Lee & Ko Intellectual Property

NEWSLETTER

August 2023

Recent IP Developments in Korea

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Why Did the Korean Court Deny AI's Inventorship?

On June 30, 2023, the Seoul Administrative Court ruled against an American, Stephen Thaler (hereinafter referred to as the 'plaintiff'), in an action seeking revocation of an invalidation disposition of a patent application filed against the Korean Intellectual Property Office (hereinafter referred to as the 'defendant') on the grounds that AI cannot be recognized as an inventor.

The court based its decision primarily on the fact that, like the outcome of trials the plaintiff had filed in foreign jurisdictions, the current law requires an inventor to be a natural person with legal capacity. Furthermore, the court stated: i) it cannot conclusively determine that recognizing AI as inventors would contribute to industrial development; ii) even without recognizing weak AI as inventors, there would be no legal vacuum; and iii) policy considerations for addressing the issue in the future era of strong AI should be made through institutional improvements. Below, the background of this case and the court's ruling will be introduced.

1. Summary of the Case

The case revolves around an invention involving an artificial intelligence named DABUS. The plaintiff filed a PCT patent application on September 17, 2019, with DABUS listed as the inventor. The invention pertains to a 'food container and devices and methods for attracting enhanced attention.' After entering the national phase in South Korea on March 12, 2020, the defendant requested on May 27, 2021, and February 18, 2022, that the inventor be a natural person, arguing that listing an artificial intelligence as an inventor violates the patent law.

When the plaintiff refused to comply, the defendant issued a notice of invalidation on September 28, 2022, regarding the patent application. As a result, the plaintiff filed an administrative lawsuit on December 20, 2022. This was the first lawsuit of its kind filed in Asia, following similar cases in the United States, the United Kingdom, Germany, Australia, etc. On July 14, 2023, the plaintiff submitted an appeal to the Seoul High Court.

The plaintiff argues that the invention in question was autonomously generated by artificial intelligence without any human involvement. Insisting on recognizing a natural person as the inventor effectively falsifies the inventorship criteria and unfairly results in the denial of patent protection for inventions created by AI.

Furthermore, the plaintiff asserts that there is no explicit regulation in patent law that the 'inventor' in the application must be a natural person only. If the subject of the invention is an artificial intelligence, there should be no reason to disallow its recognition as an inventor. The plaintiff also claims that such recognition is justified to promote technological and industrial development, which aligns with

the purpose of patent law.

2. Judgment on the Inventorship of Artificial Intelligence under Current Law

The court determined that, according to Article 33, Paragraph 1 of the Patent Law, which states, "The right to obtain a patent belongs to the person who has made an invention or their successor," the term "inventor" refers explicitly to a natural person. Additionally, the court compared the provisions of the Patent Law that require the inventor's "name and address" to be stated in the patent application (Article 42, Paragraph 1, Item 4, and Article 203, Paragraph 1, Item 4) and the provisions that separately allow corporations to provide their "corporate name and address of the business office" instead of individual names and addresses as an applicant in a patent application (Article 42, Paragraph 1, Item 1, and Article 203, Paragraph 1, Item 1). Based on this comparison, the court concluded that the Patent Law only considers individuals with names and addresses as inventors.

The court further held that when a person engages in an inventive act, the legal status of an inventor is granted under Patent Law, and the patent right is inherently attributed to the inventor. Therefore, the capacity to have rights should be a prerequisite for the status of an inventor. The Civil Code explicitly states that "a person becomes the subject of rights and duties while alive," emphasizing that legal capacity is primarily granted to natural persons, although it also grants limited legal capacity to corporations. Since artificial intelligence is not encompassed within either natural persons or corporations and is more likely to be considered a physical object under the Civil Code, the court concluded that artificial intelligence cannot be recognized as having legal capacity.

3. DABUS is a Weak Artificial Intelligence

The court first categorized artificial intelligence into strong artificial intelligence (Strong AI) and weak artificial intelligence (Weak AI). Strong AI refers to artificial intelligence capable of active and complex thinking beyond the inputted rules, capable of designing algorithms, learning without basic data or rules, and being utilized in various domains. In contrast, weak AI cannot surpass the inputted rules or engage in active and complex thinking like humans.

The court determined that there is currently no evidence to suggest the existence of strong AI based on the level of technology. The court examined the content of the videoconference interview between the defendant and the patent attorney who prepared the specification, and the learning method and creations of DABUS confirmed by the defendant, and found that DABUS also underwent considerable human intervention during its learning process, and the invention, in this case, involved DABUS generating sentences or graphs, which were then compiled and rewritten by the patent attorney.

4. Recognition of AI as Inventors and its Relation to Technological/Industrial Development

The court concluded that there is insufficient reasonable evidence to suggest that recognizing artificial intelligence as inventors would lead to more active invention or development by AI or developers. On the other hand, recognizing artificial intelligence as inventors could raise concerns about undermining human ingenuity, the collapse of research-intensive industries, uncertainty in assigning legal responsibilities during disputes, and the risk of patent law transforming into a means of protecting only the interests of a few large corporations monopolizing powerful AI. Therefore, the court found it difficult to determine that recognizing artificial intelligence as inventors would ultimately contribute to advancing technology and industrial development in our society.

