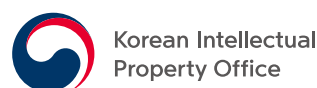


2019



Korean Intellectual
Property Office

Annual Report 2019



Korean Intellectual Property Office



Korean Intellectual
Property Office

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Korean Intellectual Property Office
Government Complex Daejeon Building 4, 189, Cheongsu-ro,
Seo-gu, Daejeon, 35208, Republic of Korea
Tel +82 (42) 481-5126 Fax +82 (42) 472-9314
Website: <http://www.kipo.go.kr/en/>
E-mail: kipo@kipo.go.kr

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CONTENTS

	Introduction
04	Message from the Commissioner
06	Prologue
12	2019 Highlights
	Overview
14	2019 IP Trends
18	KIPO News Spotlight 2019
	Key Achievements
22	Providing IP Services <ul style="list-style-type: none">· Examining Fourth Industrial Revolution Technologies· Introducing the “Venture Team” Project at KIPO· Improving Examination Services
30	Promoting IP Creation and Utilization <ul style="list-style-type: none">· Expanding Patent Big Data Utilization in Industry· Building the Foundation for Financing Based on IP
36	Strengthening IP Protection <ul style="list-style-type: none">· Protecting IPRs through Administrative and Legislative Measures· Raising Consumer Awareness of IP Protection· Protecting Korean Brand Overseas
44	Establishing Global IP Cooperation <ul style="list-style-type: none">· Hosting the Heads of the World’s Five Largest IP Offices· Advancing Korea-ASEAN IP Cooperation· Expanding Korean IP Administration Services Overseas
	Appendix
53	KIPO Vision & Strategy
54	KIPO Organization Chart
56	IP Statistics

ANNUAL REPORT
2019

Message from the Commissioner

Intellectual property rights (IPRs) are rapidly becoming an essential component of society as we progress into the creative and innovative era of the Fourth Industrial Revolution (4IR). In order to further promote economic development and innovative growth, the Korean Intellectual Property Office (KIPO) of the Republic of Korea has continually worked to provide improved examination services to users and to cultivate a virtuous cycle for the creation, utilization and protection of IPRs. Meanwhile, as one of the world’s highest performing IP offices, we remain committed to actively engaging in international cooperation and contributing to the global IP society.

In particular, for the year 2019, a few distinctive administrative measures have been carried out. This includes an organizational restructuring with the aim of providing high-qualified examination services, especially for emerging technologies such as artificial intelligence (AI) and big data. Also, examination for inventions of technological convergence was implemented which is conducted based on the consultation and consensus of examiners from different technological fields. Several new patent classifications for technologies of the 4IR were established and made eligible for the accelerated examination system as well.

For IP creation, great efforts were made to link government research and development (R&D) projects with IPRs. Beyond the concept that patents are only a product of R&D, patents have been utilized to select and direct R&D projects, especially with big data analysis based on about 430 million patent-related information. R&D projects based on IP will lead to the creation of high value-added standard essential patents and the promotion of industrial development. To support government R&D performance, big data analysis of patent-related information was provided with a focus on key industries, such as bio-health and next-generation batteries.

Particularly in the financial sector, one of KIPO’s steadfast pursuits is to provide small and medium-sized enterprises (SMEs) with opportunities for IP-backed financing. This will allow them to procure funds through loans, guarantees and investments based on IP assets. Through cooperation between KIPO and financial institutions, the total transactions for IP-backed financing surpassed 1 trillion South Korean won (approx. 1 billion US dollars) for the first time. This significant quantity indicates that businesses and financial institutions are becoming increasingly aware that IPRs play an important role in corporate management. Furthermore, the Patent Mutual Aid program was launched in 2019 for SMEs to prepare financial means when coping with the unexpected costs of IP dispute resolution and filing overseas IPR applications.

Moreover, several proposed legislative amendments came into full effect to strengthen IP protection and create a fair trade order. The scope of investigative authority of KIPO’s special judicial police (SJP) on trademarks was expanded to enforcement of infringements on patents, trade secrets, and industrial designs. Courts were authorized to award damages as punitive measures up to three times the amount of actual damages for intentional acts of patent infringement and/or misappropriation of trade secrets. For your reference, damages will also be awarded for amounts exceeding the production capacity of the patent rights holder by the end of 2020 through recent amendment to the Patent Act. By expanding the scope of damages for infringement of patents, Korea will be the only country even among the IP5 countries to stipulate in law this method of calculation of damages as well as treble damages for patent infringement.

On a global scale, we engaged in cooperation with other IP offices and foreign entities to help create a progressive and secure global IP system by sharing Korea’s vast experiences and knowledge.

In June, KIPO hosted the 12th IP5 Heads of Office meeting, a forum of the world’s five leading IP offices (EPO, JPO, KIPO, CNIPA, and USPTO). The IP5 members agreed to launch a joint task force for exploring collaborative approaches to AI and other emerging innovative technologies. In November, the 2nd Korea-ASEAN Heads of IP Offices Meeting was held also in the Republic of Korea which set a milestone in the march toward co-prosperity through IP cooperation. Furthermore, KIPO’s IP services have been well known to be leading-edge and high quality. With reference to these best practices, KIPO cooperated with the Kingdom of Saudi Arabia to establish an IP administrative system and services.

After the patent system was first established in 1946, one million patents were registered in 2010 and the amount has doubled in just nine years. The Republic of Korea became the 7th country in the world to surpass 2 million patent registrations by 2019. Such momentous achievement was possible due to the continued interest and support of our numerous stakeholders and IP service users, both foreign and domestic.

It is our endeavor to create an ecosystem where the value of IP is fully appreciated and IP commercialization is activated. This IP-friendly ecosystem will bring about a virtuous cycle of economic development and the innovative growth. It is my great pleasure to present to you the 2019 Annual Report. I hope it serves to provide you with a better understanding of our recent projects and overarching vision for the future.

“
KIPO has continually worked to provide improved examination services to users and to cultivate a virtuous cycle for the creation, utilization, and protection of IPRs.
”

Kim Yong Rae | Commissioner

Kim, Yongrae



Innovation

KIPO fosters IP Innovation through fast services with reliable quality.

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



Premium Examination Services

KIPO continually aims to provide high-quality, customer-oriented, and fast examination services by raising the quality of IP administration, improving examination systems, and reducing first office action pendency.

In 2019, the average first office action pendency was 10.8 months for patents and utility models, 6.8 months for trademarks, and 5.4 months for industrial designs.

To provide timely registration of intellectual property rights and accommodate the IP strategies of our users, patent and utility model examinations have three tracks: regular examination, accelerated examination, and customer-deferred examination. Trademark and industrial design examinations have two tracks: regular examination and accelerated examination.

◀M.VISION
At CES (Consumer Electronics Show), the world's largest consumer electronics show, Hyundai Mobis unveiled the level 4 autonomous driving concept car 'M.VISION'.

▶Yeonjeok
Yeonjeok is a tool used to pour a moderate amount of water when one's grinding an ink-stick against an inkstone. This peach-shaped pottery was made in the 19th century.



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 of competent business strategies.
KIPO is dedicated to establishing a competitive and rewarding IP system by transforming novel ideas into strong IPRs.

IP Competitiveness

Top Global Ranking

According to WIPO's World IP Indicator unveiled in December 2019, Korea ranked 1st worldwide with the highest number of resident patent and industrial design applications per GDP and population. Korea also ranked 1st in the category of human capital & research.
(Source: World IP Indicator, Global Innovation Index)

IPR Applications

KIPO received a preliminary total of 510,968 applications for patents, utility models, industrial designs, and trademarks in 2019. Out of the total amount, 84,243 applications were filed by residents of foreign countries.

PCT Applications

The number of PCT applications from Korea continues to grow every year. Korea has the 5th largest amount of PCT applications by country of origin. In 2019, there were 18,885 PCT applications in total which is an 11.1% increase from 2018. The Korean language is also the 5th most commonly used language as an official PCT publication language.
(Source: WIPO IP Statistics Data Center)

◀Drone for Agriculture
In the era of the 4th industrial revolution, the use of drones in the agricultural sector is rapidly increasing.

▶Writing Brush Case
This case was made by connecting three hexagonal wooden pails of different heights. The cow's horn was ground thinly and a picture was drawn on it and then attached to the outside of the case.



Harmonization

KIPO collaborates with key national allies to create a global community that appropriately values and rewards inventions.

Cooperation is fundamental to creating an environment where IPRs are promptly acquired and firmly protected for stakeholders. KIPO engages in activities that advance the global IP systems as it works to increase the value of IP.

Worldwide IP Collaboration

Global Cooperation Forums

As one of the world's leading IP office, KIPO engages in cooperation forums with other leading IP offices that contribute to harmonizing global IP systems, such as the IP5 for patents, the TM5 for trademarks, and the ID5 for industrial designs.

Patent Prosecution Highway (PPH) with 31 Countries/Regions

KIPO works with countries/regions around the world under the PPH for reducing the time and costs required to obtain patent rights overseas. As of 2019, the PPH has been implemented with 31 countries/regions.

• PPH participants: Australia, Austria, Canada, China, Colombia, Denmark, Eurasia, European Patent Office, Estonia, Finland, Germany, Hungary, Iceland, Israel, Japan, Mexico, New Zealand, Norway, Peru, Philippines, Poland, Portugal, Russia, Saudi Arabia, Singapore, Spain, Sweden, Taiwan(Province of China), UK, USA, and Vietnam.

46 IP-Sharing Projects

IP-Sharing Projects are implemented to share our gained knowledge of rapid development and to help bridge the IP divide among developed and developing countries. These projects aim to help create cost efficient and sustainable appropriate technology and brand development for improving the quality of life and income of local communities.

WIPO Korea Funds-In-Trust (FIT)

Jointly undertaken in collaboration with KIPO and WIPO, the WIPO Korea FIT is applied towards projects that support developing countries and strengthen the global IP system through economic, social, and cultural development. For the continued operation of the WIPO Korea FIT, Korea has contributed about 12.8 million Swiss francs in total since 2004.

◀Tea Ceremony

Korean tea ceremony refers to the manners of drinking tea and various knowledge about tea. Koreans greet their ancestors with tea on New Year's Day or Chuseok and treat guests with a cup of tea.

▶Gyeongsang

Gyeongsang is a type of desk used to place and read Buddhist scriptures in temples. Both sides of the top plate were rolled up to prevent rolls of books and documents from rolling over.



2019 Highlights

Jan. 09 KIPO-SAIP High-level Meeting & MOU Signing Ceremony
26 The 2019 New Year's Gala for Inventors and Patent Users



Feb. 19 KIPO-MOE MOU Signing Ceremony in Dubai



Mar. 28 IP-Desk Opening Ceremony in Hong Kong(China)
31 KIPO-SAIP Bilateral Meeting



Apr. 10~11 IP5 Deputy Heads of IP Office Meeting
19 KIPO-Mongolia Heads of IP Office Meeting



May. 15 Online IP Protection Seminar in China and ASEAN
27 The 54th Invention Day Celebration
30 The 2019 Youth Invention Reporters Day



Jun. 05 The Inaugural Meeting of the Heads of the Patent Trial and Appeal Boards
11~13 The 12th IP5 Heads of IP Office Meeting
13 KIPO-WIPO Heads of IP Office Meeting
20 The 2019 Korea International Women's Invention Expo



Jul. 16 The 1st International IP Festival
17 WIPO Roving Seminar
25 The 2019 Youth Invention Festival



Aug. 16 KIPO-Cambodia MOU Signing Ceremony
27 The 7th IP Academy with KIPO and KWSE



Sep. 05~06 The 14th Patent Information Expo
19 Commemoration of 2 Mil Patent and 1 Mil Design Registrations



Oct. 9/30~10/9 The 59th Series of Meetings of the WIPO General Assemblies
14 Indonesian Government Officials Study Visit



Nov. 05 The 10th WIPO-KIPO Advanced International Certificate Course (AICC)
21 The 2019 Campus Patent Strategy Universiade
25 Korea-ASEAN Heads of IP Office Meeting
26 KIPO-WIPO Appropriate Technology Grand Symposium
27 The 2019 Design to Business (D2B) Design Fair Award Ceremony



Dec. 02~05 The 19th Japan-China-Korea Trilateral Summit
04 IP-Sharing Project Ceremony in the Dominican Republic
12 TM5 & ID5 Annual Meeting

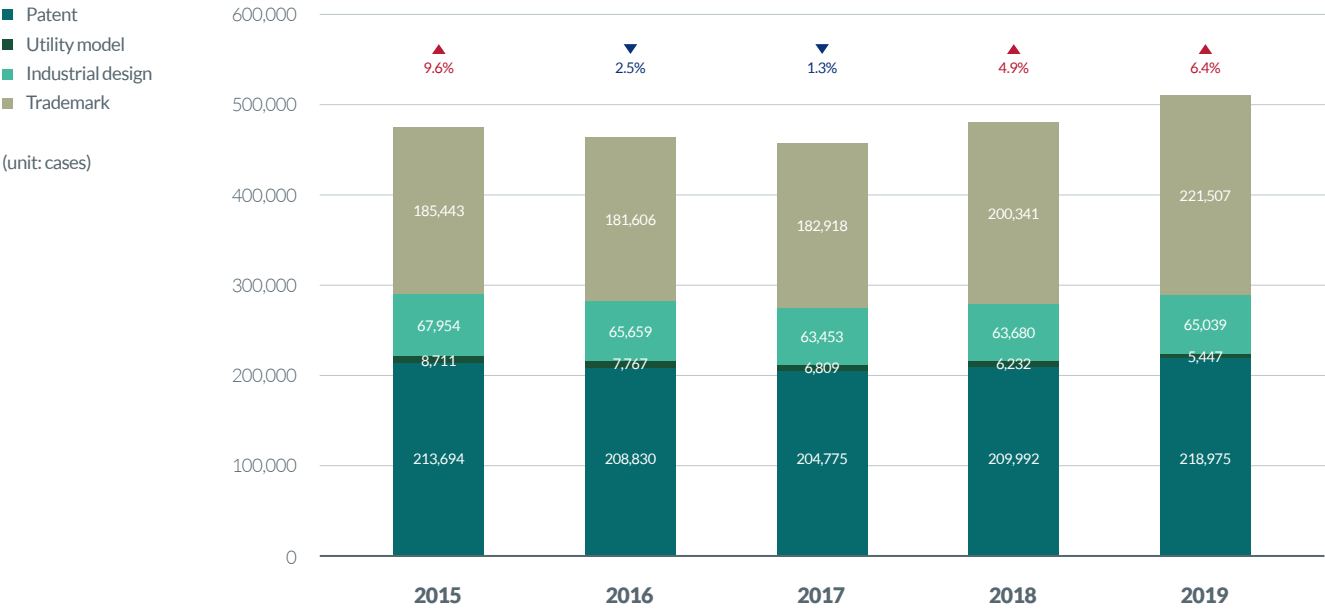


2019 IP Trends

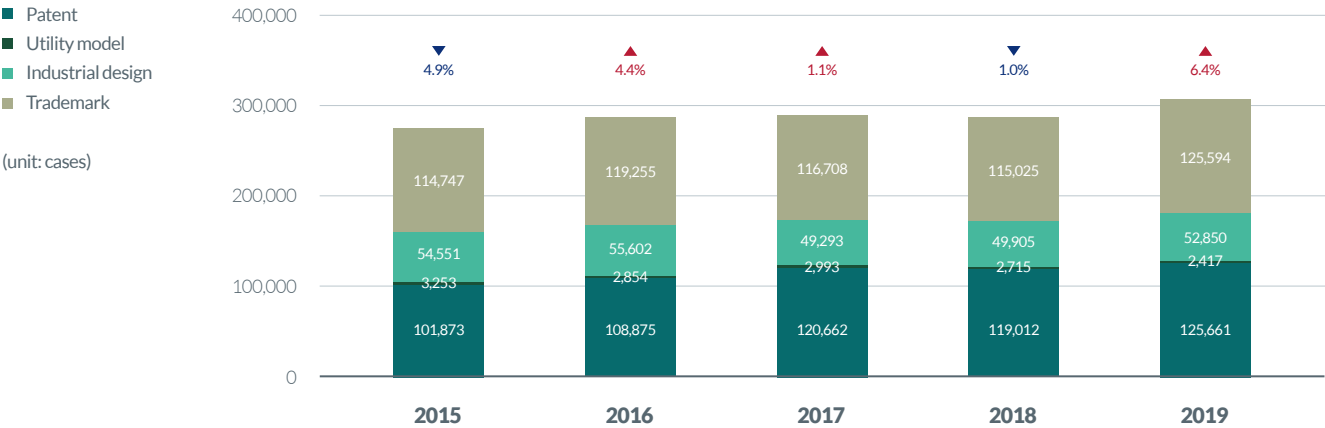
IPR Applications and Registrations by Year

