 2017 Woman Idea Living Show, women submitted creative, fun, and sophisticated ideas for everyday inventions. Ideas that 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.

05 / *Collective training for patent lawyers practice*

A 2016 amendment of the Patent Lawyer Act stipulates that certified lawyers and for those who have passed the patent lawyer exams must attend 250 hours of training and six months of on-the-job training in order to practice as a patent lawyer. KIPO began running a collective training course at its IIPTI since 2016. The program aims to train the expert knowledge and practical work capabilities of patent lawyers.

For new patent lawyers without science and technology backgrounds, the program holds courses on basic science including physics, chemistry, biology, as well as training on the most up-to-date trends in advanced technologies related to the 4IR. The program particularity consists of hands-on training for writing of patent documents, application amendments, trial requests and reply documents.

The first collective training course was held from December 2016 to February 2017. A total of 199 out of 206 newly qualified lawyers completed the first collective training course. Another round of collective training course was conducted for practicing lawyers. Started in October, 33 retired lawyers attended and 31 successfully completed the program in December 2017.

Enhancing IPR Protection

Jangseung
Korean traditional totem pole at the village entrance. It was regarded as a guardian deity to prevent a misfortune of the village.

IP Protection in Korea

01 Enhancing IPR protection against counterfeits

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

In 2017, SJP criminally arraigned 362 suspects found producing and/or selling counterfeit goods and seized a total of 691,630 counterfeit goods.

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. Sellers of online counterfeit goods are arrested and illegal websites are blocked or shutdown.

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

02 Increasing the public's awareness on IP 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, 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 websites, blogs and SNS to catalyze public opinion and establish a culture that respects IP and its protection. Working closely with municipal agencies that have frequent counterfeit circulation, KIPO conducted training sessions and public campaigns to raise awareness about the illegality of counterfeit goods. KIPO also went to schools to educate students, teachers and parent alike on how to identify counterfeited labels and distinguish between authentic and counterfeit products.

KIPO planned various campaigns to improve consumer

Law Enforcement Results

Category		2010 (September ~ December)	2011	2012	2013	2014	2015	2016	2017	Subtotal
Criminal arrests	Number of individuals	45	139	302	376	430	340	351	362	2,345
	Number of seized goods	28,629	28,589	131,599	822,360	1,114,192	1,192,988	584,094	691,630	4,594,081

awareness on IPR protection and counterfeit goods. Public ads that promote protection of IP were produced and aired on TV, radio and in-train screens. On-line channels were also used as PR channels including portal sites (NAVER and Daum), blogs, and social media. In 2017, KIPO hosted a public competition to encourage people to refrain from stealing technologies and buying counterfeit goods and goods with false indications. A total of 148 ideas were submitted for the competition; 26 items were selected and the wining ideas were used as public commercials.

03 / *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. In fact, since 2010, this system was used for an accumulative total of 111,602 cases, as of 2017.

KIPO also established the Trade Secret Protection Center that conducts various support projects including consultations and the provision of information. KIPO conducted regional seminars in densely populated business 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 2017, the use of this system by SMEs continued to increase as shown by the fact that 120 companies introduced this system.

Overseas IP Protection

01 IP-DESK

KIPO operates IP-DESKs to protect and further promote IPRs belonging to Korean companies with businesses overseas. Recently, additional IP-DESKs were added in areas where Korean companies are frequently embroiled in IPR disputes. We set up an IP-DESK in Frankfurt, Germany in 2014 and then added an IP-DESK in Tokyo, Japan in 2015. In 2016, we set up an IP-DESK in Xi'an, China, which is an economic hub of western China. Finally, we added IP-DESKs in New Delhi, India and Jakarta, Indonesia in 2017. As of December 2017, we were operating a total of 14 IP-DESKs in eight countries.

IP-DESKs provide Korean companies with consultations on registering, protecting, and resolving of IPRs whether currently active or preparing to enter foreign markets. 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 enhance their capabilities of enforcing protection against counterfeit goods. We are making efforts to develop cooperative channels with foreign IPR related organizations in order to protect the IPRs of Korean companies operating overseas.

02 Establishing methods for K-Brand protection

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

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

04 Improvements to IPR protection laws and Systems

The Unfair Competition Prevention and Trade Secret Protection Act was amended in January 2017 and came into effect July 2017. According to the amended act, anyone who imitates products developed by others and wrongfully gains from it can be criminally charged. Specifically, criminal charges will be made in cases of imitations of someone else's product within the first three years of its launch and where it was leased, transferred, or exhibited for gains. Furthermore, relevant government agencies can initiate investigations and issue recommendations of corrections to rectify the situation.

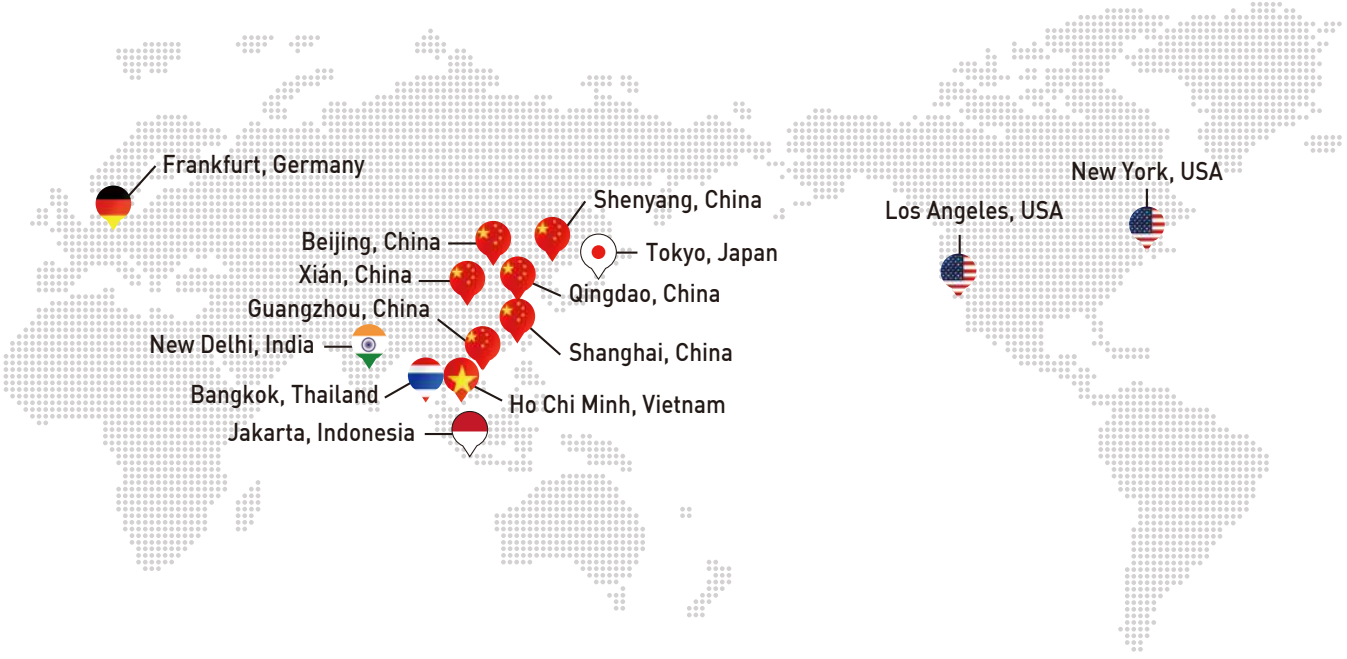
05 Support for trade secret protection

In 2017, KIPO developed a system that enables both the parent company and its subsidiaries to have integrated management of their trade secrets even when geographically distant. The system was provided to companies going abroad.

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 were then shared with Korean companies to help them determine appropriate counter measures.

In 2017, KIPO monitored 53 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 20,302 counterfeit goods on Alibaba.com and blocked related sites.

Korea's IP-DESKs around the world



Global IP Cooperation

Tribowl

A multi cultural arts space in Incheon Songdo International New City. It is famous for its shape of the shell turned upside down.

Multilateral Cooperation and FTA

01 Multilateral meetings at WIPO

The Commissioner of KIPO Sung Yunmo delivered his general statement at the World Intellectual Property Organization (WIPO) General Assembly held in Geneva, Switzerland, in September 2017. He stressed the necessity for preparing for the changing technological environment by rapid advancement of Artificial Intelligence and big data to establish a virtuous cycle of IP. He also introduced Korea's recent activities such as the establishment of a committee on the 4IR which was established under the President of Korea. In addition, Mr. Sung attended the Group B+ meeting where he participated in discussions regarding the global harmonization of patent systems.

Throughout 2017, KIPO participated in a wide range of meetings, such as working group meetings to expand global IP services as the PCT, Madrid, and Hague systems. We also participated in WIPO standing committees, 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 setting global IP norm.

Furthermore, we actively participated in permanent WIPO committees, 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 (GR), Traditional Knowledge (TK) protection, as well as technological assistance and coordination in the field of IP enforcement.

02 APEC Intellectual Property Rights Experts Group (IPEG)

In 2017, KIPO completed producing the Guidebook for SMEs' IP Business Cycle, a reference manual of IP policies for SMEs. This project was implemented within the framework of APEC's Intellectual Property Rights Experts Group (IPEG) via APEC funds (USD 100,000). The guidebook proposes IP policies that public institutions in APEC Member Economies can use as reference when formulating policies to promote IP creation and utilization by SMEs. 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. During the 44th IPEG meeting, we presented the finalized guidebook and distributed it on March, 2017. In addition, KIPO introduced during 45th IPEG meeting plans for a new project called "APEC IP Business Workshop," a consulting workshop to make use of the "Guidebook for SMEs' IP Business Cycle". Further, KIPO shared its efforts to combat counterfeit goods in an IPEG workshop on Trademark Infringement Determinations in a Border Enforcement. These activities illustrate the manner in which KIPO is increasing its role in the IPEG by introducing Korea's relevant IP policies and projects to APEC Member Economies.

03 Free Trade Agreement(FTA) negotiations on IP

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).

Sharing IP

Korea's first free trade agreement (FTA) was signed with Chile (effective as of April 1, 2004), and since then, FTAs have been agreed 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, 2011), and Turkey (effective as of May 1, 2013).