5. The Necessity of Providing Alternatives for Granting Patent Protection to Inventions Created by AI

The plaintiff argued that if artificial intelligence cannot be recognized as inventors, it would lead to a problem where no one could properly file a patent application for inventions created solely by AI without human intervention. The court, however, noted that the current state of artificial intelligence, including DABUS, has not reached a level where it can invent independently without human intervention. As the current patent laws do not prohibit listing the humans who contributed to the invention by utilizing artificial intelligence as inventors, the court saw no practical issue with the plaintiff's claim. The court also determined that the defendant's decision to require human inventors without providing an alternative protection for inventions created by AI under the current patent system is not unjustifiable.

6. The Court's Commentary on the Future and Challenges

The court acknowledged that it cannot completely exclude the possibility of problems similar to those claimed by the plaintiff arising in the future if strong artificial intelligence emerges. However, the court emphasized that such issues should be addressed through technological and policy considerations, leading to system improvements in the future. The court's commentary is significant as it is the first mention of the necessity to improve the protection system for inventions created by artificial intelligence in a judicial decision amidst ongoing discussions in intellectual property-related agencies such as the Presidential Council on Intellectual Property and the KIPO.

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Patentees Should Heed KIPO's Proposed Changes to Korea's PTE System

1. Background

Korea's current patent term extension (**PTE**) system allows multiple patents for the same pharmaceutical product to be eligible for PTE. There are also no additional restrictions on the PTE period other than the 5-year cap, which is also applied in many other jurisdictions. In other words, there is no time limit from the marketing approval (**MA**) date, which contrasts with the 15-year cap from the MA date in Europe and the 14-year cap in the US.

As such, due to the differences in the limitations on PTE, some patents with PTE (usually, follow-on patents directed to improvements on the original compound patent) may enjoy a longer PTE compared to their counterparts in the US or Europe. Korean local generic pharmaceutical companies have taken issues with such absences of limitations from the MA date.

2. KIPO's announcement of a plan to revise the current PTE system

Recently, KIPO announced a plan to revise the current PTE system, which focuses on (i) introducing a 14-year cap like the US (meaning that the extended period cannot exceed 14 years from the MA date) and (ii) limiting the number of patents subject to PTE so that PTE is allowed for only one patent based on MA for a single drug. A KIPO official mentioned that these revisions will be done through parliamentary legislation. On April 6, 2023, 18 members of the National Assembly introduced a bill to amend the Korean Patent Act in line with KIPO's proposal.

Compared to government legislation, which requires the government to listen to the opinions of related industry organizations, such as through public hearings, parliamentary legislation can be considered a streamlined process. With parliamentary legislation, although interested parties may submit opinions in writing or by posting them on the parliamentary legislation website during the legislative comment period, receiving opinions from related industry organizations is not required. Thus, KIPO's proposed changes are likely to be implemented soon.

3. Issues with the current PTE system

According to KIPO, the revisions were proposed in line with global pursuits to harmonize the patent standards that vary from country to country, i.e., to conform to the US PTE and European SPC systems. However, opinions may differ on whether the revisions comply with the global pursuit to harmonize patent standards.

The current PTE systems in Korea, the US, and Europe are compared below in terms of PTE eligibility, the number of patents subject to extension, the scope of extended patent rights, and PTE periods.

		Korea	U.S.A.	Europe
PTE Eligibility	A	Patents related to a substance based on the first MA for the substance	Patents related to a substance based on the first MA for the substance	Patents related to a substance based on the first MA for the substance
Number of patents subject to PTE	B	Allowing multiple patents	Selecting one patent	Selecting one patent
Scope of extended patent rights	C-1	Substance-active ingredient	Substance-active ingredient	Substance-active ingredient
	C-2	Use-indication	Any use	Any use
PTE period	D-1	Clinical period (period from the first-patient-in (FPI) to the last-patient-out (LPO); only domestic trials)+ MFDS's review period (time period during which the MFDS actually conducted a review)	½ (clinical trial period-attributable period) + (FDA's review period - attributable period) (very few cases recognize the attributable period)	The period from filing date to MA date - 5 years
	D-2	5-year cap	5-year cap	5-year cap
	D-3	-	14-year cap from the MA date	15-year cap from the MA date

As can be seen above, although there are more fundamental differences between the Korean, the US, and European PTE systems, such as not only the limitation on the PTE period but also the scope of extended patent rights (C-2) and the method for calculating the PTE period (D-1), the proposed revisions include conformity with the US PTE system in terms of the number of patents subject to PTE (B) and the 14-year cap from the MA date (D-3). In other words, the proposed revisions do not include the main differences between the current Korean, US, and European PTE systems, i.e., the scope of extended patent rights (C-2) and the method for calculating the PTE period (D-1).

In the US, with respect to the scope of extended patent rights (C-2), the rights can be enforced for any newly approved uses for the relevant drug, and this is also the case in Europe.