IPR Applications

*Including PCT, Madrid, Hague international applications



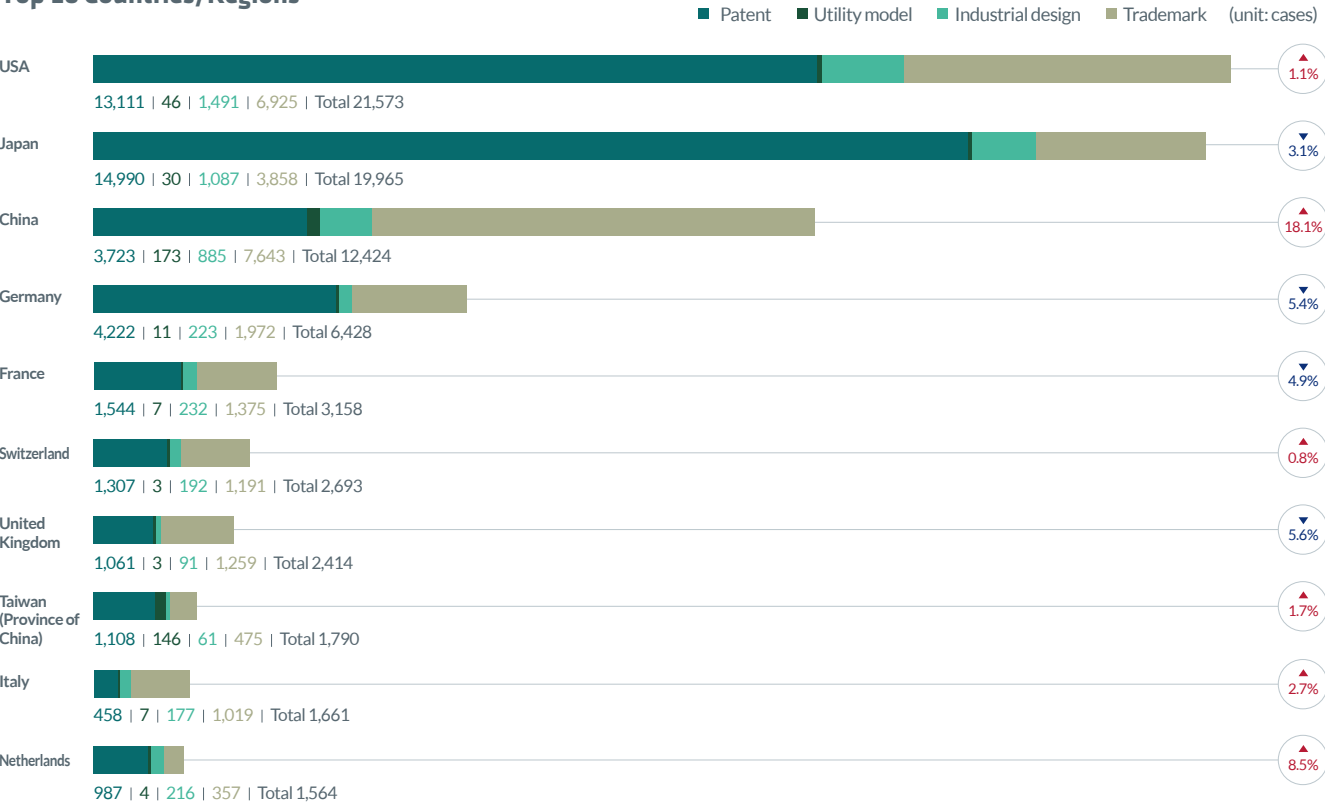
IPR Registrations



Non-Resident IPR Applications

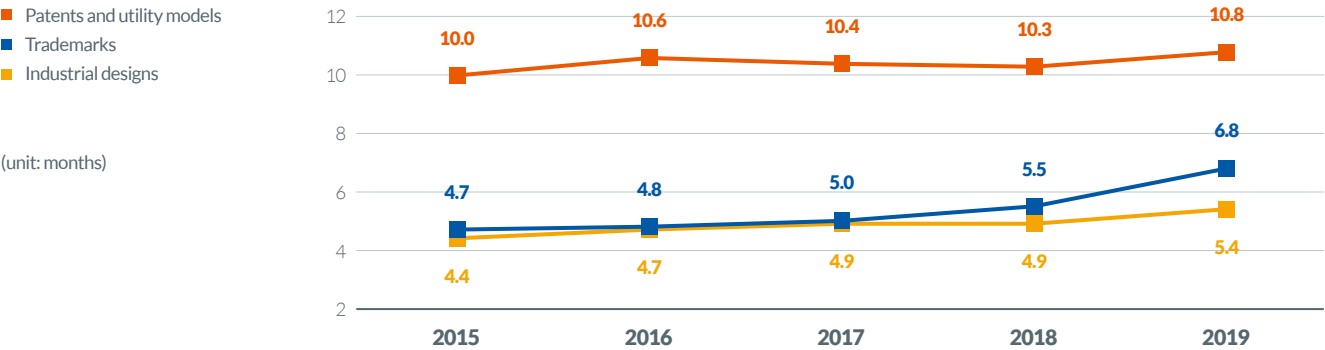
- Non-resident applicants filed a total of 84,243 IPR applications (a 1.9% increase from 2018).
- Non-residents from the USA filed the largest portion of IPR applications at 25.6% and non-residents from Japan filed the most patent applications by at 31.6% out of 129 countries.

Top 10 Countries/Regions

































IP Examination Trends

First Office Action Pendency by IPRs



Top IPR Filing Domestic & Overseas Companies

Patent	1st.	2nd.	3rd.	4th.	5th.
Domestic	<div> LG Electronics</div> <div>7,797 4,551 ▲71.3%</div>	<div> SAMSUNG ELECTRONICS</div> <div>6,313 5,883 ▲7.3%</div>	<div> LG Chem</div> <div>4,314 4,174 ▲3.4%</div>	<div> HYUNDAI</div> <div>2,889 2,676 ▲8.0%</div>	<div> SAMSUNG DISPLAY</div> <div>2,319 1,846 ▲25.6%</div>
Overseas	<div> HUAWEI</div> <div>654 501 ▲30.5%</div>	<div> QUALCOMM</div> <div>563 860 ▼-34.5%</div>	<div> TEL TOKYO ELECTRON</div> <div>559 531 ▲5.3%</div>	<div> TOSHIBA</div> <div>483 383 ▲26.1%</div>	<div> Canon</div> <div>436 488 ▼-10.7%</div>
Industrial design	1st.	2nd.	3rd.	4th.	5th.
Domestic	<div> LG Electronics</div> <div>990 675 ▲46.7%</div>	<div> SAMSUNG ELECTRONICS</div> <div>741 670 ▲10.6%</div>	<div> CJ</div> <div>506 419 ▲20.8%</div>	<div> i-CODI</div> <div>216 129 ▲67.4%</div>	<div> HYUNDAI</div> <div>216 199 ▲8.5%</div>
Overseas	<div> Apple</div> <div>278 171 ▲62.6%</div>	<div> NIKE</div> <div>143 82 ▲74.4%</div>	<div> GM</div> <div>109 17 ▲541.2%</div>	<div> LOUIS VUITTON</div> <div>85 19 ▲347.4%</div>	<div> SMC</div> <div>80 52 ▲53.8%</div>
Trademark	1st.	2nd.	3rd.	4th.	5th.
Domestic	<div> LG Household & Health Care</div> <div>946 1,189 ▼-20.4%</div>	<div> E-LAND</div> <div>666 301 ▲121.3%</div>	<div> coupang</div> <div>562 536 ▲4.9%</div>	<div> AMOREPACIFIC</div> <div>550 621 ▼-11.4%</div>	<div> CJ ENM</div> <div>477 375 ▲27.2%</div>
Overseas	<div> L'ORÉAL PARIS</div> <div>114 98 ▲16.3%</div>	<div> kao</div> <div>74 55 ▲34.5%</div>	<div> amazon</div> <div>69 58 ▲19.0%</div>	<div> Johnson & Johnson</div> <div>66 59 ▲11.9%</div>	<div> SUPERCCELL</div> <div>54 -</div>

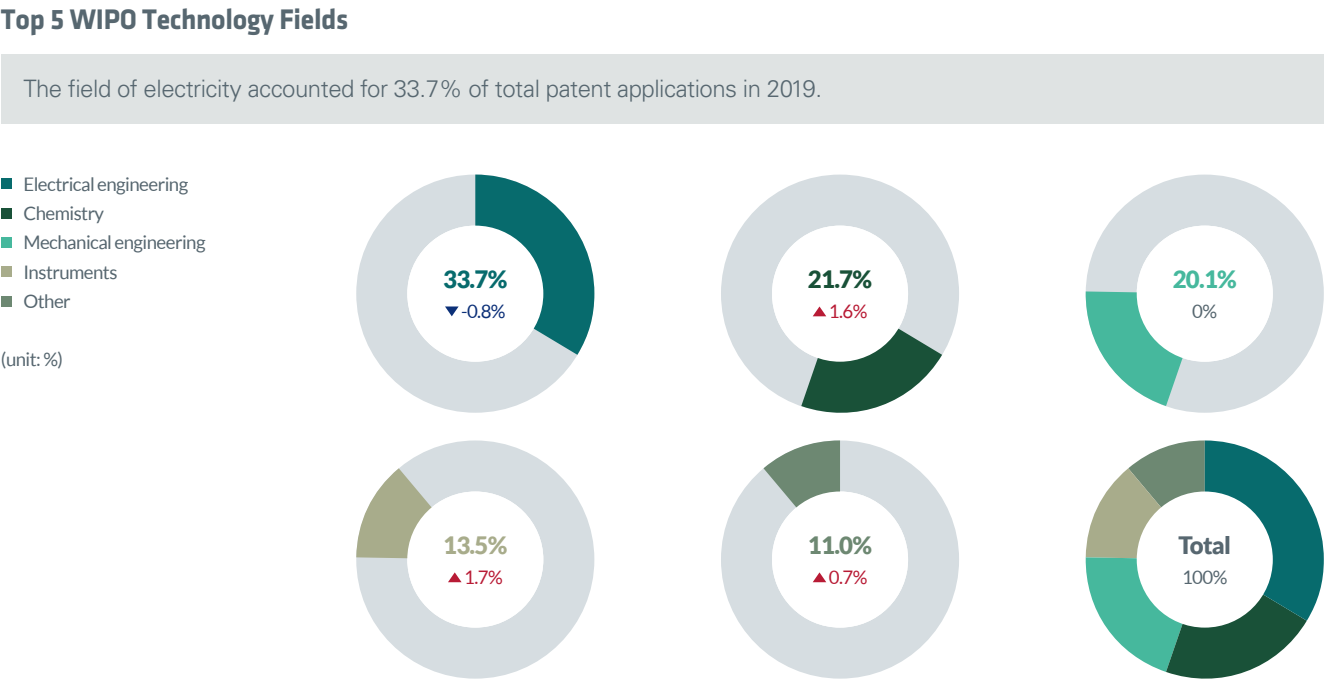
2019

2018

▲▼ Year-over-year comparison

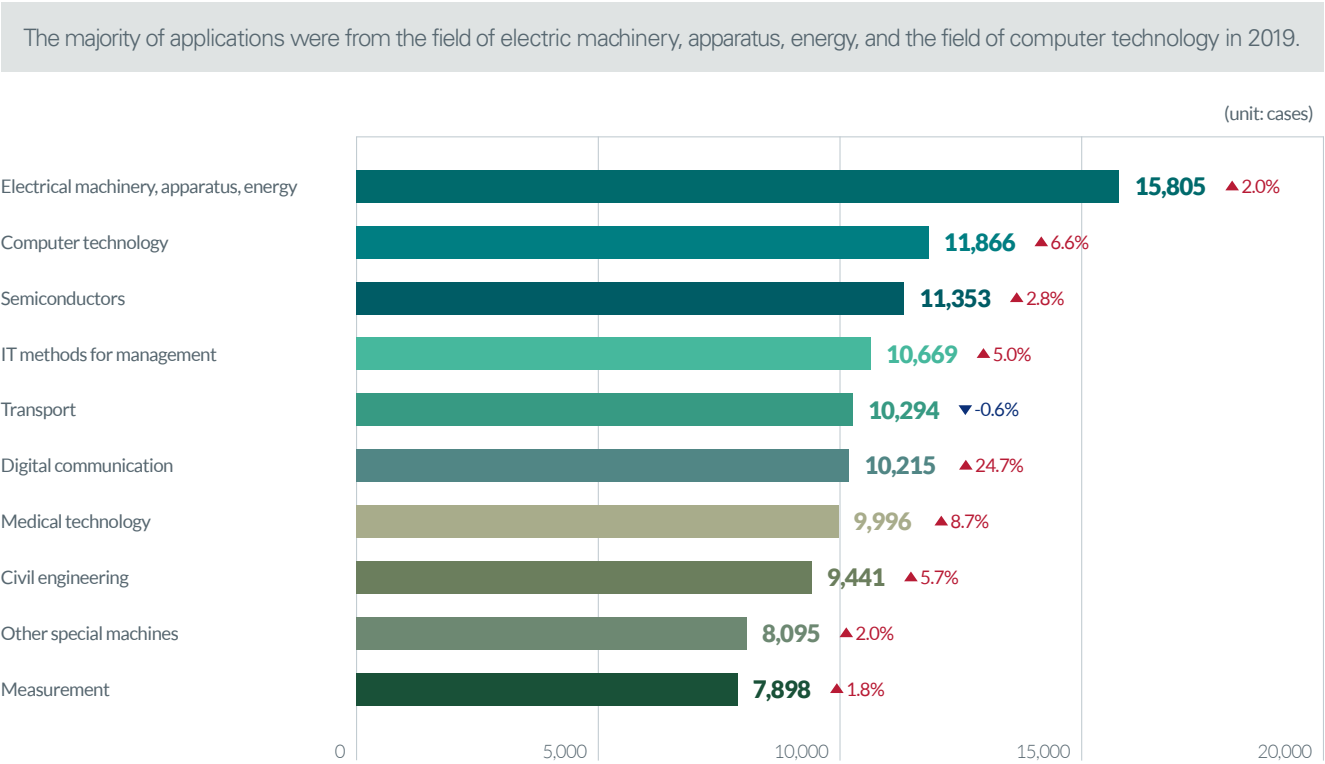
(unit: cases)

Patent Applications by Technology



Top 10 Technology Classifications

※ WIPO IPC-Technology concordance table (35 technology fields)



KIPO NEWS



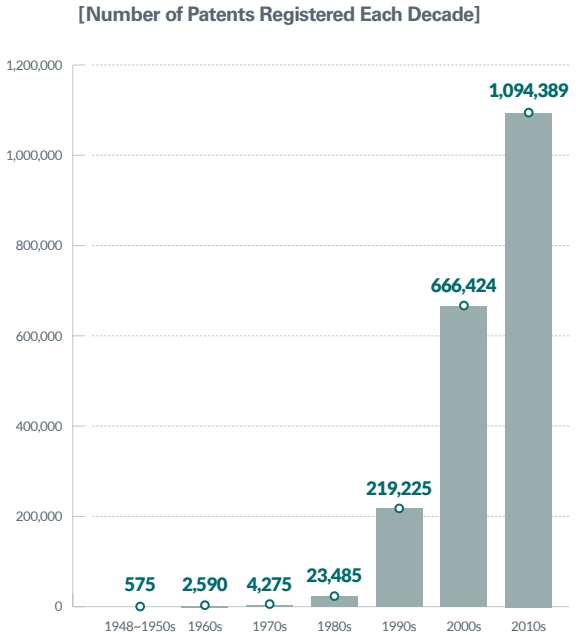
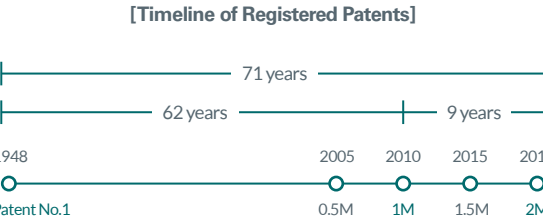
Korea Becomes the World's 7th Country to Surpass 2 Million Patent Registrations

Since the first establishment of a legal system for intellectual property (IP) in the Republic of Korea in 1946, the quantity and range of IP applications have increased exponentially. The Korean Intellectual Property Office (KIPO) registered its first patent in 1948 and reached one million patent

registrations by 2010. In 2019, KIPO issued the registration of its second millionth patent after nine years, becoming the 7th country in the world to achieve this milestone. In commemoration, the ROK President Jae-in Moon invited the right holders of the two-millionth patent and one-millionth design registration to the Blue House, the official presidential residence and executive office, in September 2019. The event was held to celebrate and encourage the innovative achievements made by entrepreneurs,

scientists, and technicians as well as emphasize the importance of technological innovations based on IP. In addition to being personally presented with a signed registration certificate by the President, the patent right holder Prof. Kim Yong-sung received an *Angbu-ilgu* (a hemispherical sundial from the Joseon dynasty), and the design right holder Mr. Kim Gwan-myeong received a *Sagak-yucheok* (a traditional ruler used by officials during the Joseon Dynasty). The rights holders took the opportunity to explain their development process and share opinions about IP policies. President Moon urged the importance of KIPO to support individuals and companies with intellectual property rights (IPRs) so that their technologies can be registered overseas amid the race for global competitiveness.