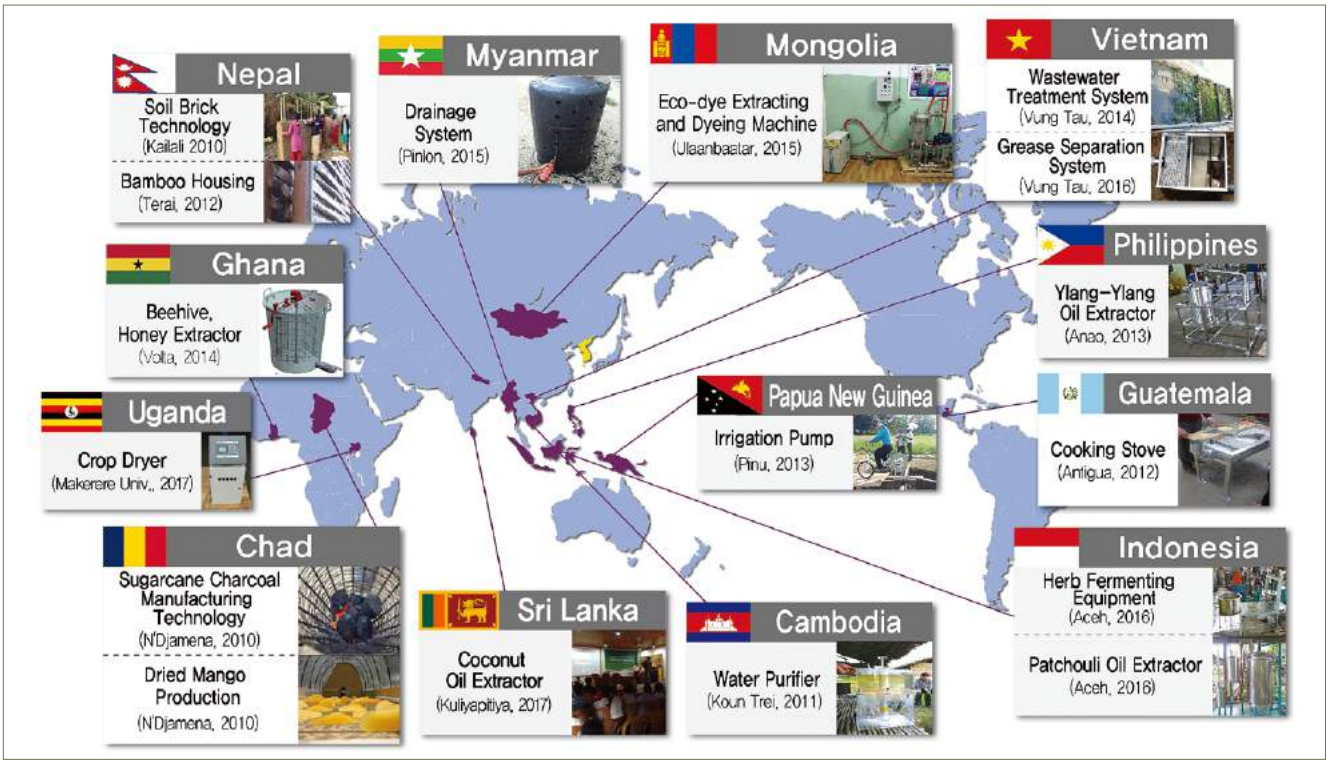
Korea signed a Comprehensive Economic Partnership Agreement (CEPA) with India that went into effect on January 1, 2010. In addition, FTAs were signed with Australia (effective as of December 12, 2014), Canada (effective as of January 1, 2015), China (effective as of December 20, 2015), New Zealand (effective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

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

01 / *Appropriate technology development*

Appropriate technology (AT) is one of KIPO's main projects for IP sharing. AT refers to technology specifically tailored to the environmental, cultural, and socioeconomic factors of a particular region. Mainly developed to improve the

KIPO's Global IP Sharing (Appropriate Technology Development)



quality of life for low-income households, it is more cost-effective, efficient, and easier to implement and maintain than cutting-edge technologies. 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 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.

In 2017, KIPO developed a crop dryer and solar controller for Makerere University in Uganda. The agricultural drying technology is expected to improve feed quality and contribute to the income of local farmers. Also, a coconut oil extractor was developed and distributed in Sri Lanka to solve problems of the quality of coconut oil. Uganda and Sri Lanka established appropriate technology research centers, increasing the sustainability of appropriate technology development.

02 Appropriate Technology Competition

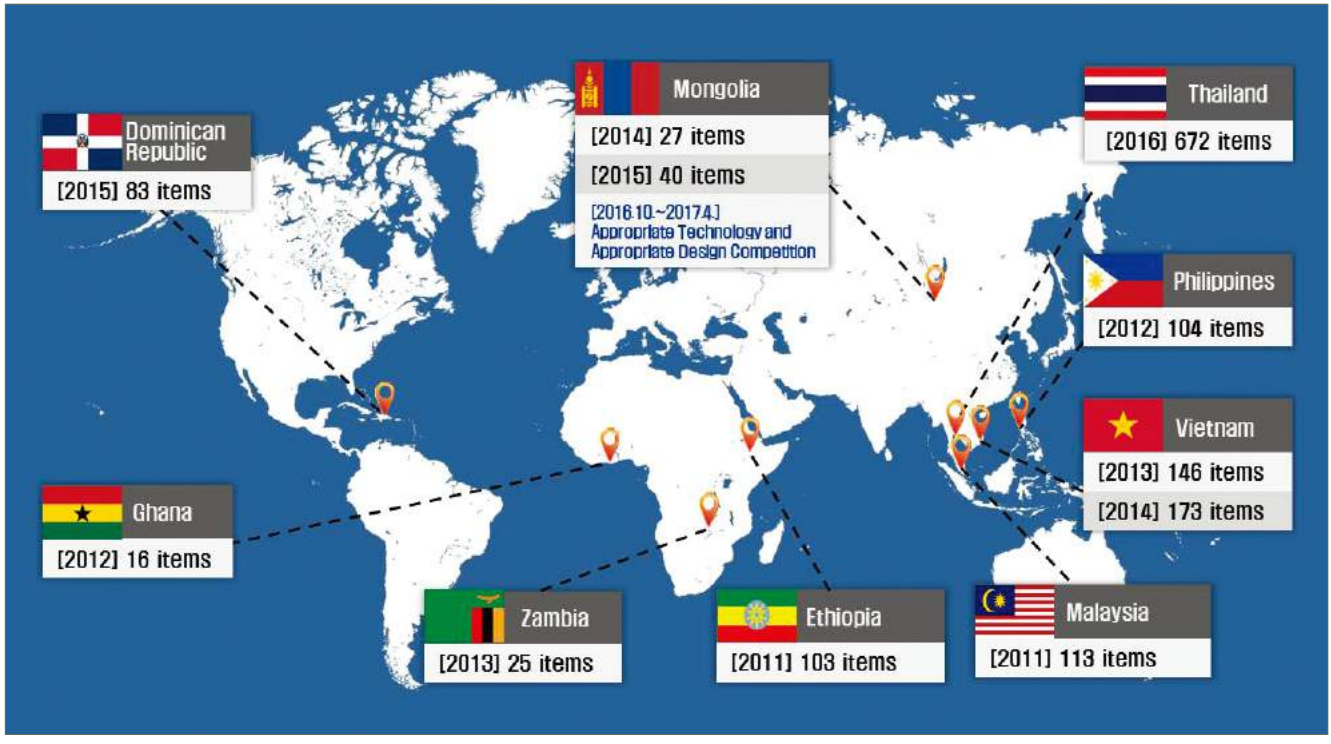
The Appropriate Technology (AT) Competition began in September 2011. The AT Competition serves as the most fundamental yet crucial step in appropriate technology development assistance- understanding the local needs and environment. With this in consideration, the AT Competitions provides the optimal 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.

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 that their local community faces. The AT Competitions were held 16 times in 12 different countries including: Ethiopia, Malaysia, Ghana, the Philippines, Zambia, Vietnam, Mongolia and Thailand.

In 2017, these competitions were implemented consecutively in four Latin American countries (Panama, El Salvador, Dominican Republic and Costa Rica) which gained a lot of interest of the local media.

KIPO-WIPO AT Competition Hosts



03 / *Brand development*

Branding is one of the most powerful tools for leveraging the marketing power of products. To receive the benefits of a proper marketing campaign, KIPO helps developing countries create brands for high-quality locally-farmed goods and other specialty items. APEC joined KIPO in 2011 and 2012 to support brand acquisition through the "One Village One Brand Project." In 2013, we developed a grain brand called "Quinua" in Bolivia, as well as a certified 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.

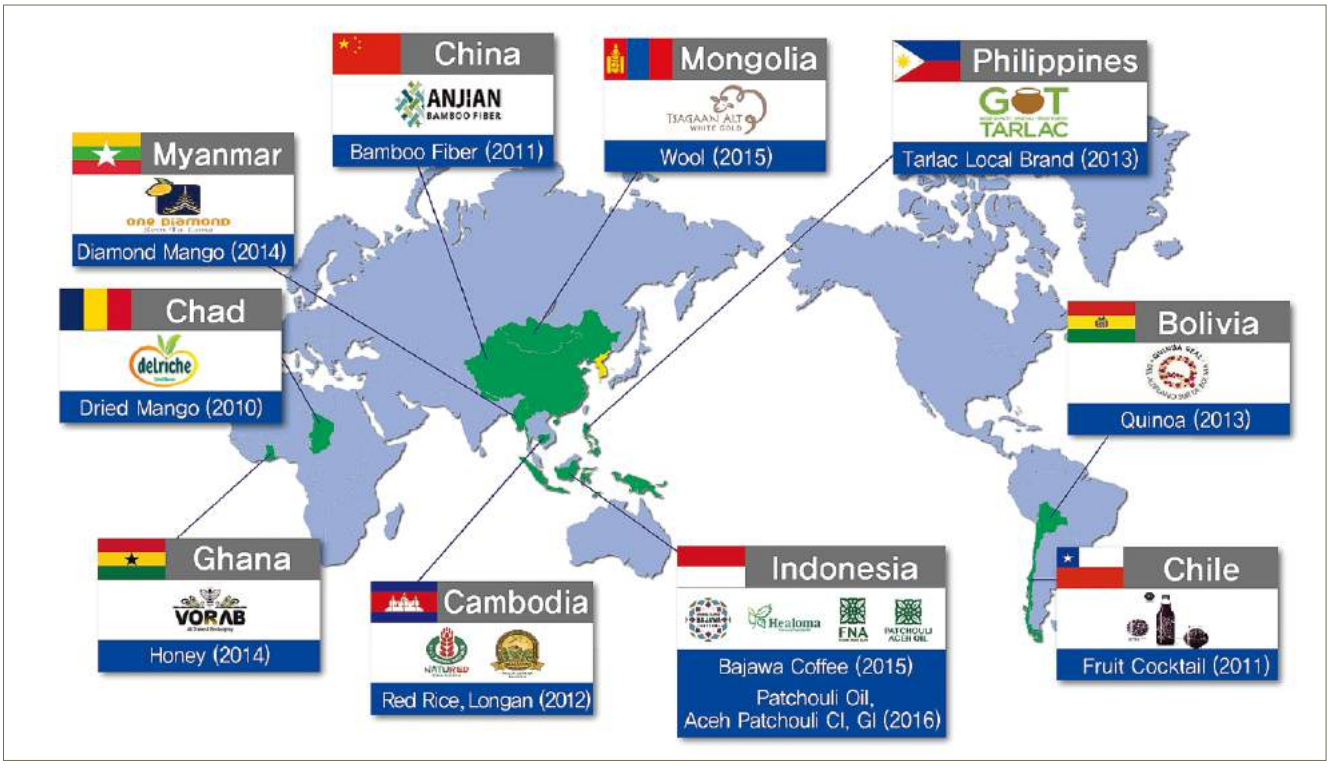
In 2014, KIPO aided the citizens of Ghana by using brand development to help revolutionize their bee keeping industry. In Myanmar, we developed the brand "Diamond Mango" at the request of that country's Fruit, Flower, and Vegetable Producers and Exporters Association. In 2015, through brand development, 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, KIPO developed a brand for Patchouli oil in order to help local people sell Patchouli oil products in the market.