In this regard, Article 95 of the Patent Act stipulates as follows: the effect of a patent right for which the term has been extended, shall extend only to practicing the patented invention related to the product whose approval, etc., was the basis for the patent term extension (product used for specified purposes if the purposes of such a product are specified in the approval, etc.). Although there is no Korean Supreme Court decision on how to interpret the "specified purposes" in Article 95, Korean courts and KIPO have taken the position that the 'identicalness with the first approved indication(s)' is the standard for determining the scope of specified purposes. For example, if PTE was granted for a patent based on MA whose approved indication is for disease A at that time, and a generic company files an MA application with an indication for disease B only, where the treatment of disease B is another, subsequently-approved use of the original product, then the patent cannot be enforced against the generic product during the extended patent term since the extended patent right is limited to, and can be enforced against, only the use as to disease A.

Further, regarding the method for calculating the PTE period (D-1), the Korean PTE system adopts a very restrictive PTE calculation method compared to the US. And it appears that the disadvantage of this calculation will become more pronounced if the number of patents subject to PTE is limited to only one patent, as is currently proposed.

Specifically, the PTE period in Korea is calculated by adding up the clinical trial period and the regulatory review period by the Ministry of Food and Drug Safety (MFDS), which reviews MA applications. While this would appear conceptually similar to the US system, there is a significant difference in that the eligible clinical trial period is limited to the periods from the first-patient-in (FPI) to the last-patient-out (LPO) of domestic trials only, not the period from the clinical trial protocol approval to the filing of the MA application. The MFDS's review period is also limited to the time period during which the MFDS actually reviewed documents for MA, not the period from the MA application date to the MA date. This is based on the recognition that the period during which the MFDS did not review documents for MA because supplementation of the documents was requested by the MFDS is attributable to the patentee. On the contrary, US PTE regulation, which specifies the method of calculating the PTE period, including the attributable period (i.e., period of not acting with due diligence), has never recognized that the supplementation of the documents for MA is attributable to the patentee.

Therefore, according to statistics, the average PTE period of extended pharmaceutical patents in Korea (about 1.5 years) is less than half of such periods in the US, Europe, and Japan (JPMA NEWS LETTER 2017, Jan., No. 177).

Recently, in July 2023, the Korean IP High Court, in a case of PTE invalidation of a pharmaceutical patent of a multinational pharmaceutical company, held that every extended period at issue, which is period not allowable for PTE under the current KIPO's Notice, was valid. The IP High Court ruled as such because the relevant periods did not substantially cause the delay in MA, or even if they caused the delay, a causal relationship between the delay in MA and the patentee's responsibility was not recognized; thus, they did not violate the provisions of the Patent Act. It can be deemed that the ruling is in line with the determination on the attributable period in the practice of the US PTE system. Therefore, although it is difficult to expect the current system to become similar to the US and European systems in the near future, the ruling may serve as a basis for demanding improvement, from the perspective of the patentee, on the grounds that the KIPO's current method of calculating the PTE period (D-1) violates the Korean patent law. Of course, the latest ruling is not yet final and conclusive, so attention should be paid to the Supreme Court's final judgment in the future.

Although there is a global pursuit to harmonize the patent standards that vary from country to country, and such a pursuit was the rationale for the currently proposed changes, KIPO's past and proposed changes fail to address the more fundamental differences between the Korean and US PTE systems, especially in terms of the scope of extended patent rights and the method for calculating the PTE period. It is deemed that they would be unsatisfactory for patentees who use patent term extensions. Therefore, patentees may want to consider voicing their opinions on the more fundamental issues of the Korean PTE system, including the scope of extended patent rights and the method for calculating the PTE period.

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The Supreme Court Decision on 'Freedom to Operate' Defense and Design Protection Act Updates

I. The Supreme Court found that a 'Freedom to Operate' Defense in Design Cases based on a Disclosed Design that was the basis for claiming the Exception to Lack of Novelty is not allowed.

Recently, the Supreme Court ruled that a disclosed design that was the basis for claiming an exception to lack of novelty cannot be used in Freedom-to-Operate defenses by (alleged) infringing parties (Supreme Court Decision No. 2022Hu10012, rendered on February 23, 2023). Details are as follows.

1. Background

The design, created by Party **A**, was granted a design right, but **A**'s design was disclosed in the blog of a search portal site before the relevant design application was filed. Fortunately, the filing date of **A**'s design was within six (6) months* from the date of disclosure, which falls within the period for applying for an exception to lack of novelty under Article 36(1) of the Design Protection Act (*within 12 months under the current law).

Party **B** implemented a design similar to **A**'s registered design. **A** then filed a scope confirmation action for a design right against **B** with the Intellectual Property Trial and Appeal Board (**IPTAB**), arguing that "the accused design is similar to the subject registered design and falls within the scope of the rights thereof."

The IPTAB found that 'the Freedom-to-Operate (**FTO**) defense does not apply to the accused design, and since the accused design is similar to the subject registered design in terms of the overall aesthetic, it falls within the scope of rights of the subject registered design,' and rendered a decision granting **A**'s claim. However, the design that **A** disclosed before the filing date ("A's previously disclosed design") was not submitted as evidence to the IPTAB, and **B** argued that the accused design was based on the third party's prior designs and the FTO defense should thus be recognized.