History of Korean Patent Registrations
Korea's first official patent registration was a sulphur dye method dating back to November 20, 1948. Thereafter, patent registrations have rapidly increased with every passing decade. There were about 20,000 patents registered in the 1980s, about 220,000 registrations in the 1990s, then about 670,000 in the 2000s. Most significantly, over 1.09 million patents were registered in the 2010s alone. This quantity surpasses the collective amount from 1948 until 2009 (about 920,000 patent registrations in 62 years). Now, Korea has the 4th greatest number of applications and records an annual registration of about 210,000 new patents.



Spotlight 2019

Moreover, Korea's industrial structure is shifting away from the production and manufacturing sector towards fields related to knowledge and technology. This can be seen, in particular, through patent registration trends after the 1980s with the adoption of technology classifications. For example, patent registrations related to semiconductors and mobile phones are taking a larger portion in comparison to the initial patent registrations in the chemistry and textiles.

[Top 10 Technology Classification Registrations by Decade]

Rank	~1980s		1990s		2000s		2010s	
	Classification	Portion	Classification	Portion	Classification	Portion	Classification	Portion
1	Organic fine chemistry	18.0	Audio-visual technology	11.6	Semiconductors	9.8	Electrical machinery, apparatus, energy	8.0
2	Textile and paper machines	7.0	Semiconductors	9.0	Audio-visual technology	8.1	Semiconductors	6.2
3	Electrical machinery, apparatus, energy	5.7	Computer technology	6.1	Electrical machinery, apparatus, energy	7.5	Computer technology	5.8
4	Audio-visual technology	4.9	Electrical machinery, apparatus, energy	5.9	Telecommunications	6.9	Transport	5.2
5	Materials, metallurgy	4.8	Transport	5.5	Computer technology	6.3	Civil engineering	5.1
6	Other special machines	4.4	Telecommunications	4.8	Optics	4.9	Digital communication	4.4
7	Basic materials chemistry	3.8	Organic fine chemistry	3.8	Transport	4.9	Audio-visual technology	4.2
8	Machine tools	3.8	Optics	3.5	Civil engineering	3.8	Measurement	4.1
9	Macromolecular chemistry, polymers	3.5	Materials, metallurgy	3.1	Other special machines	2.7	Optics	3.6
10	Other consumer goods	3.4	Textile and paper machines	3.0	Digital communication	2.6	Other special machines	3.6

※ Statistics based on WIPO IPC-Technology concordance table (35 technology fields)

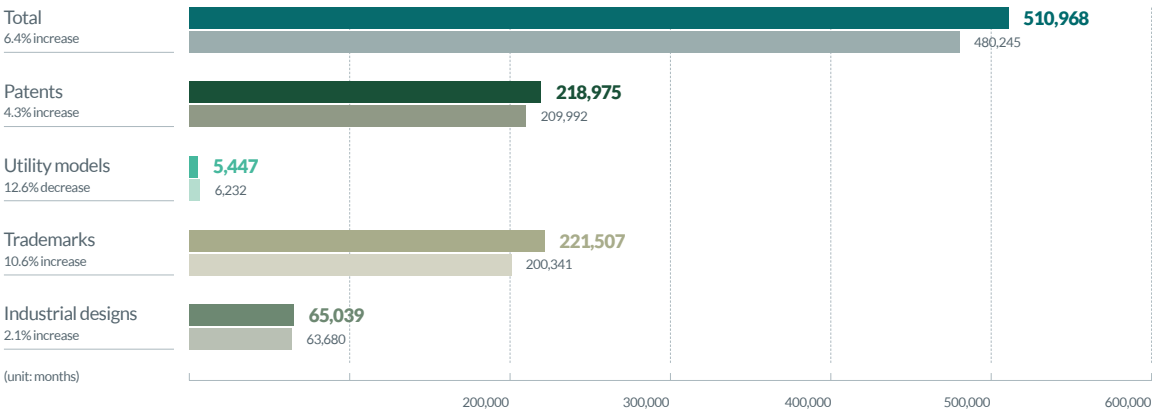
Spotlight 2019

500,000 in Annual IPR Filings

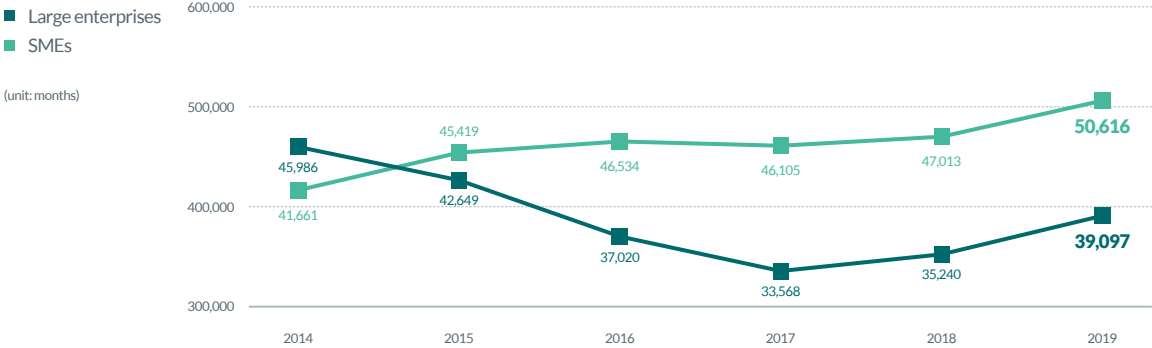
In 2019, the total volume of IPR filings for a one-year period increased 6.4% from the previous year. For the first time, there were over half a million IPR annual fillings. Patents recorded an increase by 5.6%, industrial designs by 5.9%, and trademarks

by 10.6%, while utility models decreased by 12.6%. Additionally, the rapidly growing domestic market for patents by small and medium-sized enterprises (SMEs) has allowed them to surpass large enterprises since 2015 in terms of volume of patent applications.

[Number of Applications by IPRs in 2019 (compared to 2018)]



[Volume of Patent Applications by Enterprises]



Providing IP Services

24	Examining Fourth Industrial Revolution Technologies
27	Introducing the “Venture Team” Project at KIPO
29	Improving Examination Services

King Sejong the Great
King Sejong (1397-1450) was the 4th king of Joseon Dynasty and created Hangaul, the commonly used character of the Republic of Korea and North Korea.



Examining Fourth Industrial Revolution Technologies

Convergence Technology Examination Bureau

In order to adapt to developments in the IP environment and provide sufficient IP services, KIPO implemented appropriate measures to improve its patent examination. An organizational restructuring was initiated within KIPO in 2019 which led to the establishment of a new “Convergence Technology Examination Bureau” dedicated to the examination of technologies related to the Fourth Industrial Revolution (4IR), such as artificial intelligence (AI), big data, and bio-health.

Before the reorganization, KIPO’s patent examination was carried out by four bureaus: the Patent Examination Policy Bureau and Patent Examination Bureau 1, 2, and 3. A more efficient system was established according to technology

fields and the relocation of examiners with specific expertise. As of 2019, there are five bureaus managing patent examinations: the Patent Examination Policy Bureau; the Convergence Technology Examination Bureau; the Electricity & Telecommunications Examination Bureau; the Chemical & Biotechnology Examination Bureau; and the Machinery & Metals Examination Bureau.

Considering the specificity of 4IR-related technologies, the Convergence Technology Examination Bureau consists of six divisions and teams: the Artificial Intelligence & Big Data Examination Division; the Internet of Things Examination Division; the Biotechnology & Healthcare Examination Division; the

Intelligent Robot Examination Division; the Smart Manufacturing Examination Division; and the Autonomous Driving Technology Examination Team. Furthermore, new examination criteria were established

through consultation with industries which will play a pivotal role to promote the development and growth of 4IR-related technologies and industries.

Consensus-based Consultative Examination Among Examiners

Patent examination is generally carried out by one examiner for each invention and processed under the main examiner even with consultation from other examiners. In 2019, KIPO began implementation of examinations based on the consultation and consensus of a group of examiners specializing in 4IR technologies. Under the new system, three examiners from the Convergence Technology Examination Bureau consult together from the onset of the examination and

come to a consensus, similar to that of the Intellectual Property Trial and Appeal Board.

Due to many 4IR-related inventions often incorporating two or more different technical fields, a group of examiners makes it possible to provide relatively higher-quality examination services and increase examination consistency by sharing opinions on patentability requirements and reducing discrepancies.

Organizational Restructure of Patent Examination

Organization(Previous)	Patent Examination Policy Bureau	Patent Examination Bureau 1	Patent Examination Bureau 2	Patent Examination Bureau 3
Function	Examination of patents and patent policy	Examination of basic industry patents	Examination of flagship industry patents	Examination of growing industry patents

Organization(Current)	Patent Examination Policy Bureau	(New) Convergence Technology Examination Bureau	Electricity & Communications Examination Bureau	Chemistry & Biotechnology Examination Bureau	Machinery & Metals Examination Bureau
Function	Examination of public safety patents and patent policy	Examination of 4IR technology patents	Examination of electricity and communications patents	Examination of chemistry and biotechnology patents	Examination of machinery and metal patents



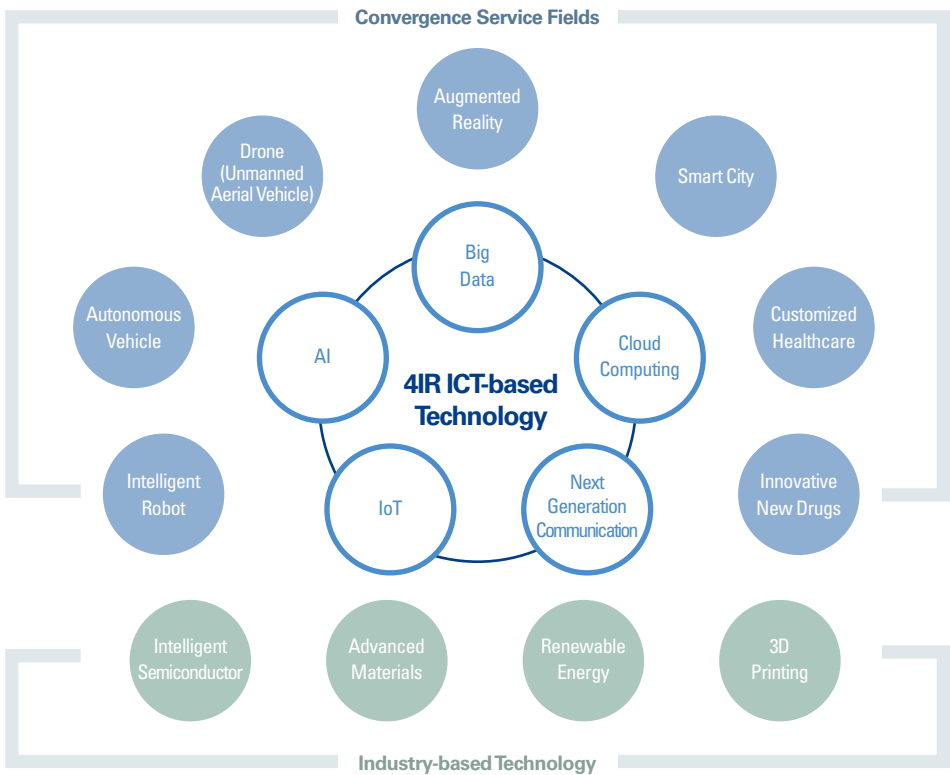
Consultative Examination among Three Examiners

**New Patent Classification
Applications Related to
Emerging Technologies of
the 4IR**

Accelerated examination allows a way to preferentially review necessary applications while responding to continual changes in industrial structure and advancement of the technological environment. Since being first adopted in 1981 and through gradual expansion, applications filed in various kinds of high-tech industries have been made eligible for the accelerated examination program.

Fitting into emerging technologies, a new patent classification system was established for seven technological fields¹⁾ in 2018, and nine technology fields²⁾ were newly added in 2019, which can benefit from accelerated examination. Currently, eligible patent applications filed under the accelerated examination are registered up to 10 months earlier than general examinations, an average of 5.5 months in total.

Technology of the 4th Industrial Revolution



1) Artificial Intelligence, Internet of Things, 3D printing, autonomous vehicle, big data, cloud computing, intelligent robot
2) Innovative new drug, customized healthcare, smart city, AR/VR, renewable energy, drone, new generation communication, intelligent semiconductor and advanced material

Introducing the “Venture Team” Project at KIPO

Government organizations are often busy engaging in the vast range of entrusted duties. Therefore, a “venture team” can be assembled to support the implementation of challenging but innovative ideas which could greatly improve convenience for their users. The teams are formed dedicated to actualizing ideas of policies and services within a government organization.

On June 12, 2019, the Ministry of Interior

and Safety of Korea hosted a “Venture Team Idea Competition.” Two of KIPO’s proposals were selected as winning ideas and two venture teams were established thereafter. The newly formed “Director for IP Startup Assistance” and “Director for Idea Transaction Management” will operate for two years under the direct supervision of the KIPO Commissioner with possible continuation that is conditional to their performance.



Winners of 2019 Venture Team Idea Competition (June 12, 2019)

Director for IP Startup Assistance

The Director for IP Startup Assistance was established for the task of discovering “Innovative Patent Startups” that possess superior technology and business potential. Through close cooperation with patent examiners and market experts, startups are identified in convergence technology fields such as AI and IoT as well as materials, parts, and equipment sectors. They are then provided with assistance for IP-based commercialization.

Additionally, the Director for IP Startup Assistance can create policies that support investment and patent commercialization while also providing training and consultation on IPRs. For example, an “Intellectual Property Startup Road Day” has been planned as an informative briefing to help create a culture of investment for IP-based startups. The event will be held in local regions with insufficient investment infrastructure and social networks.

Director for Idea Transaction Management

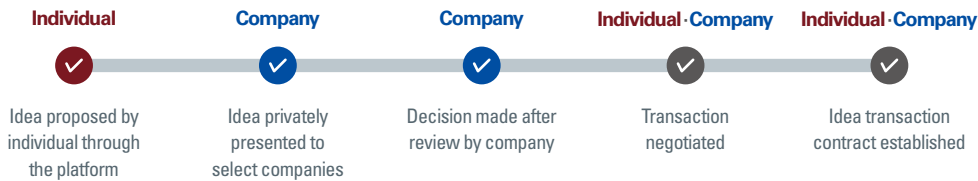
The process of IP filing and commercialization can often be difficult for the general public when trying to actualize their creative and innovative ideas. Therefore, the Director for Idea Transaction was established to develop a platform which would support the transaction of individual creative ideas from the general public to companies.

An idea transaction platform provides a channel where ideas which cannot be individually actualized are sold to companies for commercialization. To begin, an individual proposes an idea to a company, then the company will consider the feasibility of commercialization and patent

registration before following through with the transaction. Idea transaction allows the general public to produce economic value with their creative ideas and companies to grow through product innovation.

In 2019, the Director for Idea Transaction hosted a nationwide design competition for an IPR registration mark that incorporates a QR code. Details of the IPR associated to a product were often difficult to access. A QR code acts as a multi-functional and convenient link to information about the IPR and other relevant details. Therefore, greater accessibility of IP information can be used to create more innovative ideas.

Process within the Idea Transaction Platform



The winning design of the competition is being supplemented and registered as a business emblem. The Director for Idea

Transaction will start promoting the IPR registration mark in QR form in 2020.



