

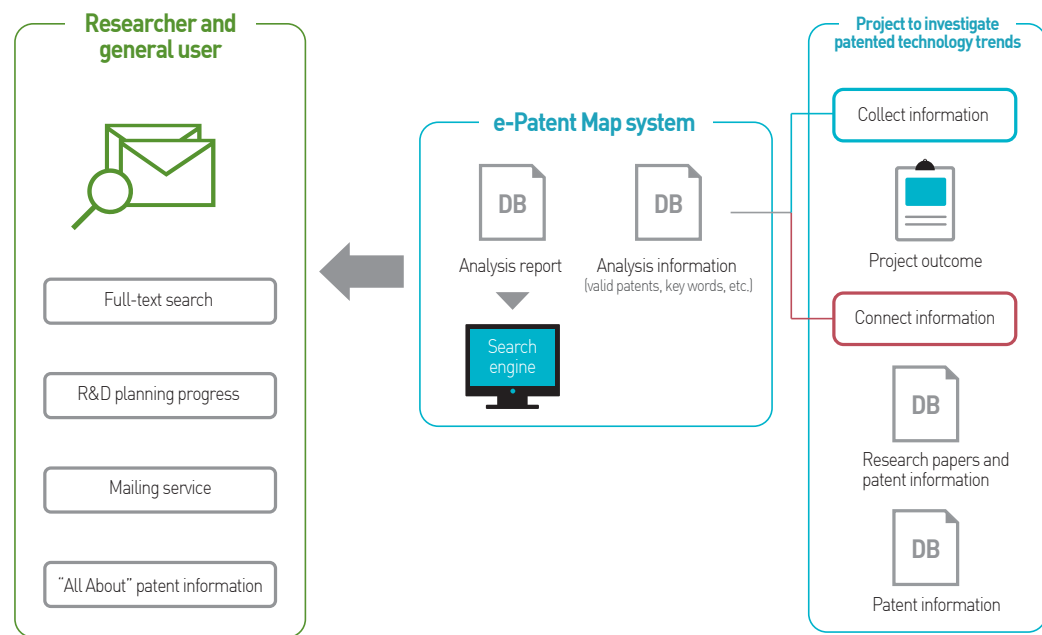
# Promoting the Creation and Utilization of IP



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# Analyzing the Patent Trends of Government

Diagram of how the patent trend analyses of government works



We have been conducting trend analyses for patented technology by utilizing patent information gleaned from the planning stages of government R&D projects, ensuring that these projects are efficiently carried out.

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

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

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

## Project for dispatching patent management experts

In 2006, we launched a project for dispatching patent

management experts, and have since striven to create and promote high-quality IP generated by universities and public research institutes.

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

In 2015, by dispatching patent management experts, we provided 1,456 consultations, held 275 seminars and briefings, and performed 796 technology transfers valued, in total, at approximately USD 15.0 million.

## Supporting the utilization of non-used technologies

Since 2010, we have pursued projects that promote the utilization of non-used patented technologies and prevent the

disappearance of promising patented technologies.

We supported 30 universities and public research institutes in deliberations on 3,626 different inventions and their potential to be registered in foreign markets.

Among them, 1,279 inventions (35% of the total) were designated exemplary technologies. From these, we selected 21 inventions and supported patent right acquisition for them overseas.

Thanks to the "IP Business Support Project," 37 patented technologies with high commercialization potential and ease of market access, which were held by 25 different universities and public research institutes, were marked for strategic support.

We also identified 56 under-utilized patents and transferred them to relevant industries by assisting patent holders with their patent creation and marketing strategies. These activities ultimately generated a total of USD 3.8 million in royalties.

## Project for vitalizing the IP ecosystem

Since 2009, we have undertaken a project for vitalizing Korea's IP ecosystem in order to support cooperative networking between industries and financial institutions for more efficient technology transfers, commercialization, and IP creation, as well as between universities and public research institutes for sharing knowledge, cooperatively responding to changes in global IP business models, and disseminating achievements.