In response, **B** filed an appeal with the IP High Court to revoke the IPTAB's decision. During the proceedings, **B** submitted **A**'s previously disclosed design as evidence and argued that the accused design was similar to or could be easily conceived from the prior art designs and **A**'s previously disclosed design, rendering an FTO defense appropriate; therefore, it does not fall within the scope of rights of the subject registered design.

2. Judgment of the IP High Court

The IP High Court found B's FTO defense allowable based on A's previously disclosed design. The IP High Court noted that, in principle, designs that were in the public domain before the filing of a design registration (including designs disclosed by the applicant) could not be subject to anyone's exclusive right and should be freely practicable by anyone; exceptions to lack of novelty precluding FTO defenses based on disclosed designs would be contrary to the purpose of introducing the exception to promote fairness, as long as the benefit of a third party is not harmed.

3. Judgment of the Supreme Court

However, the Supreme Court found that the IP High Court's judgment erred in its understanding of the legal principles underpinning the exceptions to lack of novelty and FTO defenses. They reasoned that, when determining whether an accused design falls within the scope of a registered design right, an FTO defense based on a disclosed design that is also the basis for an exception to lack of novelty claim, or even a combination of such designs, is not allowed: the fact that such designs were in the public domain does not preclude them from protection against infringement, so long as the necessary temporal and procedural steps were adhered to. The Supreme Court's decision is based on the following reasons:

- Even if a design was disclosed in the public domain before the design application was filed, once the design is registered under the exception to lack of novelty, the same or similar designs fall within the scope of the registered design's exclusive rights as long as the registered design remains valid.

- In order to balance the interests of third parties and those entitled to the design registration, Article 36(2) of the Design Protection Act prescribes the temporal and procedural requirements for the application of the exception to lack of novelty, and the application of the exception does not retroactively change the filing date itself.

- FTO analyses are based on the notion that a design that was disclosed before a design application was filed, or a combination of such a design with known prior art — which could have been easily implemented by a person having ordinary skill in the art to which the design belongs — should be considered to be in the public domain and be available to anyone. However, even designs that were in the public domain before the design application was filed would be included in the scope of the exclusive rights of the registered design once they are registered under the exception to lack of novelty. If this is the case, it cannot be concluded that the disclosed design that was the basis for the application of the exception to lack of novelty was in the public domain and could be used by anyone.

- If FTO defenses were allowed for disclosed designs that were the basis for exceptions to lack of novelty, it would grant a free license to third parties who made no creative contribution to the disclosed design — beyond the non-exclusive license for prior users recognized by the Design Protection Act to promote the balance between the design right holder and a third party (Article 100 of the Design Protection Act) —, which cannot be accepted.

The above Supreme Court decision resolved issues that have been controversial for a considerable time. When considering the fairness between a third party and the right holder, the Supreme Court seems to have reasoned that disclosed designs eligible for exceptions to lack of novelty can no longer be considered to be in the public domain, rendering FTO defenses based on such difficult to accept; in such cases, it is reasonable to protect the right holder of the registered design. This reasoning will be fully applicable to design or patent infringement cases.

II. Design Protection Act Updates

The Design Protection Act has recently been amended, and the amendment will come into effect from December 21, 2023. The main contents of the amended Design Protection Act are as follows.

1. Extended Window for Filing Related Designs

The “related design” system allows applicants to receive registration for a design that is similar only to their own registered or filed designs (both of which are referred to as “principal designs”). In order to prevent the production of counterfeit products, many companies register the design of a product at the time of its launch and then improve or modify the original product design when launching subsequent products according to market response. In this case, the subsequent design can be registered as a “related design” of the principal design rather than a completely new design, but under the current Design Protection Act, the application period for such a related design is “within one year from the date of registration of the principal design,” which limits the protection of subsequent designs.

However, the amendment extends the application period for related designs to “within three years from the date of registration of the principal design" (Article 35(1)), thereby expanding the protection scope of design rights for subsequent product development and sales while also supporting companies’ design management and enabling competitive protection.

2. Clarification of Requirements for the Registration of Related Designs

The amendment makes it clear that the design right of the principal design must be registered when applying for registration of the related design. In other words, a caveat clause has been added that if the principal design is not registered or has been canceled, abandoned, or invalidated, the related design cannot be registered.

Furthermore, an additional provision (Article 35(4)) has been included, which stipulates that Article 33(1) (novelty) and Articles 46(1) and 46(2) (the first-to-file rule) will not be applicable in the case of registering two or more related designs that are similar only to the principal design.

3. Enlarged Scope of Exceptions to Lack of Novelty

If a design was disclosed before filing, it is not a new design (lack of novelty) and, in principle, cannot be registered. However, Article 36 of the Design Protection Act (Exception to Lack of Novelty) stipulates that an applicant’s ‘own’ design that has been disclosed for less than 12 months is not subject to such rejection grounds and may be registered. Under the current Design Protection Act, a person intending to claim novelty in such situations and submit the required documents must do so at one of the following points: when filing the application; before receiving a Notice of Grant; while filing a response to an opposition; or while filing a response to an invalidation action. However, the amended Design Protection Act eliminates such procedural limitations (deletion of Article 36(2)), enabling rights holders to claim novelty more broadly and experience the benefits thereof.