In 2017, a coconut oil extractor brand and coconut certification mark were developed and distributed in Sri Lanka. The coconut oil brand will help bring even more income to the local people.

Healoma Premium Essential Oil | FNA | ACEH PATCHOULI OIL

KIPO's Global IP Sharing (Brand Development)



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

Since 2004, KIPO has managed the WIPO Korea Funds-In-Trust (FIT) and applied it towards KIPO-WIPO projects that support developing countries. One such project is the KIPO-WIPO's Study Visit program where IP experts from all over the world are invited to Korea to learn about its IPR policies and discuss ways to further develop their IPR policies.

Every year KIPO invites examiners and IP experts from developing countries for training courses on patent law, trademark law and IP rights. In 2017, we had 17 people participate in the Patent law course and 19 people in the trademark course.

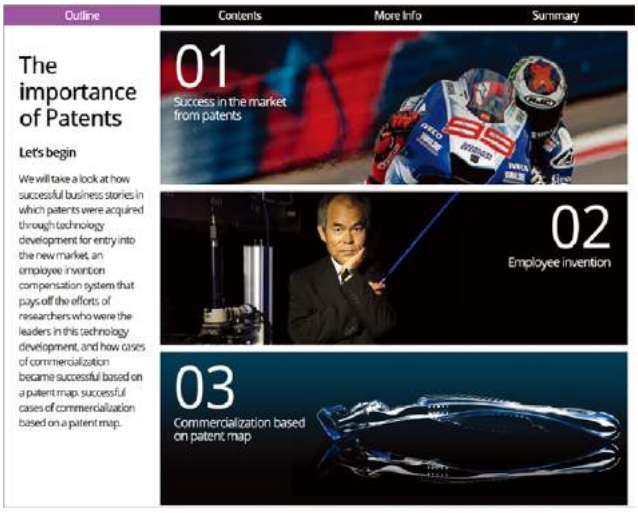
Every July, KIPO hosts the IP Summer School, a course officially offered by WIPO. The program is held in Daejeon and open to the general public. In 2017, a total of 15 students took part.

KIPO also developed "Getting Creative with Pororo" an education animation which has been translated in several languages such as English, Spanish, and French with the aim to educate children on the importance of intellectual property.

05 / *Development of IP education contents*

In 2006, in collaboration with WIPO, KIPO developed an

e-learning program in English 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, we have offered the Advanced International Certificate Course with WIPO and KAIST since 2010 and 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 treaties. In 2017, an Intellectual Property Impact Certificate Course was held in Abu Dhabi, United Arab Emirates for the first time for those who completed the "IP IGNITE" program.



Since 2015, KIPO has launched educational IP games such as "Invention Savers JIN", "Invention City" and "Dr. Paul's laboratory" which nurture creativity in young people by teaching them the basic principles of invention. In particular "Invention City" has been disseminated to 97 countries and has had about 235,000 players. Utilizing these game-based materials, classes on inventions have been offered to elementary students. Furthermore, KIPO and WIPO launched "IP INSIGHT" which incorporates live-action video rather than animation for IP education.

06 / *Heads of Intellectual Property Office Conference*

In April 2017, KIPO hosted a Heads of Intellectual Property Office Conference (HIPOC) for countries in South Asia, Southeast Asia, and Iran. The event was held in Daejeon with the theme "Client–centric IP Services" where heads of IP offices attended the event including those from 13 countries as well as WIPO Deputy Director General Mario Matus.

Discussions were held on various contents, including sharing experience of IP rights policies and encouraging IP administration leadership. The heads agreed that economic development and IP capacity were closely related. They also recognized the need for an IP ecosystem in order to adapt to the 4IR.

Bilateral Cooperation

01 / *Bilateral cooperation*

In 2016, KIPO remained actively involved in bilateral cooperation to further work with foreign IPR authorities and saw an expansion to the number of countries that KIPO cooperates with in the IPR field.

With highly qualified examination capacity and experience operating IP systems, KIPO is working on exporting its IP administrative expertise to other countries. In April 2017, high-level talks were held in Seoul between Korea and the UAE Ministry of Economy. The two sides agreed to continue the dispatch of five Korean patent examiners to the UAE over a three year period starting from July 2017.

With Iran, KIPO supported the establishment of an IP training center under the Iranian Ministry of Justice and IP training under the "IPR infrastructure Improvement Knowledge Sharing Project(KSP) project".

The launch of the "ASEAN(10 countries*) + 1 framework" in February 2017 was finally decided after 4 years of discussions. ASEAN IPR infrastructure improvement projects and protection of IPR of Korean companies in the ASEAN region will be further strengthened.

**Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar, the Philippines, Singapore, Thailand and Vietnam.*

As part of the trilateral cooperation with the JPO, KIPO and SIPO, KIPO hosted the TRIPO Heads Meeting in December 2017 in Jeju. The three offices officially approved the "Trilateral Cooperation Framework" and adopted an official emblem proposed by KIPO.

KIPO signed several meaningful Memorandums of Understanding(MOUs) in 2016 to further cooperation with foreign IPR authorities. A new MOU on CSP was signed with SIPO while the existing CSP with USPTO was agreed to be extended. Talks with the EUIPO reached an agreement on an exchange of IPR data, as well as an agreement for an MOU on CPC with the EPO.

**CSP(Collaborative Search Program): When an invention has applied for registration in two different countries, prior art searches needed for the examination is shared by the two patent offices to allow for faster processing of examinations under the CSP.*

Furthermore, KIPO signed comprehensive cooperation MOUs with Argentina and the Ukraine, both recognized as regional hubs with high industrial development and technological advancement, thus expanding the number of countries that KIPO cooperates with in the IPR field.

02 IP5 cooperation

KIPO, the JPO, the EPO, SIPO and the USPTO celebrated the 10th anniversary of their cooperation forum as the world's five largest patent offices (IP5) at the 2017 IP5 Heads Meeting held in Malta. A new vision was adopted to reflect the changing IPR environment. The new vision further incorporated efficiency, cost effectiveness and user friendliness.

Furthermore, the topic of "IPR protection in the 4IR era" was discussed under the IP5 cooperation. Individual policy efforts made by each patent office dealing with the challenges of the 4IR will continued to be shared and joint projects can be promoted

In October 2016, an Industry Consultation Group (ICG) was set up and held its first meeting in Munich, Germany. In January 2017. The ICG works to bring actual users of patent systems closer to the patent offices.

Also a tentative agreement was made to introduce a joint cooperative examination program (CS&E) on patentability as of May 1, 2018. This is a first of its kind, where the examiners of the five major patent offices jointly examine PCT applications.

03 TM5 cooperation

Comprised of Korea, China, Europe, Japan and the United States, the TM5 is a consultative body of five major players in the trademark field. Officially launched in May 2012, Korea hosted the 2013 TM5 meeting as that year's chair country. In May and December 2017, Korea participated in the TM5 meeting two times 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 projects: comparison and analysis of examination results project, information on description of goods and services project and the TM5 website project. Brief summaries of the projects are as follows:

① The project on comparison and analyses of examination results compares the examination results of patent applications that have been submitted to the five offices. 47 examination results of patent applications which have been submitted to the five offices are currently being analyzed for discernment and similarities.

② The project on providing information on describing goods and services project reviews the indication of goods that are written in the applications. A final report is being prepared and will contain a comparison of lists of indication of goods. We hope this report will help businesses and patent lawyers who plan to register trademarks overseas, and the final version is planned to be updated on the TM5 website.

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

International IT Cooperation

01 Bilateral IT Cooperation

KIPO continues to work with each leading patent offices of China, Europe, Japan and the United States through bilateral automation cooperation to improve user convenience and to set up better infrastructure to enhance the efficiency of examination practice.

As part of this effort, KIPO participated in an experts meeting with USPTO in May 2017. The two offices discussed issues including electronic exchanges of documents to prove design priority and ways to improve the delivery methods of copies for PCT search. Bilateral automation expert meetings were also held in July with the JPO and in September with SIPO to discuss ways of exchanging detailed citation information, as well as building a security network between Korea and China for safe exchange of data.

In February and June 2017, discussions took place on the issue of KIPO officially participating in the web-based ePCT, currently operated by WIPO. It was decided that from October 2017, patent applicants from Korea can also use ePCT without installing complicated software. In November, KIPO and WIPO jointly held high-level talks on PCT automation and operations to further discuss ways of utilizing ePCT to make applications even more convenient and expanding PCT related e-document exchanges.

02 IP5 IT cooperation

In January 2017, KIPO participated in the 11th IP5 Working Group 2 meeting held in Europe. Discussions covered topics such as the One Portal Dossier (OPD : integrated search service for examination progress information on family patent applications that are provided to IP5 patent office examiners and the general public) and exchanges of detailed citation information.

Also at the meeting, the IP5 shared progress and future direction for five key tasks (standardization of applicant names, alert service, XML, legal statue information,

04 ID5 cooperation

The ID5 (Industrial Design 5) is a forum of five countries which are collectively responsible for more than 90% of design applications worldwide Korea, China, the European Union, Japan and the United States) that come together to discuss key issues in the design field. Along with the IP5 for patents cooperation and the TM5 for trademarks cooperation, the ID5 for design cooperation promotes system enhancements in and cooperation among its member states.

At the 2017 annual conference in Alicante, Spain, member states approved an operational guideline that laid out the overall direction for future cooperation and vision.

KIPO is leading three cooperative projects: ID5 website set-up, comparative study of design registration standards, and joint research on design classification policy and practices with Japan.

As for the ID5 website project, an interim website for the ID5 was presented at the 2016 annual conference, becoming the first tangible outcome of the cooperative projects. The ID5 website (http://id-five.org/) was officially approved at the 2017 annual meeting and in full operation thereafter. The website promotes ID5 cooperation activities as well as provides information on design related activities. The website also serves as a communication channel between users in different countries and their respective patent offices.

In 2018, Korea will serve as the chair for the ID5 and host the ID5 working level meeting and annual conference.

document exchanges among patent offices) that each patent office is working on to promote the Global Dossier (GD; a global system that enables all applicants and examiners check examination status in real time).