Winner of the IPR Registration Mark Design Competition (Dec. 28, 2019)

Improving Examination Services

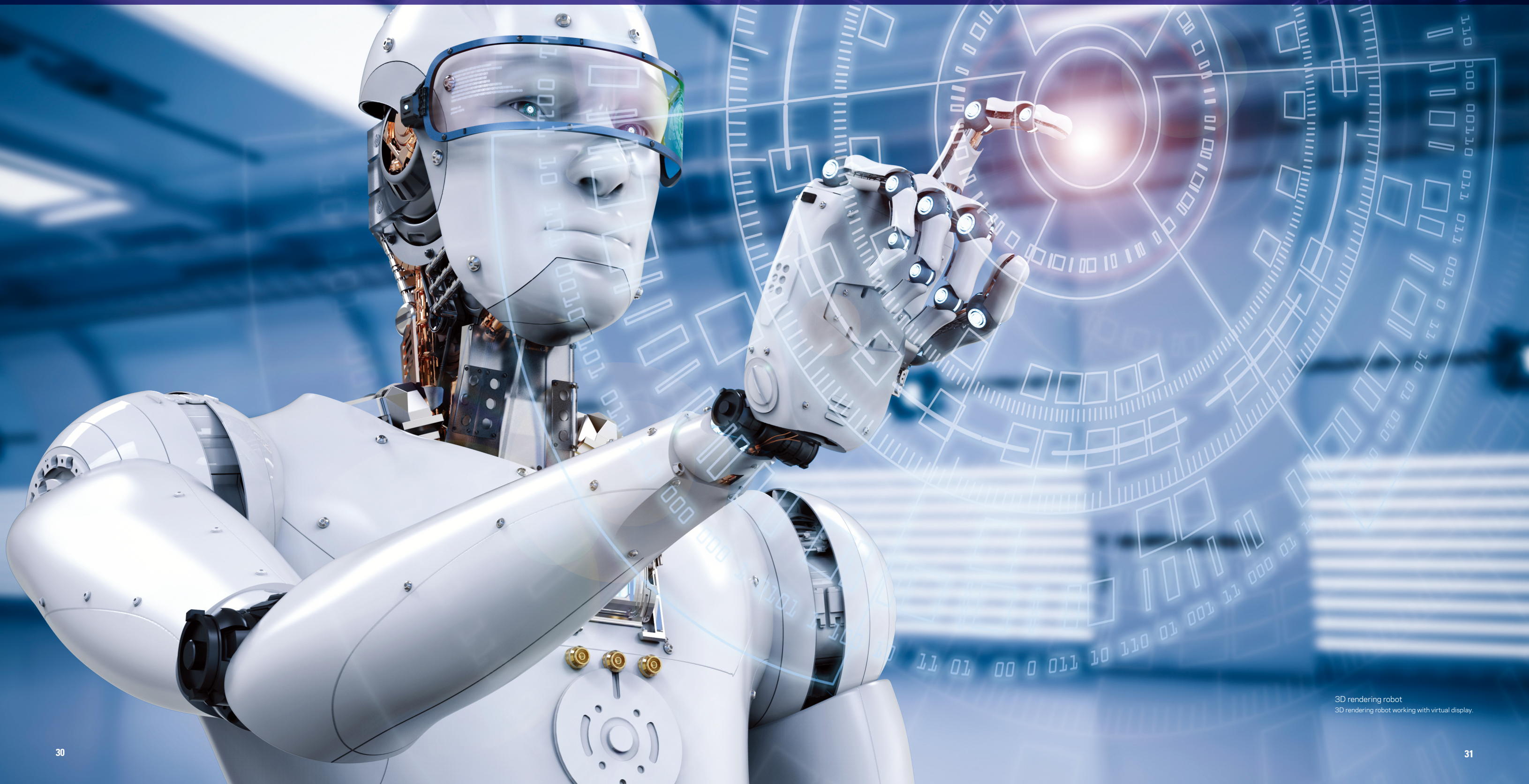
Collaborative Examination of Trademarks and Industrial Designs

In order to improve examination quality for trademarks and designs, "collaborative examinations" were introduced. More than 400 cases were conducted during 2019 under the new examination system. A team for collaborative examination generally consists of a main examiner, volunteers, and examiners with relevance to the application. For example, an examiner may request other examiners to gather to discuss the examination

direction for applications of convergence products or for applications that are difficult to examine distinctiveness or judge similarity. Conducting the collaborative examination has led to not only more consistency, but also an increase in the competency of the examiners through cooperation. KIPO plans to examine more cases within the new system.

Promoting IP Creation and Utilization

32	Expanding Patent Big Data Utilization in Industry
34	Building the Foundation for Financing Based on IP



3D rendering robot
3D rendering robot working with virtual display.

Expanding Patent Big Data Utilization in Industry

Expansion of IP-R&D Centered on Materials, Parts, and Equipment

Patents are generally considered only in the outcome of research and development (R&D). However, IP-based research and development (IP-R&D) utilizes patents as a starting point and guide for R&D. In particular, IP-R&D helps overcome the high barriers to entry of overseas patent and also helps develop alternative technologies.

KIPO began implementing an IP-R&D plan for securing core technologies already known in patents and improving the efficiency of R&D projects. This plan to strengthen R&D consists of three major tasks: expanding IP-R&D programs in public R&D projects; supporting IP-R&D customized to each stage of growth of business; and strengthening the foundation for IP-R&D proliferation in industry, academia, and research.

Big Data Analysis of Patents in Major Industries

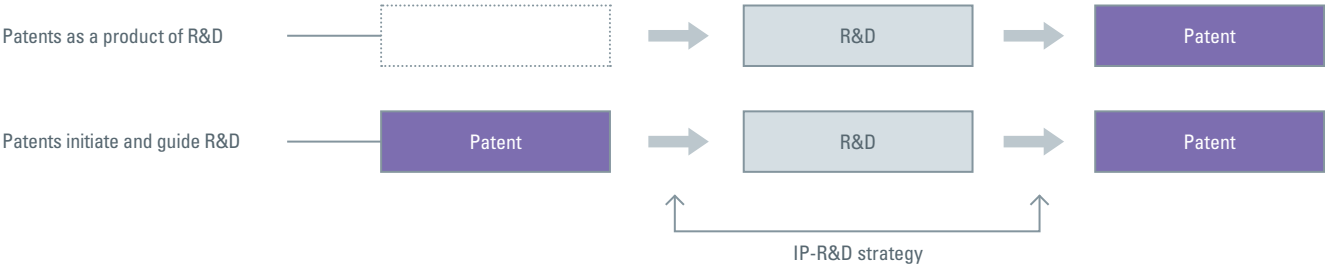
To promote IP-driven innovation on a national R&D system, KIPO implemented policies encouraging the use of patent information in the R&D process. Based on more than 430 million patent-related data, KIPO provided big data analysis results in five major industries, which includes bio-health, display, hydrogen industry, next-generation battery, and system semiconductor, for government R&D planning as well as private R&D.

In particular, throughout all the stages of government R&D system, from planning, assignment, execution, and evaluation,

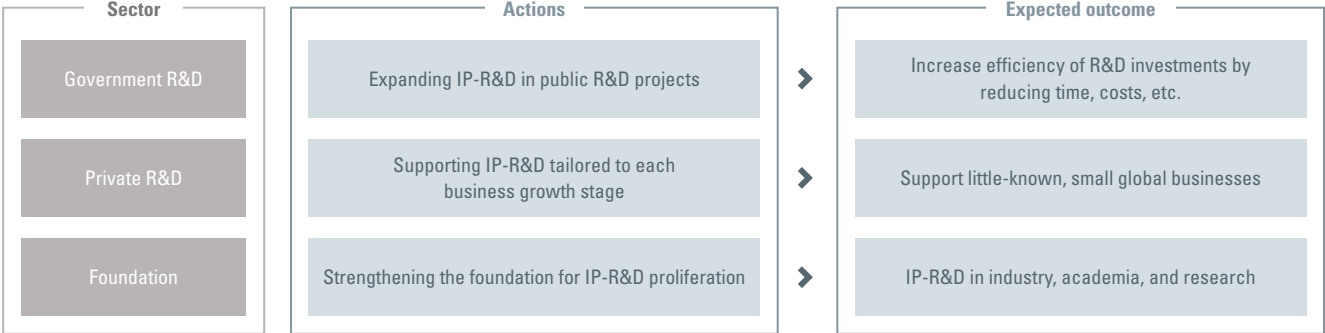
IP-related data analysis will be provided. Specifically, big data analysis on markets as well as technologies will be utilized during the planning stage, and patent experts will be required to participate in the assignment stage leading to the maximization of the efficiency of government R&D.

KIPO plans to expand big data analysis for 27 new major industries and establish technical solutions utilizing big data analysis on patent information for five major social issues, including fine dust, fire suppression, daily radiation, daily supplies, and infectious diseases.

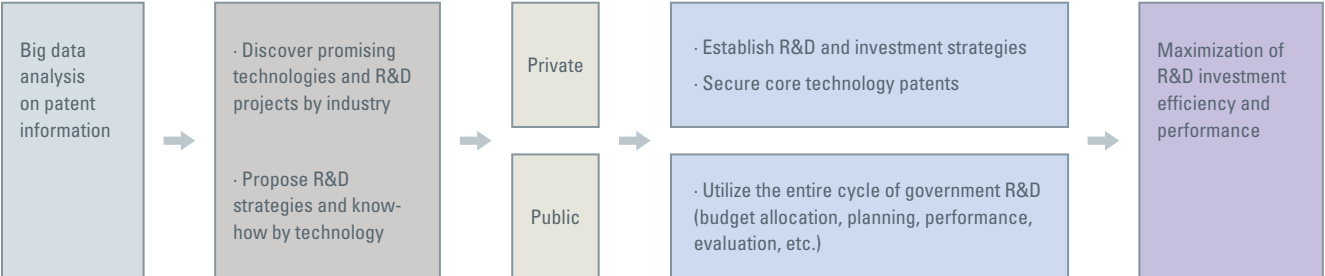
Paradigm Shift of IP-based R&D



Direction of Implementation



Performance Enhancement through R&D Strategies based on Big Data Analysis of Patents



Building the Foundation for Financing Based on IP

One Trillion Won in IP-backed Financial Transactions

IP-backed financing provides a means for companies to procure funds through loans or investments based on their IP assets. In 2019, the total amount of IP-backed financial transactions reached 1.35 trillion South Korean Won (equivalent to 1.11 billion US Dollars) in Korea.

The most common types of IP-backed financing are loans collateralized by IP, loans guaranteed by IP, and IP-based investments. Collateral, guarantees, or loans based on the IP assets of companies utilize “IP valuation” to determine the monetary value of the applicable IP. The valuation of IP can be considered when investing in certain startups or for monetizing IP through IP sales or licensing. Therefore, SMEs and startups with IP assets are more appealing for venture capital fund investments.

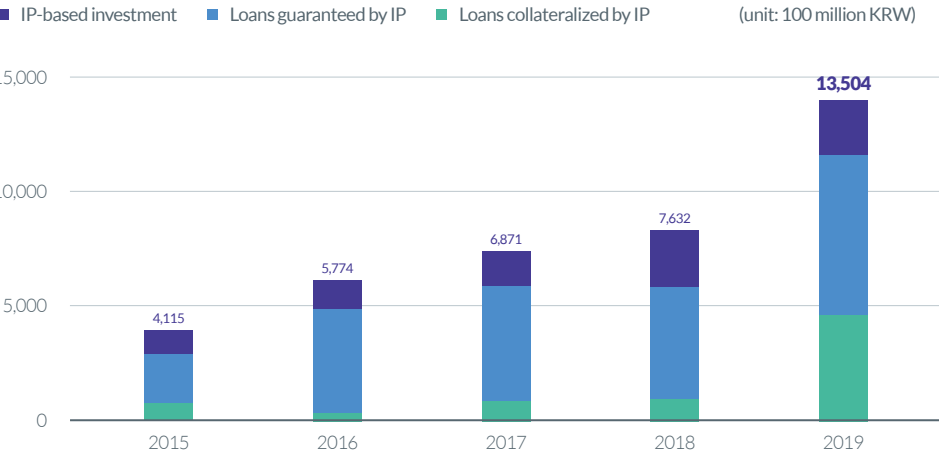
The first loan based on IP was made with the Korea Development Bank (KDB) in 2013, and subsequent transactions

of IP-backed financing have increased steadily. Notably, the overall scale in total transactions increased 77% from that of 2018 to reach 1.35 trillion South Korean Won, which shows a significant growth in IP-backed financing.

To facilitate IP-backed financing, professional IP valuation institutions were designated and subsidized by KIPO to be dedicated to maintaining and enhancing the quality of valuation. Moreover, a recovery institution of IP collateral was implemented for operation beginning in early 2020, which will stimulate IP-backed financing by purchasing the defaulted IP asset from commercial banks.

Last but not the least, KIPO plans to focus on raising awareness of IP management as financial assets and promoting the expansion of IP-backed financial transactions in order to help the growth of SMEs and startups based on their innovative IP assets.

Progress of IP-backed Financing in Korea



Launch of the Patent Mutual Aid Program

KIPO implemented the Patent Mutual Aid program as a policy program to provide a stable financial base for alleviating the costly burden of IP disputes and advancement into overseas markets. The program serves as a precautionary measure through mutual aid among SMEs when funds are needed to resolve domestic and overseas disputes related to IPRs or for securing IPRs abroad. In August 2019, a “Patent Mutual Aid Center” began operating after the Korea Technology Finance Corporation (KIBO) was selected as the agency to entrust the mutual aid program.

The main service products of the Patent Mutual Aid program consist of installment savings (similar to bank savings), IP sector loans (similar to bank loans), and business stabilization loans. Similar to an installment savings service at a commercial bank, a company will decide the option of depositing any amount from 300,000 won to 10 million won per month for up to a maximum of 500 million won in an account.

When joining the mutual aid program, an SME will select a service product from a range of monthly installment amounts and payment periods. After one year of maturity, the company is permitted to receive a loan for the costs of litigation related to their IPRs or an overseas patent application, and the loan can be repaid in installments.

Subscribing companies may also be eligible to receive a higher interest rate than general installment savings services and/or additionally receive funding support based on their installment saving when needing a loan for management stabilization, IP lawsuit, or overseas patent applications. Furthermore, companies that participate in programs of KIPO or use guarantees of KIBO may qualify for preferential benefits when applying for KIPO policy projects, such as a credit line increase, a guarantee rate reduction, legal consultations, or additional points.

KIPO will continue to expand the program so that the Patent Mutual Aid program can become a reliable financial precaution for SMEs.

Structure of the Patent Mutual Aid Program



Strengthening IP Protection

- 38 Protecting IPRs through Administrative and Legislative Measures
- 41 Raising Consumer Awareness of IP Protection
- 42 Protecting Korean Brands Overseas



Korean traditional lock
This is a Korean traditional lock made by a metal craftsman. It was attached to furniture or door.

Protecting IPRs through Administrative and Legislative Measures

Expanding Enforcement of Industrial Property

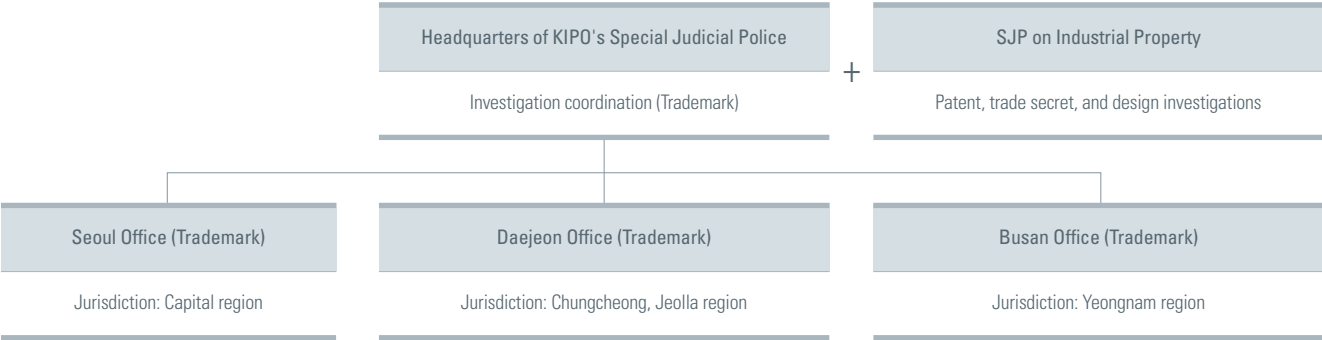
With more than 1,000 cases per year concerning IP, conventional police officers are limited in their capacity to be proficient in all technological areas and sufficiently enforce IP protection. As such, a special judicial police (SJP) system was established in the Republic of Korea in order to grant investigative authority to administrative public officials and increase the efficiency of law enforcement in fields that require specialization. Although initially established to be an SJP on trademarks, KIPO's SJP now carries out enforcement on all industrial property through an amendment to the "Act on the Persons Performing the Duties of Judicial Police Officers and the Scope of their Duties."

The investigative authority of KIPO's SJP was drastically expanded to include patents, trade secrets, design rights, and trademarks which is carried out through a headquarters based in KIPO and three branch offices located in Seoul, Daejeon, and Busan. KIPO retains more than 1,100 professionals with experience in examination and trials, including 450 with doctoral degrees. With the necessary technological knowledge, experts from KIPO are able to participate in primary investigations to adequately resolve crimes of IP infringement and technological theft, effectively helping companies that have been victimized by infringement and supporting their innovate growth.



Special Judicial Police on Industrial Property

Organization of KIPO's Special Judicial Police



Amending Laws and Systems Related to IP Protection

Coming into effect in 2019, legislative amendments were made in order to further strengthen IPR protection. In particular, the policy for strengthened punitive measures under both the Patent Act and the Unfair Competition Prevention and Trade Secret Protection Act was enacted in July 2019. The amendments allow the courts to award compensation up to three times the actual damages incurred for an intentional infringement. Moreover, the suspected infringer has responsibility to present their technology in order to deny infringement allegations, which alleviates the burden of proof on the right holder.

Additional amendments of the Unfair Competition Prevention and Trade Secret Protection Act were also enacted in July 2019. The scope of trade secrets

was amended from needing to have had "reasonable effort to maintain its secret" to simply to have been "managed as a secret." And, several actions of trade secret infringement have been stipulated in Article 18 which are subject to criminal penalties.

The severity of penalties for those crimes involving infringement of trade secrets were significantly strengthened as well. The unauthorized domestic disclosure of trade secrets was previously punishable by "imprisonment up to 5 years or fines not exceeding 50 million won" which changed to a more severe "imprisonment up to 10 years or fines not exceeding 500 million won." And overseas disclosure with "imprisonment for up to 10 years or fines not exceeding 100 million won" was increased to "imprisonment up to 15 years or fines not exceeding 1.5 billion won."

Article 18 of the Unfair Competition Prevention and Trade Secret Protection Act, as amended on January 8, 2019.