4. Improvement of Procedure for Priority Claim

Under the current Design Protection Act, a person who intends to claim priority must file a design application within six

months from the filing date of the application that serves as the basis for the priority claim, and related documents must be submitted within three months (Articles 51(2) and 51(4)). However, the amendment allows for a two-month extension of the period for claiming priority and submitting related documents for cases with justifiable reasons while also providing an additional timeframe for amending or adding to the priority claim (newly established Articles 51(5) and 51(3)). In other words, it strengthens the rights of holders by providing additional procedures for claiming priority. However, the Act stipulates a 'justifiable reason' as the basis for extending the period for claiming priority and submitting related documents, and it is worth noting that what specifically constitutes a 'justifiable reason' will be up to the future judgment of the KIPO or the courts.

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Newly Established KIPO Examination Bureau for Semiconductor Patent Applications

Korea is the first major patent-filing country in the world to establish an examination organization dedicated to semiconductor technologies - the 'Semiconductor Examination Bureau.' In the face of the intensifying competition in the global semiconductor industry, this Bureau aims to build a system to protect and strengthen the national semiconductor industry in support of the present government's position of 'protecting and fostering key national strategic technologies, such as semiconductors.'

Previously, the Korean Intellectual Property Office (KIPO) employed 30 private semiconductor experts as examiners to both prevent leaks surroundings these technologies and expedite patent examinations. However, as the existing semiconductor examiners were distributed into organizations in charge of electricity (devices · processes), chemistry (materials), and machinery (equipment), creating synergy by concentrating examinations in one place proved challenging. The launch of the Semiconductor Examination Bureau is expected to yield faster examinations by actively pairing existing experienced examiners and newly employed semiconductor expert examiners in the semiconductor technology examination field.

A total of 167 experts will be put into the 'Semiconductor Examination Bureau.' Specifically, 100 experts from the Electricity & Communications Examination Bureau, 15 experts from the Chemistry & Biotechnology Examination Bureau, and 21 experts from the Machinery & Metals Examination Bureau were relocated to the Examination Bureau for Semiconductor Patent Applications; an additional 30 new expert examiners were also assigned to this Bureau. The Semiconductor Examination Bureau will examine patent applications for all areas of semiconductor technology, from semiconductor design to materials, components, and processes. KIPO aims to provide a smoother collaborative environment, such as consultative examinations, by arranging existing and new examiners in appropriate ratios.

The organization chart of the Semiconductor Examination Bureau is as follows:

Examination Division	Field of Examination
Semiconductor Fabrication Process Examination Division	Semiconductor exposure/etching/deposition/device process
Semiconductor Design Examination Division	Semiconductor device/circuit, memory circuit, semiconductor application design
Display Device Examination Division	Image drive/device/optics/application, OLED
Semiconductor Materials Examination Division	Semiconductor process materials, photochemical/electronic components materials, optical semiconductors
Semiconductor Package and Assembly Examination Division	Semiconductor substrate manufacturing, package process, inspection technology, substrate processing
Semiconductor Fabrication Equipment Examination Division	Semiconductor thin film/lamination/substrate processing/substrate transfer process

The ‘Semiconductor Examination Bureau’ would ameliorate concerns raised after KIPO designated semiconductor technology patent applications for expedited examination for one year from November 1, 2022. The prevailing opinion at the time was that doing so would aggravate the examination backlog at KIPO, given the high volume of such applications in Korea. Through this new Bureau, however, expedited examinations of semiconductor technology patent applications are expected to be conducted smoothly.

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Statistical Analysis of Intellectual Property in the First Half of 2023

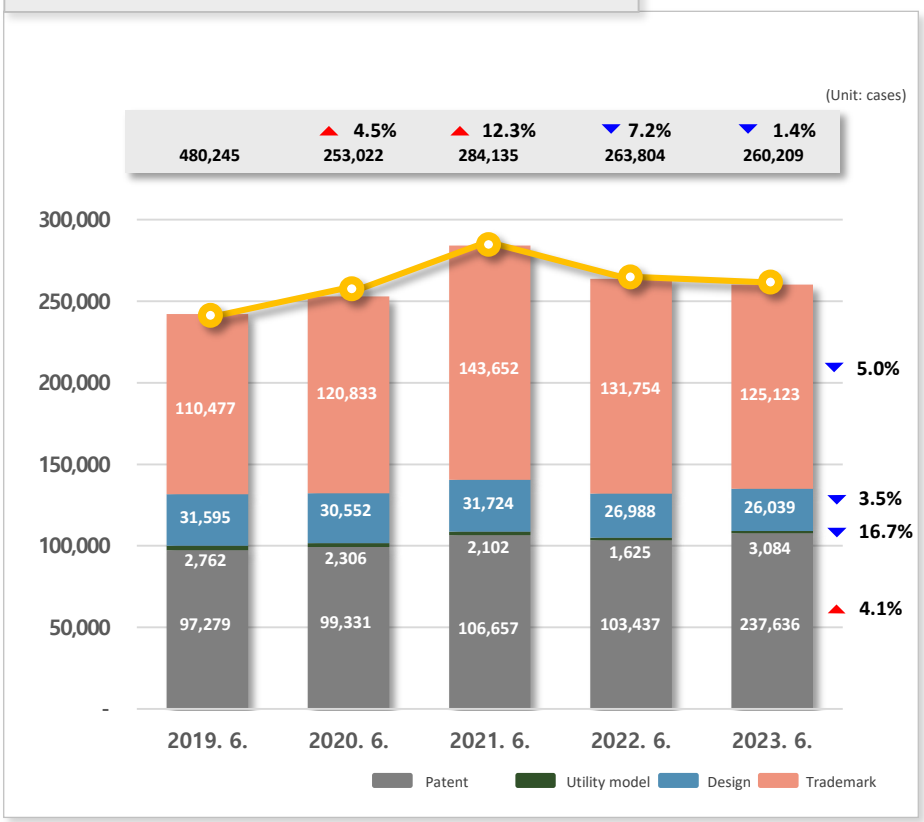
Korean Intellectual Property Office (**KIPO**) have conducted an analysis of intellectual property applications statistics for the first half of 2023. The findings reveal that approximately 107,000 cases were recorded with the KIPO, marking a notable increase of 4.1% compared to the corresponding period of the previous year.