KIPO is leading the task of applicant names standardization and presented specific methods on how the standardization is taking place in Korea. KIPO also suggested establishing a name mapping table to standardize applicant names equivalent across Korean, Chinese, Japanese and English, and applying it to 20 businesses recommended by the IP5. A pilot study will analyze and verify its results which would be presented at the 12th IP5 WG2 meeting.

03 / *Expand the overseas export of KIPOnet*

In 1999, KIPO was the first of its kind to fully digitalize the entire process of patent administrative work from patent application to registration and trial practices. With advances in IT and changes in the patent system, the digital system has been continuously upgraded. KIPO is working to share its expertise with other patent offices around the world to contribute to the global IP automation and cooperation.

In 2015, KIPO, the Ministry of Foreign Affairs and ODA agencies such as KOICA cooperated to export and set up Korea's patent information system for African Regional Intellectual Property Organization(ARIPO). The ARIPO system opened in April 2015 as a pioneer in achieving a paperless process. The system incorporates e-filing submissions and on-line fee payment systems as well as providing search functions to the public. All such activities contribute significantly to realizing a digitized administration service.

In February 2016, KIPO signed on a contract for an UAE patent IT system based on Korea's patent automation system KIPONet. Experts from KIPO were sent over to the UAE in August 2016 to facilitate the system development and operations. The UAE system was successfully completed in February 2017.

Also, in cooperation with the Ministry of Strategy and Finance and other relevant agencies, KIPO signed an MOU with the Egyptian Patent Office (EGPO) in April 2017 to cooperate in patent automation. Under the MOU, KIPO provides consulting services for system set up and sophistication of the patent administration automation system, and shares experience in KIPONet development and operations.

International Seminars and Training Courses

01 / *International seminars and training*

KIPO's International Intellectual Property Training Institute (IIPTI) opened multiple training courses for examiners and IPR related government officials from developing countries and have hosted international conferences to enhance awareness and development of the IPR sector.

In collaboration with WIPO, training sessions on examination and methods were held for patent and trademark examiners from many countries including India, Sri-Lanka and Bangladesh.

In 2017, an unprecedented training course on PCT was successfully administered for improving international search capabilities in developing countries.

An international conference"Create an Enabling Intellectual Property Environment for Technology Development, Management and Commercialization" was held for 22 heads of technology licensing organizations in four Asia-Pacific countries. Also working with KOICA, KIPO hosted educational programs on invention education and the IPR system for relevant government officials from developing countries to enhance their level of IPR infrastructure. KIPO sent instructors to the Patent Office of Cooperation Council for The Arab States of the Gulf (GCCPO) on two separate occasions to provide training on patent examination, classification, and quality management. Similar trainings with modified content were also provided for examiners in China and Vietnam. All in all, a total of 11 sessions were carried out by KIPO for 237 non-Korean participants.

02 *International cooperation in the education field*

IIPTI continues to work with IP related agencies overseas to promote IPR training development. It has cooperative relations with China and Japan, and their respective IPR training institutes of China Intellectual Property Training Center (CIPTC) and National Center for Industrial Property Information and Training (INPIT). The "8th Korea-China-Japan IP Training Institutes Heads Meeting" was hosted in 2017 and in connection to this meeting, the three agencies jointly hosted a public seminar on the topic of "Patent Database System of Korea-China-Japan". To follow up, working level cooperation meetings will be held between Korea and China's training institutes as well as between Korea and Japan to find new cooperative projects that can strengthen the relationship even further.

Schedule for International Training Courses in 2017

Program	Course Title	Contents	Dates (in 2017)	Number of participants
WIPO Program(5)	WIPO Patent Law, Patent Examination Course	Training on Korea's patent system and patent examination practice	5. 15~5. 26	17
	WIPO Asia Pacific Regional Conference	OJT for Mongolian Patent examiners	6. 21~6. 23	22
	WIPO Enhancing Developmental Country's PCT Ability Course	Training on Korea's trademark system and trademark examination work	7. 3~7. 7	16
	WIPO-Korea IP Summer School	OJT for Uzbekistan Trademark examiners	7. 10~7. 21	26
	WIPO Trademark Law, Trademark Examination Course	IP education for university students and young adults	11. 13~11. 21	19
KOICA Program(2)	KOICA Creative Invention Course	Training on creative invention promotion policies	3. 16~4. 5	18
	KOICA IP System Course	Training on understanding of Korea's patent policies and industrial site visits	8. 31~9. 20	20
Customized Program(4)	China Hubei Province Patent Examiner Course	Visiting Invention Education Center and Operating Invention Education Course	3. 13	21
	Saudi Arabia Patent Examiner Course	Searching method for examinations and case studies	10. 16~10. 19	4
	The UAE Preliminary Examiner Demonstration Course	Educating Patent Examination and Classification By Dispatching Instructor	10. 23~10. 24	66
	Vietnam Patent Examiner Course	Introduction to Korea's Patent Act and examination system	12. 5~12. 8	8
Total	11 Courses			237

IP Statistics

Applications

Application by IPR type

(unit: cases)

Category	2013	2014	2015	2016	**2017**
Patents	204,589	210,292	213,694	208,830	**204,775**
Utility models	10,968	9,184	8,711	7,767	**6,811**
Subtotal	215,557	219,476	222,405	216,597	**211,586**
Designs	66,940 (70,054)	64,345 (67,586)	67,954 (70,190)	64,678 (66,728)	**62,528 (64,986)**
Trademarks	147,667 (177,685)	150,226 (183,815)	185,443 (239,334)	170,347 (204,012)	**168,556 (202,539)**
Total	430,164 (463,296)	434,047 (470,877)	475,802 (533,929)	451,622 (696,167)	**442,670 (485,922)**

Note: Figures in parentheses include multiple applications.

PCT applications

(unit: cases)

Category	2013	2014	2015	2016	**2017**
Number of applications	12,439	13,138	14,594	15,595	**15,790**
Growth rate	4.8%	5.6%	11.1%	6.8%	**1.2%**

International trademark applications under the Madrid System

(unit: cases)

Category	2013	2014	2015	2016	**2017**
Korea as office of origin	502	671	835	942	**925**
Korea as designated office	10,967	10,402	12,997	11,259	**14,131**

International design applications under the Hague System

(unit: cases)

Category	2015	2016	**2017**
Korea as office of origin	153	104	**133**
Korea as designated office	628	981	**925**

Comparison of domestic and foreign applications

(unit: cases)

Category			2013	2014	2015	2016	2017
Patents	Domestics	Cases	159,978	164,073	167,273	163,424	**159,095**
		Ratio	78.2%	78.0%	78.3%	78.3%	**77.7%**
	Foreign	Cases	44,611	46,223	46,421	45,406	**45,680**
		Ratio	21.8%	22.0%	21.7%	21.7%	**22.3%**
	Total		204,589	210,292	213,694	208,830	**204,775**
Utility models	Domestics	Cases	10,463	8,754	8,294	7,395	**6,448**
		Ratio	95.4%	95.3%	95.2%	95.2%	**94.7%**
	Foreign	Cases	505	430	417	372	**363**
		Ratio	4.6%	4.7%	4.8%	4.8%	**5.3%**
	Total		10,968	9,184	8,711	7,767	**6,811**
Designs	Domestics	Cases	63,102 (65,485)	65,485 (60,795)	64,081 (65,895)	61,491 (62,618)	**59,085 (60,379)**
		Ratio	94.3% (93.5%)	93.5% (94.5%)	94.3% (91.3%)	95.1% (93.8%)	**94.5% (92.9%)**
	Foreign	Cases	3,838 (4,569)	4,569 (3,550)	3,873 (6,295)	3,187 (4,110)	**3,443 (4,607)**
		Ratio	5.7% (6.5%)	6.5% (5.5%)	5.7% (8.7%)	4.9% (6.2%)	**5.5% (7.1%)**
	Total		66,940 (70,054)	70,054 (64,345)	67,954 (72,190)	64,678 (66,728)	**62.528 (64.986)**
Trademarks	Domestics	Cases	135,231 (158,058)	158,058 (138,045)	160,033 (191,485)	157,107 (183,612)	**155,674 (181,229)**
		Ratio	91.6% (89.0%)	89.0% (85.9%)	86.3% (80.0%)	92.2% (90.0%)	**92.4% (89.5%)**
	Foreign	Cases	12,436 (19,627)	22,618 (41,624)	25,410 (47,849)	13,240 (20,400)	**12,882 (21,310)**
		Ratio	8.4% (11.0%)	14.1% (20.2%)	13.7% (20.0%)	7.8% (10.0%)	**7.6% (10.5%)**
	Total		147,667 (177,685)	160,663 (205,859)	185,443 (239,334)	170,347 (204,012)	**168,556 (202,539)**
Total	Domestics	Cases	368,774 (223,543)	371,667 (227,311)	399,681 (257,380)	389,417 (417,049)	**380,302 (407,151)**
		Ratio	85.7% (48.3%)	83.6% (46.1%)	84.0% (48.2%)	86.2% (85.6%)	**85.9% (85.0%)**
	Foreign	Cases	61,390 (24,196)	72,817 (46,134)	76,121 (54,144)	62,205 (70,288)	**62,368 (71,960)**
		Ratio	14.3% (5.2%)	16.4% (9.4%)	16.0% (10.1%)	13.8% (14.4%)	**14.1% (15.0%)**
	Total		430,164 (463,296)	444,484 (492,921)	475,802 (533,929)	451,622 (487,337)	**442,670 (479,111)**

Note: Figures in parentheses include multiple applications.