Original Law	Amendment
Article 18(1). Any person who has acquired, used, or leaked to any third party, trade secrets for the purpose of making an improper profit or causing damage to a person who possesses trade secrets shall be punished...	18(1)1. Any of the following actions taken for the purpose of making improper profits or causing damage to a person who possess trade secrets: a. An act of acquiring or leaking of trade secrets to a third party b. An act of unauthorized disclosure of trade secrets outside of the designated area c. An act of continuing to possess trade secrets even after request for removal or return of the trade secret 2. An act of acquiring trade secrets by theft, deception, coercion, or other improper means 3. An act of acquiring or disclosing the trade secrets with the knowledge that acquisition has occurred in a manner referred in 18(1)1 and 18(1)2.
*unofficial translation	

Penalties for Unauthorized Domestic & Overseas Disclosure of Trade Secrets

Category	Imprisonment		Fine	
	Domestic	Overseas	Domestic	Overseas
Previous	5 years	10 years	KRW 50 million	KRW 100 million
Amendment	10 years	15 years	KRW 500 million	KRW 1.5 billion

Operating Trade Secret Protection Systems

To support businesses manage their trade secrets, KIPO had developed a trade secret management system that allows trade secret management with minimal costs and personnel. Consultations on protecting trade secrets have also been provided by dispatching experts. In 2019, the consultation service was expanded and reorganized to provide more in-depth consulting services. Legal experts will conduct a diagnosis and recommend improvement measures even checking its implementation to help companies preemptively block unauthorized trade secret disclosure.

Additionally, KIPO has been operating a Trade Secret Certification Service to prove the authenticity and origin of trade secrets. The system was designed to generate time stamps by combining the unique identification value on electronic documents and the time value of a public certification agency. After registration with an authorized agency, the original existence and retention of the trade secret can be proven. Under the Unfair Competition Prevention and Trade Secrets Protection Act, the authentication certificates by the certification agency are allowed to be used as evidence in

trade secret dispute cases. Since its introduction in November 2010, the use of original certificates has gradually increased to achieve a total of 151,613 cases by December 2019.

Moreover, the Trade Secret Protection Center (www.tradesecret.or.kr) has been managed to support SMEs protect their trade secrets and to promote various

assistance projects, such as consulting, education, seminars, and counseling. Local briefing sessions and seminars are held in order to help businesses understand the trade secret protection system. Educational materials are also produced and distributed on/offline to inform on the seriousness of unauthorized trade secret disclosure and their protection.

Raising Consumer Awareness of IP Protection

KIPO has continually implemented various promotional activities to raise consumer awareness on the illegality of counterfeit products and help increase IPR protection. In 2019, an essay contest was held on difficult experiences involving IP-related failings, such as improper IPRs protection, insufficient trade secret management and technology protection, and unsuccessful IP dispute prevention and response. KIPO plans to publish an essay collection with the five winning essay which will be distributed to SMEs and startups. Also, an experiential learning program was administered to about 700 middle school students to educate them on the present state of IPR infringement and the importance of its protection.

Meanwhile, KIPO is working in cooperation with local governments of regions with frequent counterfeit distribution to provide education programs and street campaigns and to inform the public about the illegality of counterfeit goods. Hands-on programs were also organized to educate general consumers and online sellers on distinguishing genuine and counterfeit goods. Furthermore, KIPO produced public service advertisements which were broadcasted on TVs, radios, and subways, and promotional activities were publicized on blogs, social media, and other online platforms in order to improve public opinion and to create a culture of respect for IP protection.

Protecting Korean Brands Overseas

Along with the recent rising popularity of Korean cultural products (the Korean Wave or K-wave), many Korean companies have experienced infringements to their brands. Infringements and counterfeit products can affect a company’s reputation and hinder advancement into overseas markets. Therefore, KIPO has been working to protect the reliability of Korean brands and prevent damage to Korea’s national image in regions where frequent

infringement has occurred, especially in neighboring countries such as China and ASEAN. In 2019, KIPO discovered 738 cases and 66 cases with suspected bad faith registrations of trademarks of Korean company brands in China and Vietnam, respectively. The related companies were notified and provided with assistance in order to take action.

IP-DESKS Established Around the World



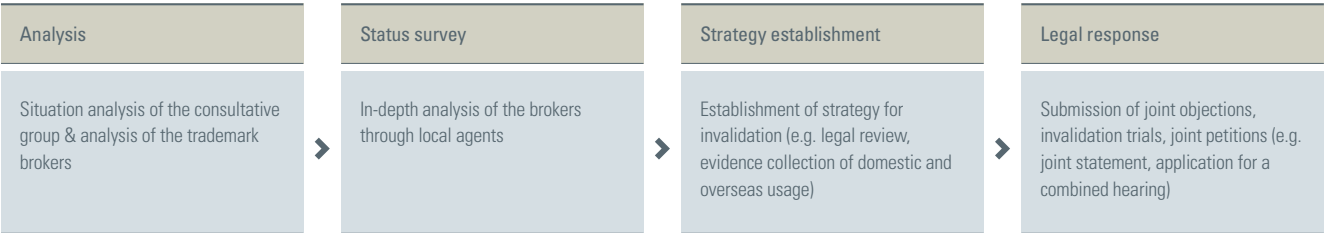
Notably, KIPO helped form a consultative group in 2018 with 53 Korean companies affected by bad-faith registrations by trademark brokers. The consultative group comprised of Korean SMEs from major industries including franchises, toy figures, clothing, and cosmetics. To invalidate the bad-faith registrations, joint actions were taken such as petition submission, combined hearings, etc. By September 2019, the dishonest intention of the trademark brokers was proved. Eventually, the Korean companies were able to win all 53 trademark dispute cases.

KIPO also worked in cooperation with a large e-commerce company in China to

block about 20,000 items counterfeiting Korean company products which were being distributed through online shopping malls.

Meanwhile, IP-DESKs have been operating in various parts of the world in order to protect IPRs and prevent damage to Korean companies currently active in or preparing to enter foreign markets. These IP-DESKs provide support and consultation for securing trademark rights overseas, responding to infringement disputes, and hosting educational sessions on dealing with foreign trademark brokers. As of 2019, there are 15 IP-DESKs established among eight countries where frequent IP disputes occur.

Process for Supporting Joint Legal Actions against Trademark Brokers



Establishing Global IP Cooperation

- 46 Hosting the Heads of the World's Five Largest IP Offices
- 47 Advancing Korea-ASEAN IP Cooperation
- 49 Expanding Korean IP Administration Services Overseas



Seokchon lake park and Lotte world tower
Twilight sunset at Seokchon lake park and Lotte world tower in Jamsil, Seoul

Hosting the Heads of the World’s Five Largest IP Offices

There are five major IP offices which collectively handle over 80% of the world's patent applications. In 2007, the EPO, JPO, KIPO, CNIPA, and USPTO first gathered together to constitute a consultative body known as the IP5.³⁾ The inaugural IP5 Heads of Office Meeting was held in October 2008 in Korea where the IP5 agreed to work together on 10 foundation tasks for work-sharing and formed four working groups to carry out the tasks. Since then, the meeting has been hosted on a yearly rotation among the IP5 offices.

On June 12, 2019, the 12th IP5 Heads of Office Meeting convened in Songdo, Incheon, with Korea being the host for the third time since 2008 in Jeju Island and 2014 in Busan, under the chairmanship of KIPO Commissioner Won-joo Park and the presence of Director-General Francis

Gurry of the World Intellectual Property Organization (WIPO).

After two days of intensive and enthusiastic discussion on various ongoing collaborative activities and issues, the meeting concluded with the adoption of a Joint Statement on improving the global patent system in response to changes brought on by technologies. The heads of the IP5 Offices also agreed to launch a task force to explore collaborative approaches to innovative technologies such as AI. Assembled with experts of IP systems and IT from the IP5, the task force will operate for the subsequent two years towards the establishment of an “IP Cooperation Roadmap,” which will include a project to utilize new technologies in patent administration and the harmonization of patent examination standards for AI inventions among the IP5.



3) IP5: European Patent Office (EPO), Japan Patent Office (JPO), Korea Intellectual Property Office (KIPO), China National Intellectual Property Administration (CNIPA), and United States Patent and Trademark Office (USPTO)

Advancing Korea-ASEAN IP Cooperation

KOREA-ASEAN Heads of IP Office Meeting

On November 25, 2019, the second Korea-ASEAN⁴⁾ Heads of IP Office Meeting was held in Seoul, Korea. The very first meeting was launched in 2018 after five years of consultation with the ASEAN Secretariat and member states.

Under the chairmanship of KIPO Commissioner Won-joo Park, the future direction of Korea-ASEAN IP cooperation was presented to the attending delegations of the IP offices from all 10 ASEAN member states. The “Joint Statement on Korea-ASEAN Intellectual Property” was also adopted to lay a foundation for deeper cooperation toward the achievement of IP-driven mutual prosperity.

Specifically, the two sides agreed to cooperate in creating strong and competitive patents to promote a healthy

IP ecosystem, building respect for the value of IP, and utilizing IP to implement IP-oriented business management. Furthermore, discussions were made on utilizing KIPO's experiences in providing need-based IP education programs and eventually establishing a customized IP education institution for ASEAN.

Additionally, the two sides agreed to pursue a Knowledge Sharing Program (KSP) follow-up project to enhance IPR infrastructure in ASEAN and explored the possibility of implementing patent examination cooperation. These efforts are expected to contribute to the enhancement of IP capacity and cultivation of an IP-friendly environment, across ASEAN. The next Korea-ASEAN Heads of IP Office Meeting is planned to be held in one of the 10 ASEAN member states in November 2020.

Patent Recognition Program Implemented in Cambodia

KIPO and the Ministry of Industry and Handicraft (MIH) of the Kingdom of Cambodia met with each other in August 2019 to sign an MOU on an implementation of a Patent Recognition Program (PRP). This program allows a patent granted by KIPO to be expeditiously recognized in Cambodia at the request of the applicant as long as certain requirements are met.

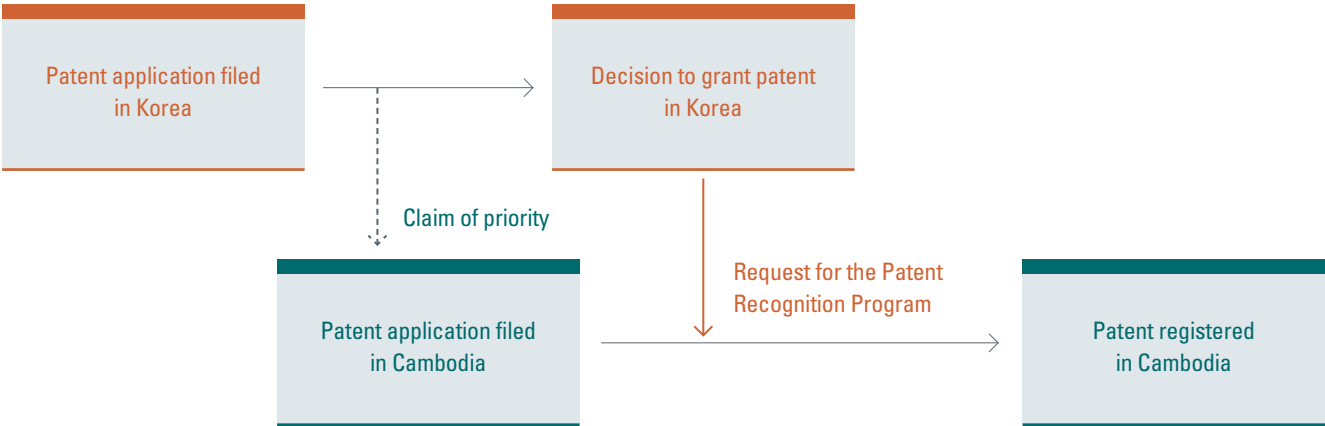
After the implementation of the PRP on November 1, 2019, the first patent under the PRP system was registered in Cambodia by November 18, 2019, which was celebrated by the two organizations. Although this particular patent was yet to be examined since being first filed in Cambodia in 2015, patent registration was granted within a month after the PRP was put in place.

4) ASEAN (10 countries): Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar, the Philippines, Singapore, Thailand, and Vietnam.

Expanding Korean IP Administration Services Overseas

KIPO and MIH expect this cooperation program to be a useful instrument to help applicants gain prompt IP protection in Cambodia, and eventually improve the business environment for Korean companies, which may lead to increased investment. As with Cambodia, KIPO plans to expand this kind of examination cooperation into other ASEAN countries as well.

Process of a Patent Recognition Program Request



Based on its high-quality examination capabilities and experience in IP system operation, KIPO is making efforts to spread Korea’s IP administration services to Middle Eastern countries. From 2014 to the present, KIPO experts have been dispatched three times to the United Arab Emirates (UAE) to carry out substantive patent examination and support the local government in establishing an automated IP administration system that is modeled on Korean administrative practices.

KIPO went on to sign a contract with the Saudi Authority for Intellectual Property (SAIP) in March and June 2019. Experts were sent to carry out four cooperation projects with SAIP which includes:

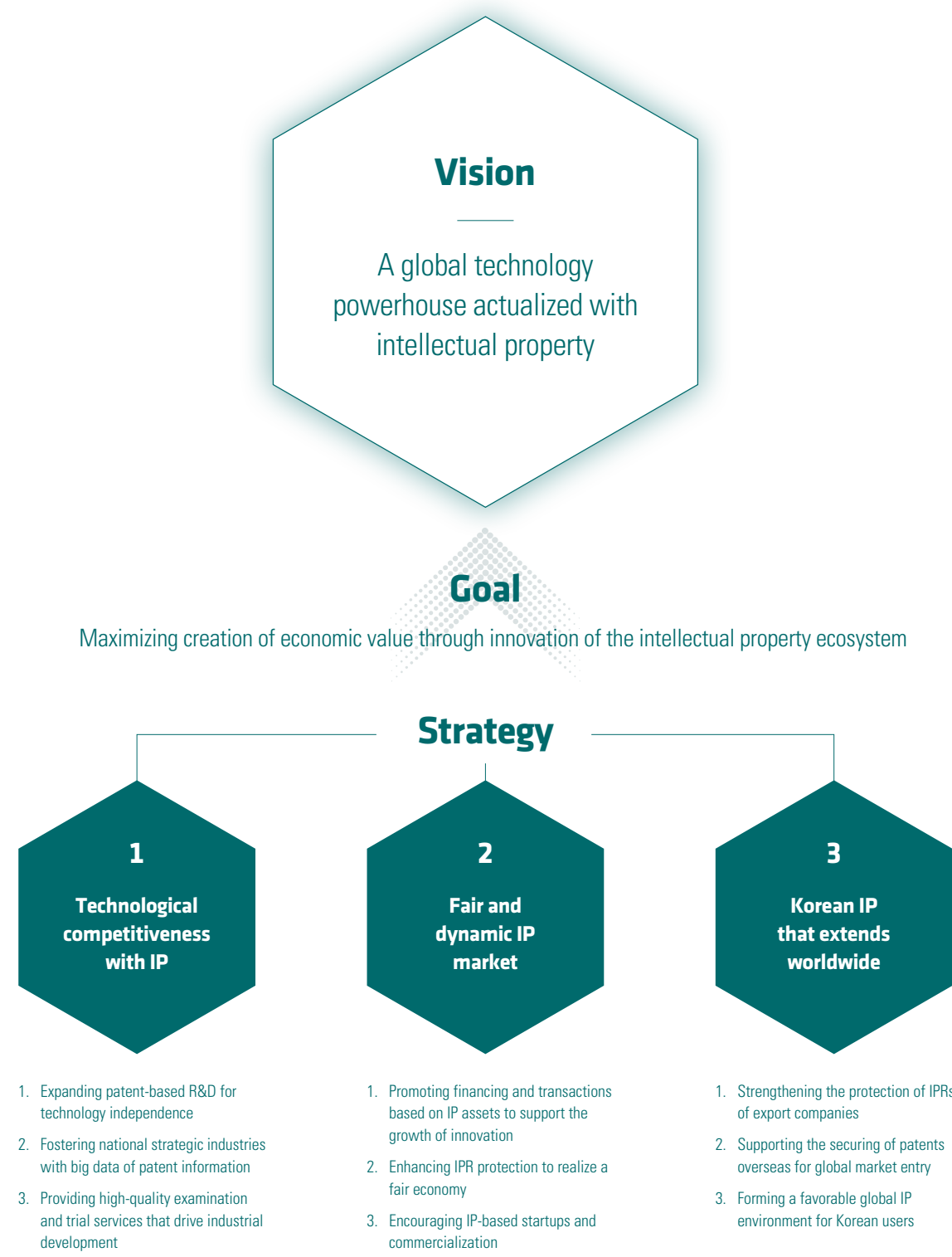
establishing a national IP strategy; developing an automated IP administration system; organizing a training program in Korea for Saudi Arabia patent examiners; and providing IPR consultations for local users, applicants and small businesses. Out of the total 15 IP experts agreed to be dispatched, 11 experts from KIPO are currently on-site carrying out the projects.

Based on the experience with the UAE and the Kingdom of Saudi Arabia, KIPO will continue to identify and pursue cooperation where the demand for Korean IP administration services is greatest among the other Middle Eastern countries as well as other nations.