In 2015, we helped establish the "IP Utilization Network" to pro-actively respond to changes in IP business models and encourage universities and popular research institutes to pool their IP commercialization know-how.

In 2014, together with the Small and Medium Businesses Administration (SMBA), we held the Patent Technology Transfer Road Show in hopes of transferring outstanding patented technologies held by universities and public research institutes. In 2015, the Ministry of Science, ICT and Future Planning (MSIP) and the Ministry of Land, Infrastructure and Transport (MLIT) participated in the Road Show as well, making it an exemplary case of successful cooperation among government ministries. Through the Road Show, KIPO, the MSIP, and the MLIT jointly identify outstanding patented technologies to be put to public use, while the SMBA works

# Regional IP Capacity Building

to match technologies to relevant businesses and provide the necessary funding. In 2015, 986 outstanding public technologies were identified and 100 technology transfers initiated.

As another way of promoting more effective usage of IP, we piloted the IP Utilization Network (IP-Plug) for different technological fields. Whether online or in person, IP-Plug connects businesses in need of technology (but unable to find adequate suppliers) with companies, universities, and public research institutions that have relevant technologies (but are unable to find appropriate buyers). In 2015, a total of 7 IP-Plug sessions were held involving medical devices and electronic parts, bringing together 800 IP suppliers, buyers, investors, and IP utilization experts. Other diverse technological fields will be covered in future IP-Plug sessions, helping to develop an IP trading environment based on mutual trust.

## 01 | Regional IP centers

KIPO currently operates 30 Regional IP Centers (RIPC) across Korea to further promote the spirit of invention, enhance overall IPR awareness, encourage IPR creation throughout the region, and improve the region's business competitiveness via IPRs. The centers serve as important strategic hubs that coordinate IP creation and utilization activities throughout the country.

The centers responded to 11,407 requests for patent consultations, 3,953 requests for brand consultations, 2,637 requests for design consultations, and held 28 invention promotion events.

Korea's IP Creative Zones supported patent applications for 204 ideas and trained 938 inventors on everything from idea development to patenting and commercialization.

Furthermore, we extended our IP talent-sharing project nationwide in order to match 207 talent donors with 131 aid recipients for a total of 185 instances of talent sharing.

An examination of this talent sharing showed that

## Enhancing the IP Capacities of SMEs and Promising Enterprises

design development support accounted for 56 cases, followed by 47 IP application consultations, 27 cases of brand development support, 19 IP management consultations, 6 IP trainings, etc.

### 02 Proving regional IP awareness

#### Regional IP forums and IP policy meetings

It has become mandatory for regional governments to draw up their IP plans under the Framework Act on Intellectual Property (effective as of 2011), resulting in a growing need for improved understanding of IP throughout Korea.

In 2015, we responded to this need by holding IP forums in the cities of Busan and Jeju, as well as in the provinces of Gangwon, Junnam, and Gyeongbuk.

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

#### Customized IP training across all demographics

We run IP training projects that target, via regional IP centers, the various demographics of a particular region—including the staff of SMEs, civil servants from regional governments, prospective business starters, and students—to raise awareness of IP importance.

In 2015, we held 64 public official trainings (2,482 trainees) for regional governments, and a total of 265 general trainings (8,766 trainees) for the public. Our purpose was to raise IPR awareness and explain IP system basics, patent information searches, and the e-filing of applications. We also ran a total of 217 intensive trainings (4,378 trainees) to educate people on the creation, registration, and utilization of IP, and to foster competent and talented IP experts.

Furthermore, 405 sessions of “House-call IPR Education” were held for 3,206 business people. Through consultations with client companies, we customized the education program to match our clients’ level of IP knowledge and preparedness.

We consider the men and women of our military to be our future industrial workforce, which is why we are working with Korea’s Army, Navy, Air Force, and Ministry of Defense to provide IPR training for soldiers. We also host an annual Invention Competition for these soldiers and award prizes for the best inventions.