Patent and utility model applications by technological field in 2017

(unit: cases)

Classification	Patents			Utility models		
	Domestic	Foreign	**Subtotal**	Domestic	Foreign	**Subtotal**
Electrical machinery, apparatus, energy	12,036	3,140	**15,176**	389	26	**415**
Audio-visual technology	4,842	1,297	**6,139**	146	17	**163**
Telecommunications	2,625	582	**3,207**	65	6	**71**
Digital communication	5,490	2,762	**8,252**	4	1	**5**
Basic communication processes	568	384	**952**	-	1	**1**
Computer technology	8,877	2,842	**11,719**	79	30	**109**
IT methods for management	8,852	446	**9,298**	32	4	**36**
Semiconductors	6,295	3,739	**10,034**	15	15	**30**
Optics	3,241	1,971	**5,212**	63	15	**78**
Measurement	6,133	1,463	**7,596**	115	4	**119**
Analysis of biological materials	651	174	**825**	9	-	**9**
Control	3,002	390	**3,392**	102	3	**105**
Medical technology	6,311	1,754	**8,065**	310	15	**325**
Organic fine chemistry	3,426	2,235	**5,661**	11	-	**11**
Biotechnology	2,925	1,484	**4,409**	7	-	**7**
Pharmaceuticals	2,899	1,690	**4,589**	3	-	**3**
Macromolecular chemistry, polymers	1,810	1,724	**3,534**	-	-	**-**
Food chemistry	3,986	271	**4,257**	34	-	**34**
Basic materials chemistry	2,968	1,933	**4,901**	17	1	**18**
Materials, metallurgy	3,098	1,418	**4,516**	14	-	**14**
Surface technology, coating	2,234	1,588	**3,822**	42	4	**46**
Micro-structural and nano-technology	33	41	**74**	-	-	**-**
Chemical engineering	3,153	809	**3,962**	83	6	**89**
Environmental technology	3,077	472	**3,549**	107	6	**113**
Handling	3,738	864	**4,602**	428	30	**458**
Machine tools	3,711	966	**4,677**	202	11	**213**
Engines, pumps, turbines	2,762	1,184	**3,946**	62	6	**68**
Textile and paper machines	1,639	627	**2,266**	41	4	**45**
Other special machines	6,368	1,410	**7,778**	432	13	**445**
Thermal processes and apparatus	3,183	342	**3,525**	127	14	**141**
Mechanical elements	3,082	1,047	**4,129**	152	20	**172**
Transport	8,878	1,267	**10,145**	351	12	**363**

(unit: cases)

Classification	Patents			Utility models		
	Domestic	Foreign	**Subtotal**	Domestic	Foreign	**Subtotal**
Furniture, games	5,691	554	**6,245**	953	28	**981**
Other consumer goods	5,717	880	**6,597**	974	56	**1,030**
Civil engineering	8,555	435	**8,990**	651	5	**656**
Others	7,239	1,495	**8,734**	428	10	**438**
Total	159,095	45,680	**204,775**	6,448	363	**6,811**

Note: Figures for 2017 are preliminary.

Patent applications in biotechnology

(unit: cases)

Category	2013		2014		2015		2016		**2017**	
	Cases	Ratio	Cases	Ratio	Cases	Ratio	Cases	Ratio	**Cases**	**Ratio**
Domestic	5,152	72.8%	5,091	73.3%	5,601	74.0%	6,700	75.1%	**7,328**	**74.9%**
Foreign	1,929	27.2%	1,856	26.7%	1,972	26.0%	2,222	24.9%	**2,462**	**25.1%**
Total	7,081	100%	6,947	100%	7,572	100%	8,922	100%	**9,790**	**100%**

Note1: Figures for 2017 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	2013		2014		2015		2016		**2017**	
	Cases	Ratio	Cases	Ratio	Cases	Ratio	Cases	Ratio	**Cases**	**Ratio**
Domestic	6,828	94.9%	6,813	93.5%	8,621	94.4%	9,381	94.7%	**8,852**	**95.2%**
Foreign	365	5.1%	476	6.5%	510	5.6%	522	5.3%	**446**	**4.8%**
Total	7,193	100%	7,289	100%	9,131	100%	9,903	100%	**9,298**	**100%**

Note1: Figures for 2017 are preliminary.
Note2: Based on the Eighth Edition of the International Patent Classification.

Applications by residents of foreign countries in 2017

(unit: cases)

Countries	Patent & Utility models		Designs		Trademarks		Total
	Domestic	PCT	Domestic	Hague	Domestic	Madrid	
United States of America	1,582	11,901	1,023 (1,472)	129 (367)	3,571 (6,280)	2,693 (4,711)	**20,899 (26,313**
Japan	4,712	10,346	1,076 (1,308)	97 (187)	2,116 (4,368)	1,403 (2,886)	**19,750 (23,807)**
China	576	2,543	409 (442)	16 (27)	3,400 (4,207)	1,505 (2,506)	**8,449 (10,301)**
Germany	667	3,353	179 (248)	133 (450)	186 (343)	1,811 (4,881)	**6,329 (9,942)**
France	268	1,481	51 (64)	140 (474)	384 (569)	1,014 (2,371)	**3,338 (5,227)**
Switzerland	150	1,012	102 (134)	93 (284)	250 (450)	913 (2,307)	**2,520 (4,337)**
United Kingdom	86	944	131 (282)	24 (50)	504 (1,166)	654 (1,656)	**2,343 (4,184)**
Italy	74	409	63 (94)	69 (125)	175 (265)	877 (1,892)	**1,667 (2,859)**
Taiwan, Province of China	985	106	56 (59)	-	417 (565)	-	**1,564 (1,715)**
Netherlands	81	836	140 (144)	59 (95)	101 (159)	272 (680)	**1,489 (1,995)**
Sweden	64	524	27 (52)	55 (103)	61 (146)	247 (723)	**978 (1,612)**
Australia	6	184	29 (31)	-	124 (160)	416 (890)	**759 (1,271)**
Canada	62	273	14 (18)	1 (1)	362 (622)	21 (33)	**733 (1,009)**
Finland	26	263	19 (24)	9 (14)	37 (73)	176 (550)	**530 (950)**
Singapore	36	106	8 (85)	2 (2)	136 (251)	221 (474)	**509 (954)**
Spain	18	134	3 (3)	5 (8)	64 (83)	273 (433)	**497 (679)**
Belgium	31	278	6 (6)	13 (22)	25 (33)	127 (299)	**480 (669)**
Austria	47	216	-	6 (15)	30 (48)	140 (369)	**439 (695)**
Denmark	30	156	9 (17)	7 (19)	37 (79)	185 (481)	**424 (782)**
Israel	17	242	12 (15)	-	49 (63)	71 (122)	**391 (459)**
Luxembourg	13	132	21 (28)	2 (2)	36 (85)	114 (380)	**318 (640)**
Russian Federation	0	72	-	-	24 (38)	206 (570)	**302 (680)**
Norway	5	117	3 (5)	10 (27)	13 (22)	79 (193)	**227 (369)**
Ireland	15	93	2 (2)	-	37 (65)	71 (130)	**218 (305)**
Cayman Islands	2	144	-	-	54 (187)	1 (1)	**201 (334)**
India	7	89	-	-	28 (48)	44 (86)	**168 (230)**
Poland	3	34	-	3 (9)	12 (15)	111 (193)	**163 (254)**
New Zealand	4	40	1 (2)	-	27 (57)	74 (141)	**146 (244)**
Turkey	0	29	1 (1)	2 (9)	8 (9)	92 (164)	**132 (212)**
Thailand	2	35	1 (1)	-	63 (73)	5 (29)	**106 (140)**
Mexico	6	23	5 (6)	-	55 (69)	10 (25)	**99 (129)**
Liechtenstein	0	21	7 (8)	6 (14)	3 (7)	53 (171)	**90 (221)**
Viet Nam	0	1	1 (1)	-	30 (43)	53 (119)	**85 (164)**
Malaysia	4	18	2 (5)	-	54 (64)	2 (3)	**80 (94)**

(unit: cases)

Countries	Patent & Utility models		Designs		Trademarks		Total
	Domestic	PCT	Domestic	Hague	Domestic	Madrid	
Czech Republic	2	13	-	1 (4)	11 (13)	45 (104)	**72 (136)**
Portugal	0	9	-	2 (4)	14 (17)	43 (83)	**68 (113)**
Cyprus	2	16	-	1 (2)	15 (15)	30 (63)	**64 (98)**
United Arab Emirates	0	12	-	-	48 (69)	4 (13)	**64 (94)**
Indonesia	4	0	1 (1)	-	43 (56)	-	**48 (61)**
Saudi Arabia	0	42	-	-	6 (12)	-	**48 (54)**
Brazil	1	16	-	-	28 (34)	-	**45 (51)**
Barbados	5	15	16 (18)	-	4 (16)	3 (3)	**43 (57)**
Chile	1	6	-	-	36 (47)	-	**43 (54)**
Greece	1	13	1 (6)	2 (2)	6 (10)	20 (32)	**43 (64)**
Malta	0	31	-	1 (1)	3 (4)	6 (18)	**41 (54)**
Hungary	0	10	-	1 (1)	4 (6)	23 (58)	**38 (75)**
Virgin Islands (British)	1	2	-	-	22 (42)	11 (19)	**36 (64)**
Bulgaria	1	7	-	-	-	21 (50)	**29 (58)**
Philippines	1	3	-	-	11 (15)	13 (25)	**28 (44)**
The Hong Kong Special Administrative Region of the People's Republic of China	4	6	1 (1)	1 (1)	15 (50)	-	**27 (62)**
South Africa	0	19	-	-	6 (10)	-	**25 (29)**
Ukraine	1	3	-	4 (15)	-	17 (31)	**25 (50)**
Slovakia	0	2	-	5 (14)	1 (1)	12 (24)	**20 (41)**
Lithuania	0	3	-	1 (2)	-	14 (42	**18 (47)**
Monaco	-	-	-	-	9 (9)	8 (17)	**17 (26)**
Slovenia	0	1	1 (1)	3 (6)	-	11 (21)	**16 (29)**
Curacao			-	-	4 (4)	11 (11)	**15 (15)**
Croatia	0	3	-	4 (9)	4 (5)	3 (9)	**14 (26)**
Latvia			-	-	-	14 (22)	**14 (22)**
Estonia	0	2	3 (3)	2 (2)	-	6 (18)	**13 (25)**
Iceland	0	4	-	-	1 (1)	8 (18)	**13 (23)**
Tunisia	-	-	-	-	7 (7)	6 (14)	**13 (21)**
Argentina	2	1	-	-	9 (9)	-	**12 (12)**
Macao	-	-	12 (12)	-	-	-	**12 (12)**
Sri Lanka	0	3	-	-	9 (17)	-	**12 (20)**
Iran (Islamic Republic of)	0	1	-	-	3 (3)	7 (15)	**11 (19)**
Serbia	-	-	-	1 (2)	-	10 (30)	**11 (32)**

(unit: cases)

Countries	Patent & Utility models		Designs		Trademarks		Total
	Domestic	PCT	Domestic	Hague	Domestic	Madrid	
Seychelles	-	-	-	-	9 (9)	2 (5)	**11 (14)**
Armenia	0	1	-	-	2 (2)	7 (7)	**10 (10)**
Colombia	-	-	-	-	6 (24)	4 (7)	**10 (31)**
Morocco	-	-	-	-	1 (1)	9 (16)	**10 (17)**
Bahamas	0	6	-	-	2 (6)	-	**8 (12)**
Bermuda	1	0	-	-	4 (6)	3 (3)	**8 (10)**
Namibia	0	2	-	-	5 (5)	-	**7 (7)**
Belize	0	1	-	-	4 (4)	1 (2)	**6 (7)**
Jordan	0	4	-	-	2 (3)	-	**6 (7)**
Liberia	1	0	4 (4)	-	1 (1)	-	**6 (6)**
Republic of Moldova	-	-	-	-	-	6 (6)	**6 (6)**
Cuba	-	-	-	-	4 (4)	1 (1)	**5 (5)**
Georgia	0	1	-	-	-	4 (4)	**5 (5)**
Panama	0	1	-	-	4 (5)	-	**5 (6)**
Uzbekistan	3	0	-	-	-	2 (6)	**5 (9)**
Others	1	0	-	-	3 (3)	-	**4 (4)**
Belarus	0	1	-	-	-	3 (13)	**4 (14)**
Egypt	-	-	-	-	1 (1)	3 (3)	**4 (4)**
Kenya	0	1	-	-	-	3 (3)	**4 (4)**
Mauritius	-	-	-	-	4 (7)	-	**4 (7)**
Romania	-	-	2 (2)	-	-	2 (4)	**4 (6)**
Samoa	0	3	-	-	1 (2)	-	**4 (5)**
El Salvador	-	-	-	-	3 (3)	-	**3 (3)**
Guatemala	0	1	-	-	2 (2)	-	**3 (3)**
Jersey(U.K.)	-	-	-	-	-	3 (4)	**3 (4)**
Myanmar	-	-	-	-	3 (3)	-	**3 (3)**
Pakistan	0	1	-	-	2 (2)	-	**3 (3)**
Peru	0	1	-	-	2 (3)	-	**3 (4)**
Qatar	-	-	1 (2)	-	2 (2)	-	**3 (4)**
Saint Kitts and Nevis	0	1	-	-	2 (2)	-	**3 (3)**
Brunei Darussalam	-	-	-	-	-	2 (8)	**2 (8)**
Cambodia	-	-	-	-	2 (2)	-	**2 (2)**
Costa Rica	-	-	-	-	2 (6)	-	**2 (6)**