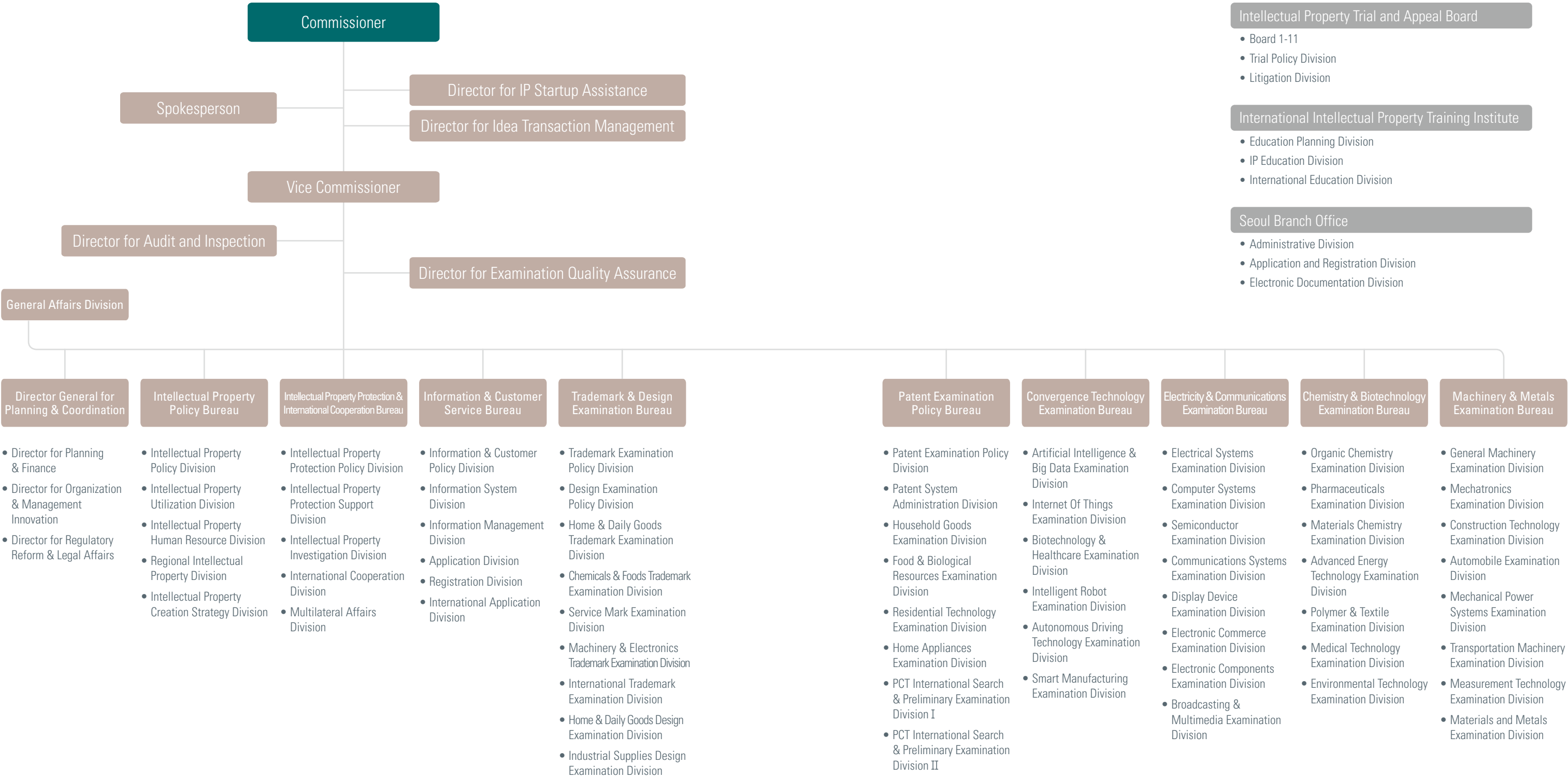


Appendix

KIPO Vision & Strategy



KIPO Organization Chart



Applications

Application by IPR type

(unit: cases)

Category	2015	2016	2017	2018	2019
Patents	213,694	208,830	204,775	209,992	218,975
Utility models	8,711	7,767	6,811	6,232	5,447
Subtotal	222,405	216,597	211,586	216,224	224,422
Designs	67,954 (70,190)	64,678 (66,728)	62,528 (64,986)	62,823 (65,434)	64,111 (66,637)
Trademarks	185,443 (239,334)	170,347 (204,012)	168,556 (202,539)	185,968 (232,109)	204,998 (252,309)
Total	475,802 (533,929)	451,622 (696,167)	442,670 (485,922)	465,015 (513,767)	493,531 (543,368)

Note: Figures in parentheses include multiple applications.

PCT applications

(unit: cases)

Category	2015	2016	2017	2018	2019
Number of applications	14,594	15,595	15,790	16,991	18,885
Growth rate	11.1%	6.8%	1.2%	7.6%	11.1%

International trademark applications under the Madrid System

(unit: cases)

Category	2015	2016	2017	2018	2019
Korea as office of origin	990	942	1,053	1,322	1,419
Korea as designated office	12,931	11,259	14,362	14,373	16,509

International design applications under the Hague System

(unit: cases)

Category	2016	2017	2018	2019
Korea as office of origin	104	133	116	178
Korea as designated office	981	925	857	928

Comparison of domestic and foreign applications

(unit: cases)

Category			2015	2016	2017	2018	2019
Patents	Domestic	Cases	167,273	163,424	159,095	162,576	171,606
		Ratio	78.3%	78.3%	77.7%	77.40%	78.4%
	Foreign	Cases	46,421	45,406	45,680	47,416	47,396
		Ratio	21.7%	21.7%	22.3%	22.60%	21.6%
	Total		213,694	208,830	204,775	209,992	218,975
Utility models	Domestic	Cases	8,294	7,395	6,448	5,768	4,975
		Ratio	95.2%	95.2%	94.7%	92.60%	91.3%
	Foreign	Cases	417	372	363	464	472
		Ratio	4.8%	4.8%	5.3%	7.40%	8.7%
	Total		8,711	7,767	6,811	6,232	5,447
Designs	Domestic	Cases	64,081 (65,895)	61,491 (62,618)	59,085 (60,379)	58,699 (60,021)	59,877 (61,204)
		Ratio	94.3% (91.3%)	95.1% (93.8%)	94.5% (92.9%)	93.4% (91.7%)	93.3% (91.8%)
	Foreign	Cases	3,873 (6,295)	3,187 (4,110)	3,443 (4,607)	4,124 (5,413)	4,234 (5,433)
		Ratio	5.7% (8.7%)	4.9% (6.2%)	5.5% (7.1%)	6.6% (8.3%)	6.7% (8.2%)
	Total		67,954 (72,190)	64,678 (66,728)	62,528 (64,986)	62,823 (65,434)	64,111 (66,637)
Trademarks	Domestic	Cases	160,033 (191,485)	157,107 (183,612)	155,674 (181,229)	170,545 (207,958)	190,204 (228,530)
		Ratio	86.3% (80.0%)	92.2% (90.0%)	92.4% (89.5%)	91.7% (89.6%)	92.8% (90.6%)
	Foreign	Cases	25,410 (47,849)	13,240 (20,400)	12,882 (21,310)	15,423 (24,151)	14,794 (23,779)
		Ratio	13.7% (20.0%)	7.8% (10.0%)	7.6% (10.5%)	8.3% (10.4%)	7.2% (9.4%)
	Total		185,443 (239,334)	170,347 (204,012)	168,556 (202,539)	185,968 (232,109)	204,998 (252,309)
Total	Domestic	Cases	399,681 (257,380)	389,417 (417,049)	380,302 (407,151)	397,588 (436,323)	426,662 (466,315)
		Ratio	84.0% (48.2%)	86.2% (85.6%)	85.9% (85.0%)	85.5% (84.9%)	86.5% (85.8%)
	Foreign	Cases	76,121 (54,144)	62,205 (70,288)	62,368 (71,960)	67,427 (77,444)	66,869 (77,053)
		Ratio	16.0% (10.1%)	13.8% (14.4%)	14.1% (15.0%)	14.5% (15.1%)	13.5% (14.2%)
	Total		475,802 (533,929)	451,622 (487,337)	442,670 (479,111)	465,015 (513,767)	493,531 (543,368)

Note: Figures in parentheses include multiple applications.

Patent and utility model applications by technological field in 2019

(unit: cases)

Classification	Patents			Utility models		
	Domestic	Foreign	Subtotal	Domestic	Foreign	Subtotal
Electrical machinery, apparatus, energy	12,426	3,125	15,551	276	43	319
Audio-visual technology	5,329	1,356	6,685	108	15	123
Telecommunications	2,794	687	3,481	33	4	37
Digital communication	7,975	2,633	10,608	5	-	5
Basic communication processes	474	400	874	-	1	1
Computer technology	9,531	2,637	12,168	48	13	61
IT methods for management	10,321	534	10,855	26	5	31
Semiconductors	7,346	4,023	11,369	9	6	15
Optics	3,004	2,152	5,156	66	20	86
Measurement	6,256	1,618	7,874	85	8	93
Analysis of biological materials	621	250	871	2	2	4
Control	3,969	459	4,428	74	5	79
Medical technology	8,174	1,899	10,073	265	42	307
Organic fine chemistry	3,869	2,355	6,224	-	-	-
Biotechnology	3,071	1,926	4,997	-	-	-
Pharmaceuticals	2,838	1,847	4,685	-	-	-
Macromolecular chemistry, polymers	1,979	1,785	3,764	2		2
Food chemistry	3,928	284	4,212	26	4	30
Basic materials chemistry	2,841	1,816	4,657	15	3	18
Materials, metallurgy	2,731	1,462	4,193	8	2	10
Surface technology, coating	2,148	1,495	3,643	25	8	33
Micro-structural and nano-technology	36	27	63	-	-	-
Chemical engineering	3,644	950	4,594	85	16	101
Environmental technology	3,436	470	3,906	98	9	107
Handling	4,422	901	5,323	331	24	355
Machine tools	3,778	1,101	4,879	153	28	181
Engines, pumps, turbines	2,471	1,073	3,544	60	13	73
Textile and paper machines	1,733	619	2,352	30	3	33
Other special machines	6,729	1,463	8,192	319	12	331
Thermal processes and apparatus	3,480	375	3,855	132	13	145
Mechanical elements	2,946	1,070	4,016	141	38	179
Transport	8,969	1,269	10,238	318	15	333

(unit: cases)

Classification	Patents			Utility models		
	Domestic	Foreign	Subtotal	Domestic	Foreign	Subtotal
Furniture, games	6,078	572	6,650	729	56	785
Other consumer goods	6,216	1,020	7,236	704	38	742
Civil engineering	8,886	513	9,399	499	13	512
Others	7,157	1,203	8,360	303	13	316
Total	171,606	47,369	218,975	4,975	472	5,447

Note: Figures for 2019 are preliminary.

Patent applications in biotechnology

(unit: cases)

Category	2015		2016		2017		2018		2019	
	Cases	Ratio	Cases	Ratio	Cases	Ratio	Cases	Ratio	Cases	Ratio
Domestic	5,601	74.0%	6,700	75.1%	7,328	74.9%	7,239	72.2%	7,269	71.0%
Foreign	1,972	26.0%	2,222	24.9%	2,462	25.1%	2,794	27.8%	2,973	29.0%
Total	7,572	100%	8,922	100%	9,790	100%	10,033	100%	10,242	100%

Note1: Figures for 2019 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; 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	2015		2016		2017		2018		2019	
	Cases	Ratio	Cases	Ratio	Cases	Ratio	Cases	Ratio	Cases	Ratio
Domestic	8,621	94.4%	9,381	94.7%	8,852	95.2%	9,754	94.8%	10,321	95.1%
Foreign	510	5.6%	522	5.3%	446	4.8%	536	5.2%	534	4.9%
Total	9,131	100%	9,903	100%	9,298	100%	10,290	100%	10,855	100%

Note1: Figures for 2019 are preliminary.

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

Applications by residents of foreign countries/regions in 2019

(unit: cases)

Countries/Regions	Patent & Utility models		Designs		Trademarks		Total
	Domestic	PCT	Domestic	Hague	Domestic	Madrid	
United States of America	1,674	11,472	1,386 (1,985)	101 (273)	3,652 (6,478)	3,256 (5,845)	21,541 (27,727)
Japan	4,426	10,597	977 (1,160)	114 (238)	2,053 (4,111)	1,807 (3,836)	19,974 (24,368)
China	739	3,159	845 (932)	39 (79)	5,055 (6,127)	2,585 (4,112)	12,422 (15,148)
Germany	744	3,489	113 (147)	110 (386)	243 (511)	1,731 (5,245)	6,430 (10,522)
France	173	1,377	135 (178)	97 (228)	363 (505)	1,013 (2,613)	3,158 (5,074)
Switzerland	166	1,144	107 (138)	85 (272)	241 (382)	946 (2,342)	2,689 (4,444)
United Kingdom	103	963	61 (102)	30 (69)	522 (1,027)	739 (1,983)	2,418 (4,247)
Italy	65	400	41 (60)	136 (269)	157 (231)	861 (1,736)	1,660 (2,761)
Netherlands	104	887	177 (206)	39 (172)	70 (156)	286 (635)	1,563 (2,160)
Taiwan, Province of China	1,149	105	61 (68)	-	475 (709)	-	1,790 (2,031)
Sweden	76	716	45 (101)	17 (40)	61 (124)	271 (718)	1,186 (1,775)
Australia	11	215	33 (34)	-	152 (195)	358 (765)	769 (1,220)
Singapore	54	114	6 (17)	4 (6)	209 (395)	265 (622)	652 (1,208)
Canada	59	356	36 (59)	3 (6)	285 (551)	64 (102)	803 (1,133)
Finland	18	231	1 (1)	9 (27)	105 (384)	116 (358)	480 (1,019)
Denmark	12	171	29 (29)	26 (65)	31 (77)	212 (524)	481 (878)
Spain	11	119	5 (6)	5 (8)	75 (97)	290 (543)	505 (784)
Austria	88	247	1 (1)	3 (9)	12 (31)	166 (484)	517 (860)
Belgium	28	296	2 (3)	5 (12)	19 (27)	140 (284)	490 (650)
Cayman Islands	7	386	23 (26)	-	63 (228)	14 (46)	493 (693)
Israel	60	300	33 (41)	2 (4)	35 (50)	91 (150)	521 (605)
Russian Federation	5	89	-	2 (2)	28 (34)	138 (322)	262 (452)
Norway	4	114	3 (4)	6 (14)	7 (12)	86 (330)	220 (478)
Thailand	7	44	9 (12)	-	133 (184)	46 (53)	239 (300)
Luxembourg	8	118	42 (47)	1 (1)	21 (37)	70 (141)	260 (352)
Ireland	33	121	5 (5)	1 (2)	39 (67)	68 (102)	267 (330)
Turkey	4	35	13 (14)	1 (2)	12 (17)	110 (230)	175 (302)
New Zealand	7	30	8 (8)	-	36 (75)	70 (130)	151 (250)
Viet Nam	3	3	-	-	42 (53)	65 (134)	113 (193)
Czech Republic	1	24	1 (1)	-	7 (13)	51 (197)	84 (236)
Virgin Islands (British)	-	4	-	-	63 (169)	19 (34)	86 (207)
Poland	7	35	-	1 (1)	5 (7)	75 (157)	123 (207)
India	12	121	5 (5)	-	21 (21)	33 (52)	192 (211)
Liechtenstein	8	28	6 (16)	7 (28)	-	43 (78)	92 (158)

(unit: cases)

Countries/Regions	Patent & Utility models		Designs		Trademarks		Total
	Domestic	PCT	Domestic	Hague	Domestic	Madrid	
Cyprus	2	7	-	2 (2)	4 (6)	37 (103)	52 (120)
Malaysia	11	10	3 (3)	-	56 (59)	4 (10)	84 (93)
Saudi Arabia	-	105	-	-	9 (9)	3 (7)	117 (121)
Mexico	-	23	1 (1)	-	35 (51)	7 (9)	66 (84)
Indonesia	1	-	4 (4)	-	41 (58)	6 (9)	52 (72)
Portugal	-	24	1 (1)	1 (3)	9 (10)	25 (39)	60 (77)
Barbados	35	15	5 (5)	-	15 (30)	1 (1)	71 (86)
Greece	1	34	1 (1)	1 (1)	8 (18)	13 (27)	58 (82)
Others	2	-	-	-	35 (61)	-	37 (63)
Philippines	-	2	-	-	23 (39)	12 (18)	37 (59)
United Arab Emirates	-	5	-	-	34 (44)	5 (5)	44 (54)
Malta	-	11	-	-	4 (7)	20 (48)	35 (66)
Hungary	1	14	1 (3)	2 (2)	2 (4)	16 (44)	36 (68)
Ukraine	-	2	1 (1)	3 (3)	-	29 (48)	35 (54)
Bulgaria	-	3	-	1 (1)	-	26 (56)	30 (60)
Monaco	-	-	-	-	9 (9)	10 (57)	19 (66)
Chile	2	7	-	-	31 (34)	-	40 (43)
Brazil	-	18	-	-	17 (30)	-	35 (48)
Estonia	-	2	-	1 (1)	2 (2)	13 (37)	18 (42)
Romania	-	2	-	-	1 (1)	10 (43)	13 (46)
Slovenia	1	2	-	1 (1)	-	16 (33)	20 (37)
Jersey(U.K.)	-	3	-	-	-	11 (37)	14 (40)
Latvia	-	2	-	-	-	18 (29)	20 (31)
Slovakia	-	8	-	-	-	10 (28)	18 (36)
Argentina	-	1	-	-	18 (22)	1 (1)	20 (24)
South Africa	-	14	2 (2)	-	10 (13)	1 (1)	27 (30)
Croatia	-	2	-	-	2 (2)	13 (23)	17 (27)
Lithuania	-	10	-	-	1 (1)	10 (17)	21 (28)
Belarus	2	-	-	-	7 (7)	6 (13)	15 (22)
Qatar	-	1	-	-	13 (20)	-	14 (21)
Uzbekistan	9	1	-	-	10 (10)	1 (1)	21 (21)
Antigua and Barbuda	-	28	-	-	1 (1)	-	29 (29)
The Hong Kong Special Administrative Region of the People's Republic of China	1	3	-	-	12 (14)	-	16 (18)