Additionally, there has been a significant rise of 25.5% in the number of foreign patent applications submitted by Korean applicants compared to the corresponding period of the previous year.

1. Yearly Overall Intellectual Property Application Trends and Patent Application Trends in the First Half

The total number of intellectual property (IP) applications filed with the KIPO in the first half of 2023, about 260,000 cases, represents a decrease of 1.4% compared to the same period in 2022. However, the number of patent applications, around 107,000 cases, showed an increase of 4.1%.

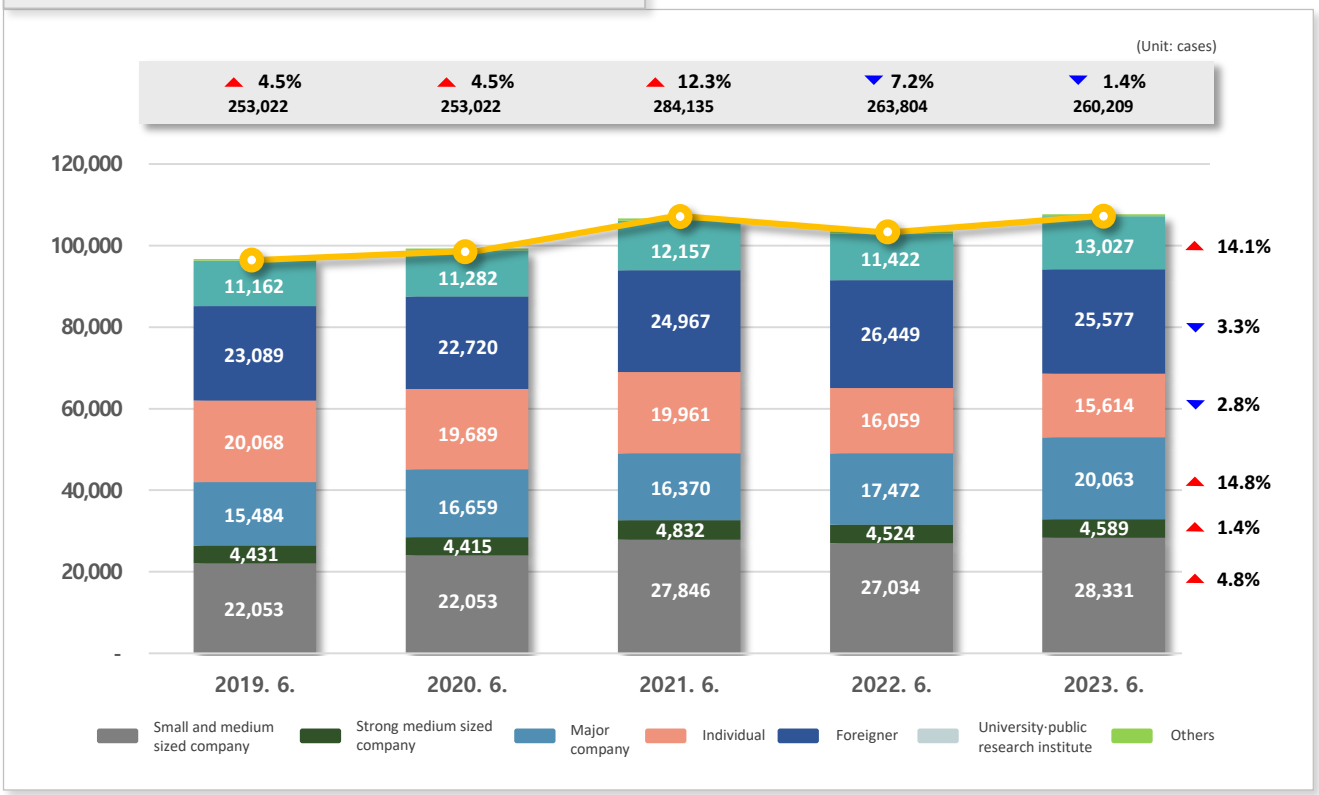
Yearly Overall Intellectual Property Application Trends and Patent Application Trends in the First Half



2. Patent Application Trends in the First Half by Type of Applicants and Technology Areas

Compared to the same period of the previous year, the number of patent applications filed with the KIPO by the type of applicant in the first half of 2023 increased for major companies (▲14.8%), small and medium-sized companies (▲4.8%), and university/public research institutes (▲14.1%), while decreasing for individuals (▼2.8%) and foreigners, which includes foreign companies (▼3.3%).