Furthermore, customized training that was held exclusively for military personnel since 2006 was expanded in 2011 to include every branch of the military. In 2015, we held invention contests for Korea’s armed forces, resulting in 39 award-winning ideas which were later exhibited at the 2015 IP Expo.

### 01 Expanding IP financial services

In 2013, together with the Korea Development Bank (KDB), we enabled SMEs to acquire loans using only their IPRs as collateral. We recently expanded our IP financing service to include the Industrial Bank of Korea (IBK), and, in 2015, such funding in the amount of USD 166.5 million was provided to 396 companies. Over the past three years, a total of USD 364.8 million in funding has been provided to more than 900 companies.

### 02 Fostering the Star IP Company Project

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

## Fostering the Development of an IP Workforce

development. Through this Project, we provide professional consultations on IP management strategies in order to foster regional business standouts. Since 2010, we have nurtured a total of 1,066 promising SMEs into Star IP companies: 108 in 2010, 203 in 2011, 157 in 2012, 151 in 2013, 227 in 2014 and 220 in 2015. In 2015, we provided intensive customized support to Star IP companies.

### 01 Increasing IP competency in academic institutions

#### University IP courses

Since 2006, KIPO has supported universities and graduate schools in providing courses (both elective and required) incorporating IP-related content. We also sponsor the hiring of IP-focused professors in order to build a foundation for independent IP education at universities and support

selected schools as IP Education Leaders to further disseminate IP knowledge within academia. KIPO also runs its IP Professor Fostering Programs to increase the number of university professors qualified to teach IP-related courses.

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

#### Master of Intellectual Property (MIP) program

Since 2010, we have operated a special Master of IP course at the Korea Advanced Institute of Science and Technology (KAIST) and Hongik University as a way of

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

		Education module							
Stage	Year	Introduction to IP	Patents and creative thinking	IP creation	Patent information investigation	IP protection	IP utilization	R&D patent strategies	
COURSE	Introduction	1 <sup>st</sup> year		Creative thinking and basic design		Basic creative design			
	Basic	2 <sup>nd</sup> year	Introduction to IP				Introduction to IP		
		3 <sup>rd</sup> year	Students can choose from the following courses: Patent analyses and invention application, Business startup, and IP I, and IP II						
		4 <sup>th</sup> year		Comprehensive creative design		Comprehensive creative design			
In-depth	Graduate school	R&D strategies from a patent viewpoint							

systematically nurturing Chief Intellectual Property Officers (CIPOs). The program provides an interdisciplinary approach based on IP-related subjects, such as engineering, law, and business management. Furthermore, in 2015, we selected two Korean universities to manage a scholarship program for SMEs lacking in staff members exclusively responsible for handling IP.

## 02 | Promoting academic-industrial cooperation

### Campus Patent Strategies Universiade

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

At this Universiade, students at both the graduate and undergraduate level, with help from their academic advisors, draw up future strategies and offer solutions to questions prepared by private companies. The private companies then screen the answers and award monetary prizes to their top choices. The Universiade represents a new type of cooperation among government, industry, and universities. Students can quickly grasp the corporate R&D process as a result of the IP-related knowledge they have gained, while participating companies are provided with new creative ideas. In 2015, we had participation from 41 companies, as well as 3,572 teams from 113 universities.

### Collegiate invention activities and academic-industrial cooperation

As yet another way to boost inventions from universities, as well as to turn their inventions into IPRs, commercialize their inventions, and foster creative inventors well-versed in IP, we have been holding university invention contests ever since 2012. For each contest, we operate IP summer camps, and IP experts train and actively support students in conducting prior art searches and preparing

patent applications. Furthermore, when it comes to especially innovative ideas and IPRs, we take care of the patent application fee, the testing of product prototypes, commercialization, etc. During the 2015 contest, a total of 4,284 ideas were submitted from 127 universities, posting an 8.2% year-on-year growth rate in the number of requests made.