(unit: cases)

Countries/Regions	Patent & Utility models		Designs		Trademarks		Total
	Domestic	PCT	Domestic	Hague	Domestic	Madrid	
Iceland	-	1	-	1 (1)	-	11 (14)	13 (16)
Morocco	-	-	-	-	-	8 (20)	8 (20)
Panama	-	-	-	-	7 (14)	-	7 (14)
Kazakhstan	-	1	-	-	7 (7)	2 (4)	10 (12)
Serbia	-	-	-	1 (1)	-	5 (14)	6 (15)
Pakistan	1	1	1 (1)	-	6 (10)	-	9 (13)
Iran (Islamic Republic of)	1	-	-	-	-	6 (12)	7 (13)
Egypt	-	-	-	-	3 (9)	3 (3)	6 (12)
Bermuda	-	2	-	-	4 (4)	3 (5)	9 (11)
Republic of Moldova	-	-	-	-	-	8 (9)	8 (9)
Colombia	-	-	-	-	6 (8)	1 (1)	7 (9)
Tunisia	-	-	-	-	-	8 (8)	8 (8)
Lebanon	-	-	-	-	7 (9)	-	7 (9)
Seychelles	-	1	-	-	5 (8)	-	6 (9)
Kyrgyzstan	-	-	-	-	-	1 (12)	1 (12)
Mongolia	1	-	-	-	4 (4)	1 (3)	6 (8)
The Macao Special Administrative Region of the People's Republic of China	-	1	1 (1)	-	4 (5)	-	6 (7)
Cuba	-	2	-	-	-	5 (5)	7 (7)
Kuwait	-	1	-	-	5 (6)	-	6 (7)
Peru	-	1	-	-	4 (7)	-	5 (8)
Costa Rica	1	2	-	-	3 (5)	-	6 (8)
Belize	-	1	-	-	5 (5)	-	6 (6)
Marshall Islands	-	-	-	-	-	3 (7)	3 (7)
Samoa	2	1	-	-	2 (4)	-	5 (7)
Georgia	-	-	-	-	-	3 (5)	3 (5)
Armenia	-	-	-	-	1 (1)	3 (3)	4 (4)
Sri Lanka	-	2	-	-	1 (1)	2 (2)	5 (5)
Brunei Darussalam	-	1	-	-	-	2 (3)	3 (4)
Bahamas	-	-	-	-	1 (5)	-	1 (5)
Bahrain	-	2	-	-	2 (2)	-	4 (4)
Saint Kitts and Nevis	-	2	-	-	2 (2)	-	4 (4)
Andorra	-	1	-	-	2 (2)	-	3 (3)
Myanmar	2	-	-	-	1 (1)	-	3 (3)

(unit: cases)

Countries/Regions	Patent & Utility models		Designs		Trademarks		Total
	Domestic	PCT	Domestic	Hague	Domestic	Madrid	
Nigeria	-	-	2 (2)	-	-	-	2 (2)
Gibraltar	-	-	-	-	-	2 (2)	2 (2)
Lao People's Democratic Republic	-	-	-	-	-	2 (2)	2 (2)
The former Yugoslav Republic of Macedonia	-	-	-	-	-	1 (3)	1 (3)
Montenegro	-	-	-	-	-	1 (3)	1 (3)
Cameroon	-	-	-	-	-	1 (2)	1 (2)
Libyan Arab Jamahiriya	-	1	-	-	1 (1)	-	2 (2)
Ghana	-	-	-	-	1 (2)	-	1 (2)
Maldives	-	-	-	-	1 (2)	-	1 (2)
Ethiopia	-	-	-	-	1 (1)	-	1 (1)
Commonwealth of Puerto Rico	-	-	-	-	1 (1)	-	1 (1)
Namibia	-	-	-	-	1 (1)	-	1 (1)
Tajikistan	-	-	-	-	1 (1)	-	1 (1)
Netherlands Antilles	-	-	-	-	1 (1)	-	1 (1)
Liberia	-	-	-	-	1 (1)	-	1 (1)
Guernsey	-	-	-	-	-	1 (1)	1 (1)
Jordan	-	2	-	-	-	-	2 (2)
Anguilla	-	-	1 (1)	-	-	-	1 (1)
Mauritius	-	-	-	-	-	1 (1)	1 (1)
Trinidad and Tobago	-	-	1 (1)	-	-	-	1 (1)
Azerbaijan	-	-	-	-	-	1 (1)	1 (1)
Syrian Arab Republic	-	-	-	-	-	1 (1)	1 (1)
Oman	-	-	-	-	1 (1)	-	1 (1)
Cambodia	-	-	-	-	1 (1)	-	1 (1)
Nepal	1	-	-	-	-	-	1 (1)
European Patent Office (EPO)	1	-	-	-	-	-	1 (1)
Bangladesh	1	-	-	-	-	-	1 (1)
San Marino	-	1	-	-	-	-	1 (1)
Total	9,945	37,896	4,234 (5,433)	858 (2,229)	14,794 (23,779)	16,495 (35,793)	84,222 (115,075)

Note: Figures in parentheses include multiple applications.

Examinations

Patents and utility models

(unit: cases)

Category			2015	2016	2017	2018	2019
Patents	First Action	Approval of registration	10,433	7,872	9,891	9,126	9,637
		Notice of preliminary rejection or amendment	149,484	163,347	158,013	148,772	158,527
		Other notices	947	991	1,012	1,202	1,613
		Withdrawal or abandonment	3,909	2,582	2,196	2,190	2,594
		Total	164,773	174,792	171,112	161,290	172,371
	Final Decisions	Approval of registration	92,748	101,678	110,408	106,129	115,302
		Rejection or cancellation	52,963	66,055	62,869	55,613	50,944
		Withdrawal abandonment, annulment, or rejection	3,909	4,320	3,841	3,636	3,914
		Total	149,620	172,053	177,118	165,378	170,160
Utility models	First Action	Approval of registration	425	317	337	235	225
		Notice of preliminary rejection or amendment	6,856	6,848	6,161	5,258	4,739
		Other notices	39	25	13	12	21
		Withdrawal or abandonment	249	131	122	113	109
		Total	7,569	7,321	6,633	5,618	5,094
	Final Decisions	Approval of registration	3,204	2,935	3,040	2,619	2,329
		Rejection or cancellation	3,775	4,214	3,729	3,282	2,815
		Withdrawal abandonment, annulment, or rejection	249	268	234	196	217
		Total	7,228	7,417	7,003	6,097	5,361

Designs and trademarks

(unit: cases)

Category			2015	2016	2017	2018	2019
Designs	First Action	Publication/approval of registration	27,800 (28,987)	31,398 (32,755)	29,453 (30,598)	27,559 (28,708)	31,029 (32,218)
		Notice of preliminary rejection	38,041 (40,394)	31,540 (33,951)	30,275 (32,647)	29,654 (31,962)	29,303 (31,778)
		Other notices	-	-	-	-	-
		Total	65,841 (69,381)	62,938 (66,706)	59,728 (63,245)	57,213 (60,670)	60,332 (63,996)
	Final Decisions	Approval of registration	57,006 (59,068)	55,783 (58,302)	51,166 (53,480)	50,161 (52,750)	53,987 (56,989)
		Rejection	9,404 (10,072)	8,396 (9,496)	7,190 (7,978)	7,356 (8,089)	7,343 (8,055)
		Total	66,410 (69,140)	64,179 (67,798)	58,356 (61,458)	57,517 (60,839)	61,330 (65,044)
Trademarks	First Action	Publication/approval of registration	96,005 (108,545)	98,921 (112,521)	94,490 (107,033)	96,236 (109,983)	98,557 (112,244)
		Notice of preliminary rejection	68,578 (90,758)	73,377 (106,332)	69,393 (97,656)	73,376 (106,978)	77,623 (116,298)
		Other notices	-	-	-	-	-
		Total	164,583 (199,303)	172,298(218,853)	163,883 (204,689)	169,612 (216,961)	176,180 (228,542)
	Final Decisions	Approval of registration	128,500 (154,670)	136,948(173,024)	133,378 (166,963)	133,359 (168,237)	145,794 (187,392)
		Rejection	31,745 (38,463)	33,015 (41,813)	31,773 (39,414)	29,873 (36,697)	32,014 (41,658)
		Total	160,245 (193,133)	169,963(214,837)	165,151 (206,377)	163,232 (204,934)	177,808 (229,050)

Note: Figures in parentheses include multiple applications.

Average first office action pendency

(unit: month)

Category	2015	2016	2017	2018	2019
Patents / Utility models	10.0	10.6	10.4	10.3	10.8
Trademarks	4.7	4.8	5.0	5.5	6.8
Designs	4.4	4.7	4.9	4.9	5.4

Average total pendency

(unit: month)

Category	2015	2016	2017	2018	2019
Patents / Utility models	16.0	16.2	15.9	15.8	15.6
Trademarks	10.0	9.6	9.8	10.4	11.1
Designs	68	5.9	6.2	6.5	6.9

PCT international search reports and preliminary examinations undertaken by KIPO

(unit: cases)

Category	2015	2016	2017	2018	2019
International Search Reports	28,468	28,176	25,955	24,123	27,167
International Preliminary Examinations	208	209	169	131	131

Note: Based on KIPO data

Registrations

Registrations by IPR type

(unit: cases)

Category	2015	2016	2017	2018	2019
Patents	101,873	108,875	120,662	119,014	125,661
Utility models	3,253	2,854	2,993	2,715	2,417
Subtotal	105,126	111,729	123,655	121,729	128,078
Designs	54,551	55,602	49,293	49,905	52,850
Trademarks	114,746	119,255	116,704	115,025	125,594
Total	274,423	286,586	289,652	286,659	306,522

Note: Trademark registration renewals are excluded.

Comparison of domestic and foreign registrations

(unit: cases)

Category			2015	2016	2017	2018	2019
Patents	Domestic	Cases	76,319	82,400	90,847	89,229	94,852
		Ratio	74.9%	75.7%	75.3%	75.0%	75.5%
	Foreign	Cases	25,554	26,475	29,815	29,785	30,809
		Ratio	25.1%	24.3%	24.7%	25.0%	24.5%
	Total		101,873	108,875	120,662	119,014	125,661
Utility models	Domestic	Cases	3,073	2,694	2,810	2,521	2,238
		Ratio	94.5%	94.4%	93.9%	92.9%	92.6%
	Foreign	Cases	180	160	183	194	179
		Ratio	5.5%	5.6%	6.1%	7.1%	7.4%
	Total		3,253	2,854	2,993	2,715	2,417
Designs	Domestic	Cases	49,933	50,242	44,052	44,150	46,011
		Ratio	91.5%	90.4%	89.4%	88.5%	87.1%
	Foreign	Cases	4,618	5,360	5,241	5,755	6,839
		Ratio	8.5%	9.6%	10.6%	11.5%	12.9%
	Total		54,551	55,602	49,293	49,905	52,850

(unit: cases)

Category			2015	2016	2017	2018	2019
Trademarks	Domestic	Cases	95,484	99,934	96,993	94,532	102,333
		Ratio	83.2%	83.8%	83.1%	82.2%	81.5%
	Foreign	Cases	19,262	19,321	19,711	20,493	23,261
		Ratio	16.8%	16.2%	16.9%	17.8%	18.5%
	Total		114,746	119,255	116,704	115,025	125,594
Total	Domestic	Cases	224,809	235,270	234,702	230,432	245,434
		Ratio	81.9%	82.1%	81.0%	80.4%	80.1%
	Foreign	Cases	49,614	51,316	54,950	56,227	61,088
		Ratio	18.1%	17.9%	19.0%	19.6%	19.9%
	Total		274,423	286,586	289,652	286,659	306,522

(unit: cases)

Classification	Patents			Utility models		
	Domestic	Foreign	Subtotal	Domestic	Foreign	Subtotal
Measurement	4,591	1,168	5,759	70	5	75
Analysis of biological materials	406	124	530	2	-	2
Control	1,965	312	2,277	30	1	31
Medical technology	3,693	945	4,638	124	5	129
Organic fine chemistry	2,052	1,319	3,371	1	-	1
Biotechnology	1,987	772	2,759	2	-	2
Pharmaceuticals	1,481	715	2,196	-	-	-
Macromolecular chemistry, polymers	1,091	1,192	2,283	-	-	-
Food chemistry	2,036	118	2,154	8	-	8
Basic materials chemistry	1,931	1,269	3,200	5	-	5
Materials, metallurgy	2,133	986	3,119	5	1	6
Surface technology, coating	1,339	957	2,296	10	1	11
Micro-structural and nano-technology	53	39	92	-	-	-
Chemical engineering	2,260	620	2,880	42	5	47
Environmental technology	2,124	365	2,489	37	6	43
Handling	2,575	594	3,169	155	14	169
Machine tools	2,519	755	3,274	94	11	105
Engines, pumps, turbines	1,780	963	2,743	28	5	33
Textile and paper machines	1,227	473	1,700	13	2	15
Other special machines	3,944	928	4,872	179	6	185
Thermal processes and apparatus	2,031	242	2,273	66	5	71
Mechanical elements	1,889	758	2,647	68	20	88
Transport	5,190	1,155	6,345	134	8	142
Furniture, games	3,092	386	3,478	319	12	331
Other consumer goods	2,786	544	3,330	284	28	312
Civil engineering	5,725	387	6,112	267	4	271
Total	94,852	30,809	125,661	2,238	179	2,417

Note: Figures for 2019 are preliminary.

Patent and utility model registrations by technological field in 2019

(unit: cases)

Classification	Patents			Utility models		
	Domestic	Foreign	Subtotal	Domestic	Foreign	Subtotal
Electrical machinery, apparatus, energy	7,552	2,387	9,939	179	9	188
Audio-visual technology	3,340	1,110	4,450	57	5	62
Telecommunications	2,174	450	2,624	13	1	14
Digital communication	3,621	1,756	5,377	1	-	1
Basic communication processes	370	277	647	-	-	-
Computer technology	5,130	2,104	7,234	15	14	29
IT methods for management	3,500	241	3,741	8	-	8
Semiconductors	4,448	2,773	7,221	8	6	14
Optics	2,688	1,573	4,261	14	5	19

Patent registrations in biotechnology

(unit: cases)

Category	2015		2016		2017		2018		2019	
	Cases	Ratio	Cases	Ratio	Cases	Ratio	Cases	Ratio	Cases	Ratio
Domestic	2,917	77.3%	3,507	78.6%	4,709	80.9%	4,524	79.3%	4,534	78.4%
Foreign	857	22.7%	955	21.4%	1,111	19.1%	1,149	20.3%	1,249	21.6%
Total	3,774	100%	4,462	100%	5,820	100%	5,673	100%	5,783	100%

Note1: Figures for 2019 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; 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	2015		2016		2017		2018		2019	
	Cases	Ratio	Cases	Ratio	Cases	Ratio	Cases	Ratio	Cases	Ratio
Domestic	2,023	92.9%	3,145	93.9%	3,782	93.7%	3,560	93.1%	3,500	93.6%
Foreign	154	7.1%	204	6.1%	253	6.3%	262	6.9%	241	6.4%
Total	2,177	100%	3,349	100%	4,035	100%	3,822	100%	3,741	100%

Note1: Figures for 2019 are preliminary.