Patent Application Trends by Type of Applicant in the First Half



Based on technology area, patent applications primarily increased mainly in Korea's export-oriented industries, such as semiconductors (4,406 cases, ▲16.2%), digital communications/information transmission (3,651 cases, ▲18.9%), and electrical machinery/energy/rechargeable batteries manufacturing (5,581 cases, ▲6.1%). However, there was a decrease in patent applications for e-commerce/brokerage transactions (4,689 cases, ▼6.1%), shipping/electric vehicle control adjustment (2,889 cases, ▼7.8%), organic precision chemicals/cosmetics drugs (1,865 cases, ▼7.0%), etc.*

** As approximately two months are required to classify the technologies of applications, these statistics are based on data accumulated from January to April 2023.*

Top Areas by Number and Rate of Application Increase

	Technology area	2022. 4.	2023. 4.
1	Semiconductors	3,792	4,406(▲16.2%)
2	Digital communications	3,071	3,651(▲18.9%)
3	Electrical machinery/Energy	5,262	5,581(▲6.1%)
4	Computer technology	4,596	4,751(▲3.4%)
5	Groceries	1,402	1,583(▲12.9%)

Top Areas by Number and Rate of Application Decrease

	Technology area	2022. 4.	2023. 4.
1	E-commerce	4,993	4,689(▼6.1%)
2	Shipping	3,135	2,889(▼7.8%)
3	Organic precision chemicals	2,005	1,865(▼7.0%)
4	Medicine	1,801	1,712(▼4.9%)
5	Mechanical element	1,025	941(▼8.2%)

3. Trends of Foreign Patent Applications Filed by Korean Applicants

The number of patent applications filed in major foreign countries by Korean applicants has been steadily increasing every year. For example, the number of foreign applications claiming priority based on Korean applications** was 29,271 cases in the first half of 2023, reflecting a 25.5% increase compared to the same period of the previous year.

Based on country, the number of patent applications filed in the US, 14,800 cases, accounted for about half (50.6%) of all foreign patent applications, followed by 8,827 cases (30.2%) in China and 2,118 cases (7.2%) in Europe.

Compared to the same period of the previous year, the increase rate of foreign patent applications by Korean applicants was highest in India (▲1,795%), followed by Taiwan (▲31.5%), China (▲29.8%), Vietnam (▲24.3%), and the US (▲22.2%).

Status of Korean Applicants' Foreign Patent Applications in the First Half of 2023

Classification	2021. 6.	2022. 6.	2023. 6.	
			Applications	Increase rate
US	9,929	12,113	14,800	▲22.2%
China	5,334	6,800	8,827	▲29.8%
EPO	1,581	1,982	2,118	▲6.9%
Taiwan	955	1,188	1,562	▲31.5%
India	66	55	1,042	▲1,795%
Japan	825	834	892	▲7.0%
Germany	200	221	243	▲10.0%
Vietnam	113	103	128	▲24.3%

In particular, foreign patent applications by Korean companies in India (1,042 cases, ▲1,795%), Taiwan (1,562 cases, ▲31.5%), and Vietnam (128 cases, ▲24.3%) have increased considerably in 2023.

As such, Korean companies' focus for foreign patent applications is expanding beyond the traditional US and China markets, reflecting the diversification of their overseas markets.

*** This number does not include the number of foreign applications directly filed by Korean applicants and thus is different from the total number of applications by Korean applicants compiled by foreign patent offices.*

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Significant Revisions of KIPO's Patent and Trademark Fee Regulations

The Korean Intellectual Property Office (KIPO) announced that they have promulgated and implemented the revised "Patent Fees Collection Regulations," including a reduction in patent registration fees and an increase in filing a request for examination fees, etc., from August 1, 2023. The reduction in patent registration fees was introduced to ease the economic burden on businesses in the era of high interest and high prices and to promote technological innovation. On the other hand, the fees for divisional applications and filing requests for examination were increased, which may prove burdensome for some patentees.

The main points of the revisions are as follows.

1. Reduction in Patent Registration Fees

Both the basic fee and the additional fee per claim have been reduced by about 10% for patent registration fees (registration fee + annuity fee). Among all patent fees, the patent registration fee is the most burdensome cost for inventors and businesses, and this revision has been reduced in a lump in 20 years. Until now, the various policies to reduce elements of patent registration fees have been available only for individual and small and medium-sized companies, which are socially and economically disadvantaged; however, this revision could benefit all economic entities. It is expected that all businesses will be able to invest more in increasing patent numbers and holding periods to focus more on technological innovation.