(unit: cases)

Countries	Patent & Utility models		Designs		Trademarks		Total
	Domestic	PCT	Domestic	Hague	Domestic	Madrid	
Fiji	-	-	-	-	-	2 (2)	**2 (2)**
Ghana	2	0	-	-	-	-	**2 (2)**
Gibraltar	-	-	-	-	-	2 (6)	**2 (6)**
Greenland	-	-	-	-	1 (1)	1 (1)	**2 (2)**
Kuwait	-	-	-	-	2 (2)	-	**2 (2)**
Lebanon	0	1	-	-	1 (2)	-	**2 (3)**
Nigeria	0	1	-	-	1 (1)	-	**2 (2)**
San Marino	-	-	-	-	-	2 (6)	**2 (6)**
Venezuela	-	-	-	-	2 (2)	-	**2 (2)**
Algeria	-	-	-	-	-	1 (1)	**1 (1)**
Andorra	0	1	-	-	-	-	**1 (1)**
Azerbaijan	-	-	-	-	1 (1)	-	**1 (1)**
Bolivia	-	-	-	-	1 (1)	-	**1 (1)**
Burundi	0	1	-	-	-	-	**1 (1)**
Cameroon	-	-	-	-	1 (1)	-	**1 (1)**
Ecuador	-	-	-	-	1 (1)	-	**1 (1)**
Guernsey	-	-	-	-	-	1 (1)	**1 (1)**
Jamaica	-	-	-	-	1 (1)	-	**1 (1)**
Kyrgyzstan	-	-	-	-	-	1 (2)	**1 (2)**
Lao People's Democratic Republic	-	-	-	-	-	1 (1)	**1 (1)**
Marshall Islands	-	-	-	-	1 (1)	-	**1 (1)**
Mozambique	-	-	-	-	-	1 (1)	**1 (1)**
Netherlands Antilles	-	-	-	-	1 (1)	-	**1 (1)**
Papua New Guinea	-	-	-	-	1 (1)	-	**1 (1)**
Paraguay	-	-	-	-	1 (1)	-	**1 (1)**
Syrian Arab Republic	-	-	-	-	1 (1)	-	**1 (1)**
Uruguay	0	1	-	-	-	-	**1 (1)**
Yemen	1	0	-	-	-	-	**1 (1)**
Zimbabwe	0	1	-	-	-	-	**1 (1)**
Total	9,614	36,429	3,443 (4,607)	910 (2,369)	12,882 (21,310)	14,347 (31,322)	**77,625 (105,651)**

Note: Figures in parentheses include multiple applications.

Examinations

Patents and utility models

(unit: cases)

Category			2013	2014	2015	2016	2017
Patents	First Action	Approval of registration	18,713	15,798	10,433	7,872	**9,891**
		Notice of preliminary rejection or amendment	158,828	146,959	149,484	163,347	**158,013**
		Other notices	431	879	947	991	**1,012**
		Withdrawal or abandonment	3,899	3,288	3,909	2,582	**2,196**
		Total	181,871	166,924	164,773	174,792	**171,112**
	Final Decisions	Approval of registration	121,866	120,353	92,748	101,678	**110,408**
		Rejection or cancellation	54,029	53,611	52,963	66,055	**62,869**
		Withdrawal abandonment, annulment, or rejectio	3,899	3,288	3,909	4,320	**3,841**
		Total	179,794	177,252	149,620	172,053	**177,118**
Utility models	First Action	Approval of registration	1,451	874	425	317	**337**
		Notice of preliminary rejection or amendment	10,085	8,015	6,856	6,848	**6,161**
		Other notices	41	45	39	25	**13**
		Withdrawal or abandonment	441	390	249	131	**122**
		Total	12,018	9,324	7,569	7,321	**6,633**
	Final Decisions	Approval of registration	6,086	5,067	3,204	2,935	**3,040**
		Rejection or cancellation	6,192	4,937	3,775	4,214	**3,729**
		Withdrawal abandonment, annulment, or rejectio	441	390	249	268	**234**
		Total	12,719	10,394	7,228	7,417	**7,003**

Designs and trademarks

(unit: cases)

Category			2013	2014	2015	2016	2017
Designs	First Action	Publication/approval of registration	29,809 (30,757)	33,182 (34,149)	27,800 (28,987)	31,398 (32,755)	**29,453 (30,598)**
		Notice of preliminary rejection	34,612 (36,264)	35,665 (37,702)	38,041 (40,394)	31,540 (33,951)	**30,275 (32,647)**
		Other notices	-	-	-	-	-
		Total	64,421 (67,021)	68,847 (71,851)	65,841 (69,381)	62,938 (66,706)	**59,728 (63,245)**
	Final Decisions	Approval of registration	51,636 (53,538)	58,878 (61,323)	57,006 (59,068)	55,783 (58,302)	**51,166 (53,480)**
		Rejection	10,945 (11,381)	11,075 (11,713)	9,404 (10,072)	8,396 (9,496)	**7,190 (7,978)**
		Total	62,581 (64,919)	69,953 (73,036)	66,410 (69,140)	64,179 (67,798)	**58,356 (61,458)**
Trademarks	First Action	Publication/approval of registration	74,674 (81,674)	83,475 (94,136)	96,005 (108,545)	98,921 (112,521)	**94,490 (107,033)**
		Notice of preliminary rejection	70,398 (90,933)	64,127 (84,104)	68,578 (90,758)	73,377 (106,332)	**69,393 (97,656)**
		Other notices	-	-	-	-	-
		Total	145,072 (172,607)	147,602 (178,240)	164,583 (199,303)	172,298(218,853)	**163,883 (204,689)**
	Final Decisions	Approval of registration	110,118 (130,158)	111,917 (134,745)	128,500 (154,670)	136,948(173,024)	**133,378 (166,963)**
		Rejection	32,168 (38,601)	28,771 (34,092)	31,745 (38,463)	33,015 (41,813)	**31,773 (39,414)**
		Total	142,286 (168,759)	140,688 (168,837)	160,245 (193,133)	169,963(214,837)	**165,151 (206,377)**

Note: Figures in parentheses include multiple applications.

Average first action pendency

(unit: month)

Category	2013	2014	2015	2016	**2017**
Patents / Utility models	13.2	11.0	10.0	10.6	**10.4**
Trademarks	7.7	6.4	4.7	4.8	**5.0**
Designs	7.3	6.5	4.4	4.7	**4.9**

Average total pendency

(unit: month)

Category	2013	2014	2015	2016	**2017**
Patents / Utility models	19.1	16.7	16.0	16.2	**15.9**
Trademarks	12.7	11.5	10.0	9.6	**9.8**
Designs	9.2	8.5	68	5.9	**6.2**

PCT international search reports and preliminary examinations undertaken by KIPO

(unit: cases)

Category	2013	2014	2015	2016	**2017**
International Search Reports	29,531	30,160	28,468	28,176	**25,955**
International Preliminary Examinations	252	236	208	209	**169**

Note: Based on KIPO data

Registrations

Registrations by IPR type

(unit: cases)

Category	2013	2014	2015	2016	**2017**
Patents	127,330	129,786	101,873	108,875	**120,662**
Utility models	5,959	4,955	3,253	2,854	**2,993**
Subtotal	133,289	134,741	105,126	111,729	**123,655**
Designs	47,308	54,010	54,551	55,602	**49,293**
Trademarks	100,093	99,791	114,746	119,255	**116,704**
Total	280,690	288,542	274,423	286,586	**289,652**

Note: Trademark registration renewals are excluded.

Comparison of domestic and foreign registrations

(unit: cases)

Category			2013	2014	2015	2016	**2017**
Patents	Domestics	Cases	95,667	97,294	76,319	82,400	**90,847**
		Ratio	75.1 %	75.0%	74.9%	75.7%	**75.3%**
	Foreign	Cases	31,663	32,492	25,554	26,475	**29,815**
		Ratio	24.9%	25.0%	25.1%	24.3%	**24.7%**
	Total		127,330	129,786	101,873	108,875	**120,662**
Utility models	Domestics	Cases	5,718	4,682	3,073	2,694	**2,810**
		Ratio	96.0%	94.5%	94.5%	94.4%	**93.9%**
	Foreign	Cases	241	273	180	160	**183**
		Ratio	4.0%	5.5%	5.5%	5.6%	**6.1%**
	Total		5,959	4,955	3,253	2,854	**2,993**
Designs	Domestics	Cases	43,866	49,856	49,933	50,242	**44,052**
		Ratio	92.7%	92.3%	91.5%	90.4%	**89.4%**
	Foreign	Cases	3,442	4,154	4,618	5,360	**5,241**
		Ratio	7.3%	7.7%	8.5%	9.6%	**10.6%**
	Total		47,308	54,010	54,551	55,602	**49,293**

(unit: cases)

Category			2013	2014	2015	2016	2017
Trademarks	Domestics	Cases	80,372	80,645	95,484	99,934	**96,993**
		Ratio	80.3%	80.8%	83.2%	83.8%	**83.1%**
	Foreign	Cases	19,721	19,146	19,262	19,321	**19,711**
		Ratio	19.7%	19.2%	16.8%	16.2%	**16.9%**
	Total		100,093	99,791	114,746	119,255	**116,704**
Total	Domestics	Cases	225,623	232,477	224,809	235,270	**234,702**
		Ratio	80.4%	80.6%	81.9%	82.1%	**81.0%**
	Foreign	Cases	55,067	56,065	49,614	51,316	**54,950**
		Ratio	19.6%	19.4%	18.1%	17.9%	**19.0%**
	Total		280,690	288,542	274,423	286,586	**289,652**

Note: Figures in parentheses include multiple applications.