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

Registrations by resident of foreign countries/regions in 2019

(unit: cases)

Countries/Regions	Patent & Utility models		Designs		Trademarks		Total
	Domestic	PCT	Domestic	Hague	Domestic	Madrid	
United States of America	7,434	767	1,765	294	2,987 (5,272)	2,401 (4,090)	15,648 (19,622)
Japan	10,351	1,014	1,300	253	1,860 (3,193)	1,277 (2,590)	16,055 (18,701)
China	1,838	228	754	39	3,465 (4,383)	1,222 (1,866)	7,546 (9,108)
Germany	2,619	242	201	357	195 (371)	1,632 (4,373)	5,246 (8,163)
Switzerland	621	50	134	184	270 (517)	653 (1,725)	1,912 (3,231)
France	984	113	97	183	272 (386)	847 (1,924)	2,496 (3,687)
United Kingdom	521	51	88	47	434 (892)	471 (1,291)	1,612 (2,890)

(unit: cases)

Countries/Regions	Patent & Utility models		Designs		Trademarks		Total
	Domestic	PCT	Domestic	Hague	Domestic	Madrid	
Sweden	450	36	85	69	60 (134)	213 (669)	913 (1,443)
Canada	187	21	83	-	287 (487)	12 (22)	590 (800)
Netherlands	601	70	66	145	44 (74)	229 (552)	1,155 (1,508)
Italy	247	35	64	133	117 (207)	704 (1,484)	1,300 (2,170)
Taiwan, Province of China	648	78	49	1	312 (410)	-	1,088 (1,186)
Australia	78	12	40	-	110 (149)	322 (640)	562 (919)
Israel	96	12	32	-	33 (41)	75 (159)	248 (340)
Luxembourg	61	9	31	2	29 (64)	82 (275)	214 (442)
Denmark	92	9	28	15	21 (41)	148 (396)	313 (581)
Singapore	74	4	24	9	191 (266)	117 (199)	419 (576)
Barbados	64	2	20	-	9 (22)	1 (1)	96 (109)
Belgium	124	14	18	15	24 (35)	107 (196)	302 (402)
The Macao Special Administrative Region of the People's Republic of China	-	-	14	-	4 (5)	-	18 (19)
Finland	195	24	9	22	11 (24)	131 (419)	392 (693)
India	49	6	5	-	19 (26)	10 (14)	89 (100)
Spain	68	7	4	9	40 (45)	216 (385)	344 (518)
Malaysia	13	3	4	-	43 (44)	1 (3)	64 (67)
Norway	40	4	4	16	10 (12)	63 (183)	137 (259)
New Zealand	26	3	4	-	30 (52)	71 (141)	134 (226)
Brazil	8	1	3	-	16 (23)	-	28 (35)
Mexico	9	-	3	-	29 (35)	6 (15)	47 (62)
Ireland	99	4	2	4	65 (105)	47 (87)	221 (301)
Liechtenstein	16	-	2	38	2 (2)	38 (128)	96 (186)
Viet Nam	-	-	2	-	21 (24)	29 (59)	52 (85)
Anguilla	-	-	1	-	-	-	1 (1)
Czech Republic	13	1	1	5	11 (17)	24 (47)	55 (84)
Estonia	-	-	1	2	-	7 (19)	10 (22)
Greece	13	2	1	-	3 (4)	14 (20)	33 (40)
Hungary	9	-	1	-	5 (6)	11 (42)	26 (58)
Indonesia	1	-	1	-	46 (62)	3 (7)	51 (71)
Cayman Islands	56	6	1	-	60 (207)	6 (17)	129 (287)
Latvia	-	-	1	-	-	5 (10)	6 (11)
Poland	14	1	1	3	3 (5)	21 (45)	43 (69)

(unit: cases)

Countries/Regions	Patent & Utility models		Designs		Trademarks		Total
	Domestic	PCT	Domestic	Hague	Domestic	Madrid	
Thailand	11	1	1	-	79 (95)	16 (30)	108 (138)
West Indies	-	-	-	-	2 (2)	-	2 (2)
Commonwealth of Puerto Rico	-	-	-	-	1 (1)	-	1 (1)
United Arab Emirates	4	-	-	-	30 (46)	2 (7)	36 (57)
Antigua and Barbuda	5	-	-	-	1 (5)	-	6 (10)
Armenia	-	-	-	-	1 (1)	3 (3)	4 (4)
Netherlands Antilles	-	-	-	-	2 (2)	-	2 (2)
Argentina	-	-	-	-	7 (7)	-	7 (7)
Austria	206	22	-	14	25 (131)	102 (285)	369 (658)
Bangladesh	2	-	-	-	-	-	2 (2)
Bulgaria	5	-	-	-	-	21 (34)	26 (39)
Bahrain	-	-	-	-	1 (1)	-	1 (1)
Bermuda	1	-	-	-	7 (8)	5 (10)	13 (19)
Brunei Darussalam	-	-	-	-	-	1 (4)	1 (4)
Bolivia	-	-	-	-	1 (3)	-	1 (3)
Bahamas	4	-	-	-	5 (9)	-	9 (13)
Belarus	-	-	-	-	-	1 (8)	1 (8)
Belize	1	-	-	-	-	2 (3)	3 (4)
Chile	6	-	-	-	25 (29)	-	31 (35)
Colombia	-	-	-	-	4 (6)	4 (11)	8 (17)
Costa Rica	1	-	-	-	23 (30)	-	24 (31)
Cuba	3	-	-	-	3 (8)	3 (3)	9 (14)
Curacao	-	-	-	-	-	2 (2)	2 (2)
Cyprus	4	2	-	-	7 (8)	19 (39)	32 (53)
European Patent Office (EPO)	-	-	-	-	2 (7)	-	2 (7)
Georgia	-	-	-	-	-	3 (4)	3 (4)
The Hong Kong Special Administrative Region of the People's Republic of China	-	-	-	-	10 (17)	-	10 (17)
Honduras	-	-	-	-	1 (2)	-	1 (2)
Croatia	-	-	-	2	2 (4)	-	4 (6)
Haiti	1	-	-	-	-	-	1 (1)
Iraq	-	-	-	-	2 (5)	-	2 (5)
Iran (Islamic Republic of)	1	-	-	-	1 (1)	1 (2)	3 (4)
Iceland	-	-	-	-	-	6 (16)	6 (16)
Jersey (U.K.)	2	-	-	-	-	2 (4)	4 (6)
Jamaica	-	-	-	-	3 (9)	-	3 (9)
Jordan	3	-	-	-	1 (3)	-	4 (6)
Kenya	-	-	-	-	-	1 (1)	1 (1)
Kyrgyzstan	-	-	-	1	-	-	1 (1)
Saint Kitts and Nevis	-	-	-	-	1 (3)	-	1 (3)

(unit: cases)

Countries/Regions	Patent & Utility models		Designs		Trademarks		Total
	Domestic	PCT	Domestic	Hague	Domestic	Madrid	
Kuwait	-	-	-	-	10 (11)	-	10 (11)
Kazakhstan	1	-	-	-	3 (3)	1 (8)	5 (12)
Lebanon	-	-	-	-	1 (1)	-	1 (1)
Sri Lanka	-	-	-	-	2 (4)	-	2 (4)
Lithuania	3	-	-	1	-	9 (16)	13 (20)
Morocco	-	-	-	-	-	1 (5)	1 (5)
Monaco	-	-	-	-	5 (5)	5 (9)	10 (14)
Republic of Moldova	-	-	-	-	-	2 (3)	2 (3)
Mongolia	-	-	-	-	1 (3)	2 (4)	3 (7)
Malta	9	-	-	1	4 (6)	4 (9)	18 (25)
Mauritius	-	-	-	-	7 (13)	-	7 (13)
Maldives	-	-	-	-	1 (2)	-	1 (2)
Panama	-	-	-	-	4 (6)	-	4 (6)
Peru	-	-	-	-	2 (3)	-	2 (3)
Philippines	1	-	-	-	14 (15)	17 (28)	32 (44)
Pakistan	1	-	-	-	3 (4)	-	4 (5)
Portugal	6	-	-	3	4 (4)	35 (47)	48 (60)
Qatar	-	-	-	-	4 (7)	-	4 (7)
Romania	1	-	-	-	-	4 (6)	5 (7)
Serbia	-	-	-	-	-	1 (2)	1 (2)
Russian Federation	26	1	-	3	22 (23)	91 (236)	143 (289)
Saudi Arabia	57	7	-	-	13 (29)	-	77 (93)
Seychelles	-	-	-	-	23 (24)	-	23 (24)
Slovenia	1	-	-	1	-	4 (8)	6 (10)
Slovakia	2	-	-	6	-	3 (10)	11 (18)
San Marino	-	-	-	-	-	2 (6)	2 (6)
Syrian Arab Republic	-	-	-	-	-	1 (1)	1 (1)
Turkey	11	1	-	5	3 (6)	56 (101)	76 (124)
Ukraine	1	-	-	12	-	17 (27)	30 (40)
Uruguay	1	-	-	-	6 (6)	-	7 (7)
Uzbekistan	1	-	-	-	-	-	1 (1)
Virgin Islands (British)	8	2	-	-	42 (59)	12 (18)	64 (87)
Samoa	1	-	-	-	6 (6)	-	7 (7)
Yemen	-	-	-	-	2 (2)	-	2 (2)
South Africa	12	1	-	-	7 (14)	-	20 (27)
Others	-	-	-	-	1 (1)	9 (62)	10 (63)
Total	28,122	2,866	4,945	1,894	11,575 (18,342)	11,686 (25,165)	61,088 (81,334)

Note: Figures in parentheses include multiple applications

Trials and appeals

Trials and appeals requested

(unit: cases)

Category		2015	2016	2017	2018	2019
Appeal against examiner's decision to reject application	Patents	6,093	5,470	4,351	3,624	2,820
	Utility models	112	200	180	162	128
	Designs	119	109	90	102	58
	Trademarks	1,559 (2,293)	1,626 (2,284)	1,569 (2,295)	1,437 (2,046)	1,330 (1,868)
	Subtotal	7,883 (8,617)	7,405 (8,063)	6,190 (6,916)	5,325 (5,934)	4,336 (4,874)
Appeals against examiner's decision to dismiss amendment	Patents	-	1	1	1	-
	Utility models	-	-	-	-	-
	Designs	7 (15)	5	1	-	-
	Trademarks	6 (7)	5 (11)	-	-	3
	Subtotal	13 (22)	11 (17)	2	1	3
Appeals against examiner's decision of cancellation	Patents	-	-	-	-	-
	Utility models	1	-	-	-	-
	Designs	4	2	-	1	3
	Trademarks	-	-	-	-	-
	Subtotal	5	2	-	1	3
Trials for correction	Patents	134	145	136	128	127
	Utility models	6	9	4	-	2
	Designs	-	-	-	-	-
	Trademarks	-	-	-	-	-
	Subtotal	140	154	140	128	129
Invalidation	Patents	2,194	548	529	460	478
	Utility models	80	50	27	21	15
	Designs	209 (210)	247	194	207	215
	Trademarks	584 (658)	492 (553)	433 (486)	472 (559)	472 (541)
	Subtotal	3,067 (3,142)	1,337 (1,398)	1,183 (1,236)	1,160 (1,247)	1,180 (1,249)

(unit: cases)

Category		2015	2016	2017	2018	2019
Trials to confirm scope of IP right	Patents	691	632	671	512	348
	Utility models	53	47	29	20	21
	Designs	138	149	136	151	136
	Trademarks	93 (132)	101 (170)	90 (102)	158 (175)	103 (123)
	Subtotal	975 (1,014)	929 (998)	926 (938)	841 (858)	608 (628)
Cancellation trials on trademark registration	Patents	-	-	1	1	-
	Utility models	-	-	-	-	-
	Designs	-	-	-	17	-
	Trademarks	1903 (2305)	2,122 (2,526)	2,124 (2,474)	2,523 (3,011)	2,574 (3,193)
	Subtotal	1903 (2305)	2,122 (2,526)	2,125 (2,475)	2,541 (3,029)	2,574 (3,193)
Opposition of patent/ utility model	Patents			109	150	174
	Utility models			1	4	1
	Designs			1	-	-
	Trademarks			-	-	-
	Subtotal			111	154	175
Grand total	Patents	9,112	6,796	5,689	4,876	3,947
	Utility models	252	306	240	207	167
	Designs	477 (486)	512	421	478	412
	Trademarks	4,145 (5,395)	4,346 (5,544)	4,216 (5,357)	4,590 (5,791)	4,482 (5,728)
	Total	13,986 (15,245)	11,960 (13,158)	10,566 (11,565)	10,151 (11,352)	9,008 (10,254)

Note1: Figures in parentheses include multiple applications.

Note2: Opposition of patents / Utility model has been enforced from March, 2019

* 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		2015		2016		2017		2018		2019	
		Accep-tance	Ratio	Accep-tance	Ratio	Accep-tance	Ratio	Accep-tance	Ratio	Accep-tance	Ratio
Ex partes	Patents	1,046	30.4%	1,036	29.0%	1,078	30.3%	1,370	31.1%	1,977	36.3
	Utility models	29	27.6%	32	33.0%	33	26.0%	40	20.5%	48	24.2
	Designs	46 (54)	35.4% (39.1%)	50	43.1%	43	31.9%	21	20.6%	27	32.5
	Trademarks	844 (1,368)	52.4% (58.7%)	655 (1,053)	48.4% (53.1%)	605 (896)	54.8% (58.9%)	1,026 (1,648)	58.3% (63.1%)	1,017 (1,607)	55.2 (60.4)
	Subtotal	1,965 (2,497)	37.2% (41.5%)	1,773 (2,171)	41.5% (37.6%)	1,759 (2,050)	35.7% (38.4%)	2,457 (3,079)	38.0% (42.1%)	3,069 (3,659)	40.5 (43.6)
Inter partes	Patents	687	38.7%	526	42.2%	616	46.2%	552	49.1%	653	53.4
	Utility models	66	56.9%	52	50.5%	45	54.9%	19	35.2%	16	35.6
	Designs	161 (161)	47.5% (47.5%)	164 (166)	54.8% (55.1%)	187	47.9%	210	51.0%	142	48.3
	Trademarks	1,401 (1,653)	69.0% (68.1%)	1,436 (1,691)	65.2% (64.0%)	2,436 (2,760)	78.1% (76.9%)	1,747 (1,962)	70.1% (70.2%)	2,753 (3,173)	74.0 (73.6)
	Subtotal	2,315 (2,567)	54.4% (55.1%)	2,178 (2,435)	56.6% (56.7%)	3,284 (3,608)	66.7% (66.9%)	2,528 (2,743)	61.9 (62.6%)	3,564 (3,984)	67.5 (67.8)
Grand total	Patents	1,733	33.2%	1,562	32.4%	1,694	34.6%	1,922	34.7%	2,630	39.4
	Utility models	95	43.0%	84	42.0%	78	37.3%	59	23.7%	64	26.3
	Designs	207 (215)	44.1% (45.1%)	214 (216)	51.6% (51.8%)	230	43.8%	231	44.9%	169	44.8
	Trademarks	2,245 (3,021)	61.7% (63.5%)	2,091 (2,744)	58.8% (59.3%)	3,041 (3,656)	72.0% (71.5%)	2,773 (3,610)	65.2% (66.8%)	3,770 (4,780)	67.8 (68.5)
	Total	4,280 (5,064)	44.8% (47.5%)	3,951 (4,606)	43.9% (45.8%)	5,043 (5,658)	51.2% (52.7%)	4,985 (5,822)	47.3% (49.8%)	6,633 (7,643)	51.6 (53.6)

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 examiner'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		2015	2016	2017	2018	2019
Patents	Domestic	5,809	3,891	3,499	3,214	2,545
	Foreign	3,303	2,905	2,190	1,662	1,402
Utility models	Domestic	240	301	237	201	164
	Foreign	12	5	3	6	3
Designs	Domestic	432	459	373	419	381
	Foreign	54	53	48	59	31
Trademarks	Domestic	3,057	3,014	2,703	3,077	2,939
	Foreign	2,338	2,530	1,513	1,513	1,543
Total		15,245	13,158	10,566	10,151	9,008

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

Income and expenditures / KIPO staff

Income

(unit: USD)

Category	2015	2016	2017	2018	2019
Income from fees	387,177,426	397,276,404	428,025,022	446,163,758	443,443,731
Income carried over from the previous year	29,384,892	22,901,485	28,072,668	42,855,898	17,542,755
Internal income and others	47,850,417	90,568,774	119,661,120	148,403,121	115,788,238
Total	464,412,736	510,746,664	575,758,810	637,422,777	576,774,723

Expenditures

(unit: USD)

Category	2015	2016	2017	2018	2019
Non-personnel resources (projects)	258,066,111	360,459,363	393,025,808	455,687,588	413,003,996
Personnel resources	97,273,767	99,443,391	106,532,589	116,102,191	116,951,668
Deposit for special fund	85,636,518	23,621,577	35,270,004	47,461,470	37,046,713
Total	440,976,396	483,524,330	534,828,401	619,251,249	567,002,377

KIPO staff

(unit: number of positions)

Category		2015	2016	2017	2018	2019
Examiners	Patents and utility models	741	734	832	875	839
	Designs and trademarks	159	162	165	162	191
Administrative judges		95	95	103	107	107
Administrative staff		605	601	527	517	604
Total		1,600	1,592	1,627	1,661	1,741

Academic and professional credentials of KIPO examiners

(unit: number of staff)

Category		Ph. D	Master's degrees	Patent attorney certificate only	Lawyer certificate only	Professional engineer certificate only
Examiners	Patents and utility models	326	67	32	5	17
	Trademarks	5	1	3	2	0
	Designs	3	7	1	0	0
	Total	334	75	36	7	17

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.