2. Fee adjustment for recording patent right transfers

Among the transfer registration fees for Patents · Trademarks · Utility Models · Designs, the 113,000 won transfer fee for trademarks and the 53,000 won transfer fee for patents were reduced by 65% and 25%, respectively, lowering them to the same amount as the transfer registration fees for Utility Models and Designs (40,000 won).

3. Reduction of trademark fees and adjustment of standards for imposition of additional charges on designated goods

The fee for the trademark application · registration stage was reduced by 10,000 won per class. However, the number of basic designated products has been reduced from 20 to 10. Namely, the standard for imposing additional charges for designated products per category of products has been changed from more than 20 to more than 10. According to the KIPO, this change was made to solve the problem

of restricting the acquisition of rights and the scope of trademark selection by genuine operators due to the registration of trademark products that are not actually used.

4. Introduction of additional fees for divisional applications

The prior divisional application fee had been uniformly applied regardless of the number of divisional applications; however, it has been adjusted so that a progressive system per application number will be applied a certain number of times (two to five times). Namely, a first divisional application has the same fee as a new application; however, for each divisional application afterward, up to five, fees equivalent to two, three, four, or five times the new application fee are charged. The introduction of such additional fees is said to be based on a problem wherein the patent divisional application system is simply used as a means to maintain application status and delay the examination process.

5. Increase in patent examination fees

The basic fee for filing a request for examination and the additional fee per claim have been partially increased. It has been surmised that this was done to better align the fees for filing a request for examination with the pricing practices in other major jurisdictions, such as the European Union, the United States, and Japan. However, despite this increase, the average fee for filing a request for examination in Korea is still less than half that of the major overseas countries.

The main points of the revised patent fee regulations are summarized below.

Patent

Item		Current fees	Revisions	Implementation Criteria
Registration; Annuities	**1st to 3rd Year Annuity** Basic Fee for First Claim Fee per each Additional Claim	KRW 84,000 (USD 66.00) KRW 39,000 (USD 31.00)	KRW 75,000 (USD 59.00) KRW 36,000 (USD 28.00)	Registration fee revision is effective for cases where an allowance date is on or after August 1, 2023; and Annuity revision is effective for cases where a due date for paying the annuity (not applicable to a grace period) is on or after August 1, 2023.
	4th to 6th Year Annuity Basic Fee for First Claim Fee per each Additional Claim	KRW 62,000 (USD 49.00) KRW 22,000 (USD 17.00)	KRW 56,000 (USD 44.00) KRW 20,000 (USD 16.00)	
	7th to 9th Year Annuity Basic Fee for First Claim Fee per each Additional Claim	KRW 138,000 (USD 109.00) KRW 38,000 (USD 30.00)	KRW 124,000 (USD 98.00) KRW 34,000 (USD 27.00)	
	10th to 12th Year Annuity Basic Fee for First Claim Fee per each Additional Claim	KRW 295,000 (USD 233.00) KRW 55,000 (USD 43.00)	KRW 265,000 (USD 210.00) KRW 49,000 (USD 39.00)	
	13th to 20st Year Annuity Basic Fee for First Claim Fee per each Additional Claim	KRW 415,000 (USD 328.00) KRW 55,000 (USD 43.00)	KRW 373,000 (USD 295.00) KRW 49,000 (USD 39.00)	

Item		Current fees	Revisions	Implementation Criteria
File a divisional application		Same as the new application filing fee	1st divisional: same as the new filing fee 2nd divisional: two times the new filing fee 3rd divisional: three times the new filing fee 4th divisional: four times the new filing fee 5th or more divisional: five times the new filing fee	Regardless of the number of divisional applications previously filed, start counting from divisional applications filed on or after August 1, 2023.
File a Request for Examination	Basic Fee for First Claim	KRW 187,000 (USD 148.00)	KRW 217,000 (USD 172.00)	Effective for cases where an application is filed on or after August 1, 2023.
	Fee per each Additional Claim	KRW 44,000 (USD 35.00)	KRW 51,000 (USD 40.00)	
Record a transfer of a patent right by assignment or other		KRW 94,600 (USD 75.00) per case	KRW 81,600 (USD 65.00) per case	Effective for cases where an assignment document is filed on or after August 1, 2023.

Trademark

Item	Current fees	Revisions	Implementation Criteria
File a Trademark Application	KRW 62,000 (USD 49.00)	KRW 52,000 (USD 41.00)	Effective for an application or a renewal filed on or after August 1, 2023.
Registration of a Trademark	KRW 211,000 (USD 167.00)	KRW 201,000 (USD 159.00)	
Renewal of a Trademark Registration	KRW 310,000 (USD 245.00)	KRW 300,000 (USD 237.00)	
Additional fee for each designated good in each class	KRW 2,000 (USD 2.00) in excess of 20 items in each class	KRW 2,000 (USD 2.00) in excess of 10 items in each class	
Record a transfer of a trademark right by assignment or other	KRW 154,600 (USD 122.00) per case	KRW 81,600 (USD 65.00) per case	Effective for an assignment filed on or after August 1, 2023.

**Exchange rate: USD1=KRW1,264.70. The official fee converted into U.S. currency may vary due to fluctuations in the exchange rate.*