Patent and utility model registrations by technological field in 2017

(unit: cases)

Classification	Patents			Utility models		
	Domestic	Foreign	**Subtotal**	Domestic	Foreign	**Subtotal**
Electrical machinery, apparatus, energy	8,068	2,326	**10,394**	296	26	**322**
Audio-visual technology	3,327	1,186	**4,513**	71	7	**78**
Telecommunications	2,079	514	**2,593**	28	2	**30**
Digital communication	3,221	1,841	**5,062**	3	-	**3**
Basic communication processes	431	382	**813**	1	-	**1**
Computer technology	4,448	2,200	**6,648**	18	6	**24**
IT methods for management	3,782	253	**4,035**	4	-	**4**
Semiconductors	3,258	2,728	**5,986**	15	6	**21**
Optics	2,454	1,492	**3,946**	24	7	**31**

(unit: cases)

Classification	Patents			Utility models		
	Domestic	Foreign	**Subtotal**	Domestic	Foreign	**Subtotal**
Measurement	4,395	899	**5,294**	65	7	**72**
Analysis of biological materials	321	56	**377**	-	-	**-**
Control	1,456	198	**1,654**	30	5	**35**
Medical technology	3,484	1,165	**4,649**	131	11	**142**
Organic fine chemistry	1,754	1,473	**3,227**	1	-	**1**
Biotechnology	2,137	694	**2,831**	4	-	**4**
Pharmaceuticals	1,753	884	**2,637**	-	-	**-**
Macromolecular chemistry, polymers	1,449	1,424	**2,873**	-	-	**-**
Food chemistry	2,410	139	**2,549**	14	-	**14**
Basic materials chemistry	1,886	1,109	**2,995**	6	-	**6**
Materials, metallurgy	2,320	927	**3,247**	7	2	**9**
Surface technology, coating	1,224	804	**2,028**	20	4	**24**
Micro-structural and nano-technology	60	36	**96**	-	-	**-**
Chemical engineering	2,098	604	**2,702**	35	3	**38**
Environmental technology	1,995	304	**2,299**	49	4	**53**
Handling	2,090	461	**2,551**	187	11	**198**
Machine tools	2,170	633	**2,803**	81	10	**91**
Engines, pumps, turbines	1,761	888	**2,649**	28	5	**33**
Textile and paper machines	1,161	398	**1,559**	14	10	**24**
Other special machines	3,615	843	**4,458**	203	10	**213**
Thermal processes and apparatus	1,716	225	**1,941**	79	3	**82**
Mechanical elements	1,733	641	**2,374**	76	2	**78**
Transport	5,933	1,131	**7,064**	260	5	**265**
Furniture, games	2,609	261	**2,870**	387	14	**401**
Other consumer goods	2,606	309	**2,915**	379	19	**398**
Civil engineering	5,643	387	**6,030**	294	4	**298**
Total	90,847	29,815	**120,662**	2,810	183	**2,993**

Note: Figures for 2017 are preliminary.

Patent registrations in biotechnology

(unit: cases)

Category	2013		2014		2015		2016		2017	
	Cases	Ratio	Cases	Ratio	Cases	Ratio	Cases	Ratio	**Cases**	**Ratio**
Domestic	3,294	76.9%	3,604	79.6%	2,917	77.3%	3,507	78.6%	**4,709**	**80.9%**
Foreign	989	23.1%	926	20.4%	857	22.7%	955	21.4%	**1,111**	**19.1%**
Total	4,283	100%	4,530	100%	3,774	100%	4,462	100%	**5,820**	**100%**

Note1: Figures for 2017 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	2013		2014		2015		2016		2017	
	Cases	Ratio	Cases	Ratio	Cases	Ratio	Cases	Ratio	**Cases**	**Ratio**
Domestic	1,860	91.0%	2,087	92.8%	2,023	92.9%	3,145	93.9%	**3,782**	**93.7%**
Foreign	185	9.0%	162	7.2%	154	7.1%	204	6.1%	**253**	**6.3%**
Total	2,045	100%	2,249	100%	2,177	100%	3,349	100%	**4,035**	**100%**

Note1: Figures for 2017 are preliminary.
Note2: Based on the Eighth Edition of the International Patent Classification.

registrations by resident of foreign countries in 2017

(unit: cases)

Countries	Patent & Utility models		Designs		Trademarks		**Total**
	Domestic	PCT	Domestic	Hague	Domestic	Madrid	
Japan	10,023	1,085	1,076	166	1,702 (3,105)	932 (1,895)	**14,984 (17,350)**
United States of America	7,333	791	1,117	185	3,019 (4,985)	1,919 (3,209)	**14,364 (17,620)**
Germany	2,381	277	276	290	179 (371)	1,328 (3,395)	**4,731 (6,990)**
China	1,443	157	312	18	2,565 (3,102)	677 (1,130)	**5,172 (6,162)**
France	873	112	73	250	312 (465)	737 (1,642)	**2,357 (3,415)**
Taiwan, Province of China	738	106	47	-	346 (448)	-	**1,237 (1,339)**
Switzerland	687	75	54	356	209 (306)	602 (1,340)	**1,983 (2,818)**

(unit: cases)

Countries	Patent & Utility models		Designs		Trademarks		Total
	Domestic	PCT	Domestic	Hague	Domestic	Madrid	
Netherlands	552	94	145	94	79 (124)	225 (483)	**1,189 (1,492)**
Sweden	469	50	111	35	50 (84)	148 (390)	**863 (1,139)**
United Kingdom	460	40	139	27	390 (772)	459 (1,299)	**1,515 (2,737)**
Italy	256	26	49	119	159 (250)	568 (1,256)	**1,177 (1,956)**
Austria	211	14	1	2	20 (25)	109 (272)	**357 (525)**
Finland	201	24	10	2	25 (73)	83 (527)	**345 (837)**
Canada	172	21	21	-	230 (406)	8 (11)	**452 (631)**
Belgium	159	13	3	6	21 (41)	102 (180)	**304 (402)**
Israel	135	21	11	2	35 (47)	50 (77)	**254 (293)**
Denmark	106	14	3	11	17 (26)	129 (311)	**280 (471)**
Australia	96	8	20	-	87 (121)	237 (541)	**448 (786)**
Spain	79	10	6	6	35 (46)	182 (314)	**318 (461)**
Singapore	73	13	8	3	164 (223)	144 (281)	**405 (601)**
Ireland	65	11	1	2	38 (54)	51 (79)	**168 (212)**
Norway	62	6	11	21	8 (18)	45 (151)	**153 (269)**
India	62	4	-	-	23 (42)	37 (69)	**126 (177)**
Luxembourg	53	5	25	6	30 (68)	107 (290)	**226 (447)**
Barbados	33	5	22	-	14 (23)	1 (1)	**75 (84)**
Saudi Arabia	31	3	-	-	7 (12)	-	**41 (46)**
Russian Federation	23	5	1	4	16 (22)	50 (110)	**99 (165)**
Cayman Islands	22	3	-	-	61 (212)	1 (1)	**87 (238)**
Mexico	19	1	2	-	31 (62)	4 (6)	**57 (90)**
New Zealand	17	3	2	-	30 (51)	52 (88)	**104 (161)**
Malaysia	13	-	-	-	38 (40)	5 (5)	**56 (58)**
Turkey	13	6	-	4	3 (3)	50 (93)	**76 (119)**
Liechtenstein	12	1	-	-	3 (3)	17 (32)	**33 (48)**
Poland	11	-	2	3	9 (13)	34 (70)	**59 (99)**
Malta	11	2	-	-	4 (6)	20 (45)	**37 (64)**
Hungary	10	-	-	-	-	6 (12)	**16 (22)**
Czech Republic	9	-	-	5	7 (16)	33 (59)	**54 (89)**
Cyprus	7	-	1	-	6 (6)	10 (19)	**24 (33)**
Brazil	7	2	-	-	21 (30)	1 (3)	**31 (42)**
Virgin Islands (British)	5	-	1	-	17 (25)	9 (19)	**32 (50)**
Bahamas	5	-	-	-	9 (16)	4 (21)	**18 (42)**

(unit: cases)

Countries	Patent & Utility models		Designs		Trademarks		Total
	Domestic	PCT	Domestic	Hague	Domestic	Madrid	
Bermuda	4	1	-	-	16 (16)	1 (1)	**22 (22)**
United Arab Emirates	3	1	1	-	23 (34)	3 (4)	**31 (43)**
Thailand	3	-	1	-	62 (72)	1 (1)	**67 (77)**
Viet Nam	3	-	1	-	14 (14)	24 (54)	**42 (72)**
Indonesia	3	-	-	-	61 (73)	1 (6)	**65 (82)**
Greece	2	-	4	2	7 (15)	14 (19)	**29 (42)**
South Africa	2	-	2	-	6 (8)	-	**10 (12)**
Chile	2	-	-	-	26 (41)	-	**28 (43)**
Jordan	2	-	-	-	1 (1)	-	**3 (3)**
Latvia	2	-	-	-	-	8 (15)	**10 (17)**
Philippines	2	-	-	-	3 (3)	2 (2)	**7 (7)**
Estonia	1	-	1	9	-	5 (5)	**16 (16)**
Cuba	1	2	-	-	3 (3)	-	**6 (6)**
Algeria	1	-	-	-	-	-	**1 (1)**
The Hong Kong Special Administrative Region of the People's Republic of China	4	1	-	-	19 (35)	-	**24 (40)**
Croatia	1	-	-	-	-	3 (6)	**4 (7)**
Jamaica	1	-	-	-	-	-	**1 (1)**
Lebanon	1	-	-	-	1 (2)	-	**2 (3)**
Liberia	1	-	-	-	-	-	**1 (1)**
Lithuania	1	-	-	-	4 (4)	9 (14)	**14 (19)**
Portugal	1	1	-	2	3 (3)	23 (40)	**30 (47)**
Romania	1	-	-	-	2 (6)	1 (1)	**4 (8)**
Slovenia	1	-	-	16	2 (4)	5 (11)	**24 (32)**
Samoa	1	-	-	-	4 (6)	-	**5 (7)**
Macao	-	-	9	-	2 (10)	-	**11 (19)**
Monaco	-	-	2	-	14 (14)	4 (35)	**20 (51)**
Panama	0	-	2	-	1 (7)	-	**3 (9)**
Slovakia	-	-	1	3	-	3 (6)	**7 (10)**
	-	-	-	-	1 (1)	-	**1 (1)**
Andorra	0	-	-	-	-	2 (7)	**2 (7)**
Armenia	0	-	-	-	-	1 (1)	**1 (1)**
Netherlands Antilles	0	-	-	-	2 (2)	-	**2 (2)**
Argentina	0	-	-	-	19 (19)	1 (1)	**20 (20)**
Azerbaijan	0	-	-	-	-	1 (1)	**1 (1)**
Bulgaria	0	-	-	6	-	10 (15)	**16 (21)**