### Design to Business (D2B) Fair

Since 2006, Design to Business Fairs have been held as part of a concerted effort to raise design right awareness and, in doing so, reinforce national industrial competitiveness. D2B Fairs are distinctive in that companies gain creative designs through the open innovation of talented designers, while designers retain the IPRs to their innovative designs. At the fair, companies



propose designs for goods in need of a makeover, and designers submit their designs to companies. When companies commercialize an award-winning design, both the award-winners and the companies sign a licensing contract. The award-winners receive royalties in relation to the product's generated revenue. In 2015, 23 companies presented goods for the contest, and 4,809 designs from 75 universities were submitted to the D2B Fair, resulting in 124 design applications.

## 03 | Fostering creative inventors

### Management of invention classes

We enhanced national invention education by supporting invention classes and special class activities. Furthermore, we designated four universities for teacher education, and we operate education centers there to train and nurture professional invention teachers, both prospective and current. In 2015, we operated creative invention education centers for primary, middle, and high school students in a total of 196 schools in 16 cities and provinces nationwide in order to develop and provide invention education programs targeted not only to students, but also their parents and the general public, thus contributing to enhanced IP awareness and invention education throughout those regions. We plan to continue to finance such programs in hopes of cultivating awareness of and interest in IP among students and their parents.

### Invention promotional programs for youth

We manage various invention and creativity contests in order to discover creative, talented inventors, and we select and support excellent students and teachers actively engaged in invention classes. The Korean Student Invention Exhibition has been held ever since 1988 to discover and nurture promising inventors that can lead tomorrow's knowledge-based society by encouraging them to design and produce innovative inventions. Since 2002, the Korean Student Creativity Championship has been jointly held by KIPO and Samsung Electronics, with the aim of nurturing



outside-the-box thinking among today's youth by having them collaborate with each other to solve problems. This championship is distinctive in that students form teams, and their creativity is evaluated as they resolve various tasks given to them both in advance and during the event. The Youth Inventors Program (YIP) is a program that nurtures creativity, collaboration, and entrepreneurship among today's youth by having middle and high school students present creative solutions to dilemmas proposed by companies, which then help support the students in submitting patent applications. In addition, we award scholarships to promising student inventors.

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

In 2015, a total of 11 companies participated in YIP. Seventy teams (197 students total) were selected to present their ideas, and 70 patent applications were filed.

### Education for the next generation of entrepreneurs

We have run educational programs, at KAIST and the Pohang University of Science and Technology (POSTECH), aimed at middle and high school students with the potential



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

The Gifted Future Generation of Businesses is a 2-year program that, as of 2015, has seen participation from 757 students.

## 04 | Events to promote inventions

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

In 2015, we hosted the 50th Invention Day Ceremony, attended by such high-ranking government officials as the Vice Minister cum Minister of Strategy and Finance (then acting as Prime Minister) and the Chairperson of the



Presidential Council on IP, demonstrating the government's strong will in supporting IP growth. At the ceremony, 80 inventors were specially awarded for their contributions to Korea's industrial development.

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

On November 26, 2015, KIPO hosted the Korea IP Exhibition in Seoul. It featured 525 inventions from 33 countries, including the US, Germany, and Russia. The goal of the exhibition was to further expand global exchanges among inventors, build international networks, and explore new markets for outstanding Korean inventions.

As part of KIPO's efforts to encourage female inventors to create and commercialize inventions, we jointly host the Korea International Women's Invention Exposition with WIPO and the Korea Women Inventors Association. This year's expo was held May 15-18 at the Seoul aT Center and was a huge success, with more than 35,000 visitors and 253 inventions submitted by female inventors from 25 different countries.

In conjunction with the International Exposition, we hosted the IP Wave for Creative Women Leaders on May 19-21, 2015. It was attended by a total of 99 female inventors and



business leaders, who came from 9 different countries and each of whom had previously received IP management training from WIPO.

At the 2015 Woman Idea Living Show, women submitted creative, fun, and sophisticated ideas for everyday inventions. Women whose ideas were selected received support in filing patent applications and manufacturing prototypes. The online community was invited to vote on the prototypes displayed on the homepage (<http://www.womanidea.net>), and the inventors gave presentations explaining their ideas.