(unit: cases)

Countries	Patent & Utility models		Designs		Trademarks		Total
	Domestic	PCT	Domestic	Hague	Domestic	Madrid	
Bahrain	-	-	-	-	-	2 (2)	**2 (2)**
Belarus	-	-	-	-	-	2 (5)	**2 (5)**
Belize	0	-	-	-	3 (3)	-	**3 (3)**
Cameroon	0	-	-	-	1 (1)	-	**1 (1)**
Colombia	0	-	-	-	2 (3)	1 (1)	**3 (4)**
Costa Rica	0	-	-	-	2 (2)	-	**2(2)**
Curacao	0	-	-	-	1 (1)	1 (1)	**2 (2)**
Ecuador	-	-	-	-	4 (4)	-	**4 (4)**
Egypt	0	-	-	-	1 (1)	1 (1)	**2 (2)**
Georgia	-	-	-	-	-	4 (4)	**4 (4)**
Greenland	-	-	-	-	3 (3)	-	**3 (3)**
Iran (Islamic Republic of)	0	-	-	-	3 (3)	3 (7)	**6 (10)**
Iceland	-	1	-	-	2 (2)	6 (6)	**9 (9)**
Jersey(U.K.)	0	-	-	-	-	2 (8)	**2 (8)**
Kenya	-	-	-	-	1 (4)	1 (1)	**2 (5)**
Kuwait	-	-	-	-	2 (3)	-	**2 (3)**
Sri Lanka	0	-	-	-	1 (1)	-	**1 (1)**
Libyan Arab Jamahiriya	0	-	-	-	2 (2)	-	**2 (2)**
Morocco	-	-	-	-	1 (1)	-	**1 (1)**
Republic of Moldova	0	-	-	-	-	1 (1)	**1 (1)**
Mongolia	-	-	-	-	1 (3)	-	**1 (3)**
Mauritius	-	-	-	-	3 (7)	-	**3 (7)**
Namibia	-	-	-	-	1 (1)	-	**1 (1)**
Nigeria	-	-	-	-	5 (6)	-	**5 (6)**
Pakistan	0	-	-	-	1 (1)	-	**1 (1)**
Puerto Rico	-	-	-	-	-	1 (1)	**1 (1)**
Paraguay	-	-	-	-	2 (4)	-	**2 (4)**
Qatar	-	1	-	-	3 (15)	-	**4 (16)**
Serbia	0	-	-	-	-	1 (2)	**1 (2)**
Seychelles	0	1	-	-	3 (3)	-	**4 (4)**
Tunisia	-	-	-	-	3 (3)	-	**3 (3)**
Ukraine	-	-	-	12	1 (2)	6 (9)	**19 (23)**
Saint Vincent and the Grenadines	-	-	-	-	1 (1)	-	**1 (1)**
Venezuela	0	-	-	-	1 (1)	-	**1 (1)**
Yemen	-	-	-	-	1 (1)	-	**1(1)**
Others	-	-	-	-	-	11 (27)	**11 (27)**

Trials and appeals

Trials and appeals requested

(unit: cases)

Category		2013	2014	2015	2016	2017
Appeal against examiner's decision to reject application	Patents	7,019	6,123	6,093	5,470	**4,351**
	Utility models	147	116	112	200	**180**
	Designs	124 (135)	154 (156)	119	109	**90**
	Trademarks	1,907 (2,776)	1,816 (2,656)	1,559 (2,293)	1,626 (2,284)	**1,569 (2,295)**
	Subtotal	9,197 (10,077)	8,209 (9,051)	7,883 (8,617)	7,405 (8,063)	**6,190 (6,916)**
Appeals against examiner's decision to dismiss amendment	Patents	1	-	-	1	**1**
	Utility models	-	-	-	-	**-**
	Designs	12 (12)	11 (11)	7 (15)	5	**1**
	Trademarks	4 (8)	1 (1)	6 (7)	5 (11)	**-**
	Subtotal	17 (21)	12 (12)	13 (22)	11 (17)	**2**
Appeals against examiner's decision of cancellation	Patents	1	-	-	-	**-**
	Utility models	2	1	1	-	**-**
	Designs	2 (1)	4 (4)	4	2	**-**
	Trademarks	-	-	-	-	**-**
	Subtotal	5 (5)	5 (5)	5	2	**-**
Trials for correction	Patents	142	140	134	145	**136**
	Utility models	6	6	6	9	**4**
	Designs	-	-	-	-	**-**
	Trademarks	-	-	-	-	**-**
	Subtotal	148 (148)	146 (146)	140	154	**140**
Invalidation	Patents	573	687	2,194	548	**529**
	Utility models	96	64	80	50	**27**
	Designs	191 (201)	254 (255)	209 (210)	247	**194**
	Trademarks	443 (544)	467 (550)	584 (658)	492 (553)	**433 (486)**
	Subtotal	1,303 (1,414)	1,472 (1,556)	3,067 (3,142)	1,337 (1,398)	**1,183 (1,236)**

(unit: cases)

Category		2013	2014	2015	2016	2017
Trials to confirm scope of IP right	Patents	375	385	691	632	**671**
	Utility models	84	64	53	47	**29**
	Designs	125 (126)	149 (149)	138	149	**136**
	Trademarks	83 (186)	90 (119)	93 (132)	101(170)	**90 (102)**
	Subtotal	667 (771)	688 (717)	975 (1,014)	929 (998)	**926 (938)**
Cancellation trials on trademark registration	Patents	-	-	-	-	**1**
	Utility models	1	-	-	-	**-**
	Designs	-	-	-	-	**-**
	Trademarks	1,676 (2,069)	1,449 (1,826)	1903 (2305)	2,122 (2,526)	**2,124 (2,474)**
	Subtotal	1,677 (2,070)	1,449 (1,826)	1903 (2305)	2,122 (2,526)	**2,125 (2,475)**
Grand total	Patents	8,111	7,335	9,112	6,796	**5,689**
	Utility models	336	251	252	306	**240**
	Designs	454 (476)	572 (575)	477 (486)	512	**421**
	Trademarks	4,113 (5,583)	3,823 (5,152)	4,145 (5,395)	4,346 (5,544)	**4,216 (5,357)**
	Grand total	13,014 (14,506)	11,981 (13,313)	13,986 (15,245)	11,960 (13,158)	**10,566 (11,565)**

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		2013		2014		2015		2016		2017	
		Acceptance	Ratio	Acceptance	Ratio	Acceptance	Ratio	**Acceptance**	**Ratio**	**Acceptance**	**Ratio**
Ex partes	Patents	1,394	32.1%	1,190	27.8%	1,046	30.4%	**1,036**	**29.0%**	**1,078**	**30.3%**
	Utility models	65	38.7%	29	25.0%	29	27.6%	**32**	**33.0%**	**33**	**26.0%**
	Designs	37 (37)	30.6 % (30.6%)	66 (77)	42.0% (45.8%)	46 (54)	35.4% (39.1%)	**50**	**43.1%**	**43**	**31.9%**
	Trademarks	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%)**	**605 (896)**	**54.8% (58.9%)**
	Subtotal	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%)**	**1,759 (2,050)**	**35.7% (38.4%)**
Inter partes	Patents	463	45.6%	457	50.7%	687	38.7%	**526**	**42.2%**	**616**	**46.2%**
	Utility models	95	47.0%	52	38.8%	66	56.9%	**52**	**50.5%**	**45**	**54.9%**
	Designs	160 (176)	46.5 % (48.9%)	167 (169)	51.1% (51.4%)	161 (161)	47.5% (47.5%)	**164 (166)**	**54.8% (55.1%)**	**187**	**47.9%**
	Trademarks	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%)**	**2,436 (2,760)**	**78.1% (76.9%)**
	Subtotal	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%)**	**3,284 (3,608)**	**66.7% (66.9%)**
Grand total	Patents	1,857	34.7%	1,647	31.7%	1,733	33.2%	**1,562**	**32.4%**	**1,694**	**34.6%**
	Utility models	160	43.2%	81	32.4%	95	43.0%	**84**	**42.0%**	**78**	**37.3%**
	Designs	197 (213)	42.4% (44.3%)	233 (246)	48.1% (49.5%)	207 (215)	44.1% (45.1%)	**214 (216)**	**51.6% (51.8%)**	**230**	**43.8%**
	Trademarks	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%)**	**3,041 (3,656)**	**72.0% (71.5%)**
	Grand Total	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%)**	**5,043 (5,658)**	**51.2% (52.7%)**

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's 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		2013	2014	2015	2016	**2017**
Patents	Domestics	4,098	3,814	5,809	3,891	**3,499**
	Foreign	4,013	3,521	3,303	2,905	**2,190**
Utility models	Domestics	329	244	240	301	**237**
	Foreign	7	7	12	5	**3**
Designs	Domestics	419	514	432	459	**373**
	Foreign	57	61	54	53	**48**
Trademarks	Domestics	2,957	2,869	3,057	3,014	**2,703**
	Foreign	2,626	2,283	2,338	2,530	**1,513**
Total		14,506	13,313	15,245	13,158	**10,566**

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

Income and expenditures / KIPO staff

Income

(unit: USD)

Category	2013	2014	2015	2016	2017
Income from fees	375,804,545	394,844,545	414,455,455	394,988,244	**415,047,464**
Income carried over from the previous year	28,054,545	33,515,455	31,426,364	22,215,525	**14,626,814**
Internal income and others	15,750,000	15,640,000	49,564,545	93,975,976	**119,920,755**
Total	419,609,091	444,000,000	495,843,636	511,179,745	**549,595,033**

Expenditures

(unit: USD)

Category	2013	2014	2015	2016	2017
Non-personnel resources (projects)	236,025,455	263,656,364	276,374,545	363,328,537	**388,907,360**
Personnel resources	100,612,727	102,949,091	109,799,090	123,341,800	**124,185,669**
Deposit for special fund	52,727,273	48,370,000	91,670,000	24,509,407	**36,502,003**
Total	389,365,455	414,975,455	477,843,636	511,179,745	**549,595,033**

KIPO staff

(unit: number of positions)

Category		2013	2014	2015	2016	2017
Examiners	Patent and utility models	710	724	741	734	**832**
	Industrial designs and Trademarks	148	151	159	162	**165**
Trial judges		88	90	95	95	**103**
Administrative staff		622	622	605	601	**527**
Total		1,568	1,587	1,600	1,592	**1,627**

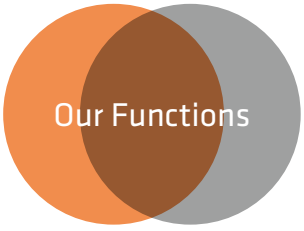
Advanced degrees/special certificates possessed by KIPO staff at the time of their hiring

(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	359	56	28	7	21
	Trademark	2	1	2	6	0
	Industrial designs	5	2	2	1	0
	Total	**366**	**59**	**32**	**14**	**21**

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.