

Improving the IP System

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Semiconductor Wafer
A semiconductor wafer is a thin slice of semiconductor substance, like crystalline silicon, used in electronics for the making of integrated circuits. In the electronics jargon, a thin slice of semiconductor material is called as a wafer.

Amending Legislation to Protect Graphic Image Design

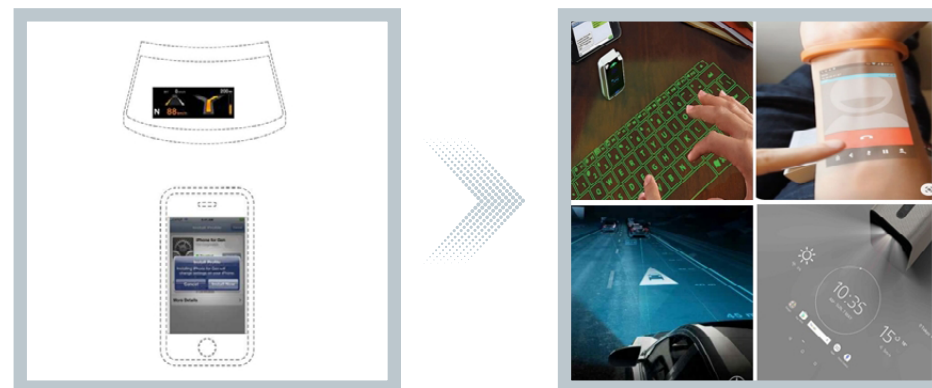
Design Examination Policy Division

With expansion of the digital economy, an increasing number of products based on emerging technologies, such as virtual reality (VR) and augmented reality (AR), are being launched into the market. Especially, these new technologies are being used to create and express designs. In that regard, the *Design Protection Act* was amended to provide legal basis for the registration and protection of graphic image on their own (i.e. holograms, augmented reality, projected displays, etc.) as design rights in effect since October 2021.

Graphic image design refers to visually-recognized shapes, colors, and combinations thereof, including graphic user interface, icons, and graphic images. Before the amendment, only image designs displayed within a defined screen or panel of a physical article could be registered as a design right. Therefore, designs projected on an undefined space outside of a physical design article or onto any other external surface, such as holograms, could not be protected.

The amendment establishes a new definition of graphic image design and expands the term “working of a design” to add the online transmission of graphic image design, thereby broadening the “practicing (working) of a design” to include the production, use or online transmission of graphic image designs, which previously covered only physical design articles produced or used through an offline transaction. In accordance, KIPO published an updated examination guideline to allow graphic images used to operate the device or displayed as a result of the device performing its function to be considered for examination and registration as a design right such as virtual keyboards, smart bracelets, intelligent automobile headlights, etc.

This is the ROK’s first legislation that supports the digital economy by protecting IP expressed through digital technology. Going forward, it will be necessary to provide sufficient protection as new designs appear and the overall scale of the industry grows.



Prioritizing Examination of COVID-19 Vaccines

Patent Legal Administration Division

The US-ROK Summit was held in May 2021 to establish a comprehensive “KORUS Global Vaccine Partnership” amidst the growing demand for COVID-19 vaccines. As a follow up measure, a revision of the *Enforcement Decree of the Patent Act* was enacted on June 23, 2021 implementing a policy to give the Commissioner of KIPO discretion to ex officio designate applications for accelerated examination in order to facilitate quick and flexible response in emergency situations. By giving priority to examination of vaccine technologies related to vaccine development and production, the ROK will be able to allow quick acquisition of patents and bolster vaccine manufacturing.

After passing the enforcement decree, KIPO applied this policy for the

first time on COVID-19-vaccine related applications for the period of one year until June 23, 2022. The first office action pendency for accelerated examination takes about 2.3 months which is a significant reduction in examination processing time compared with the average 12.2 months (as of Dec. 2021).

Through this measure, KIPO will be able to assist companies already producing or in the process of producing COVID-19 vaccines as they benefit from an accelerated examination. Moreover, continuing to encourage production of COVID-19 Vaccines and expand R&D alongside the U.S., the two countries will build a stable base for the KORUS Global Vaccine Partnership to jointly fight against global public health emergencies.



Applying AI Technology in Trademark and Design Image Search

Information & Customer Policy Division













Utilizing AI technology, KIPO developed a search system for trademark and design images in the examination and trial process, which was launched in February 2021. Improving on the previous method of having to review thousands of trademark and design prior art images with their own eyes, examiners benefit from shortened time spent searching and improved accuracy in examination with the help of AI. More than 2 million trademark and design images held by KIPO were used as training data and it took two years of research, actualization and trial operations for the establishment of the AI-based image search system.

A key feature of the image search system is the display of search results according to similarity of the image in







the application and the prior art images. It is particularly notable that the system is capable of recognizing and searching partial images for an image where multiple forms are combined. For example, both the shape of the bag as well as the logos and characters printed on the bag are simultaneously recognized and searched for similar images. Also, a classification code is automatically recommended by the AI to help designate a classification for the trademark and design.

Moreover, AI technology was applied to overseas patent document translation and patent drawing recognition in 2020. Also, a chatbot that uses AI to converse with text or voice is under development to respond to public queries, intelligent patent search, automatic classification, etc.

Design and Trademark Image Search (auto-search of logos and characters)

Subject	Key search results (design database)				
					
Subject	Key search results (trademark database)				
					

Trademark Image Search

Subject	Key search results (trademark database)				
					

*Results based on similarity rather than filing date, etc.

Introducing an Expert Commissioner System in Patent Trial and Appeal

Trial Policy Division

Since October 2021, the Intellectual Property Trial and Appeal Board (IPTAB) has enforced a system where third party technical experts with specialized knowledge called “expert commissioners” participate in patent trials and appeals to provide supplementation with their expertise.

The IPTAB selected various fast-changing and cutting-edge technical fields that require field knowledge to comprehend. A total of 11 fields were deemed necessary to have an expert commissioner: artificial intelligence (AI), autonomous driving, secondary/fuel cells, wireless communication (5G/6G), video/audio compression, FinTech, semiconductors (photo lithography, etching, deposition technology), robot control, ground stabilization, transmission, and bio-health. To date, about 130 candidates have been recruited and new candidates can be added to the list whenever it is recognized as necessary.

Where a presiding administrative judge determines that the participation of an expert commissioner is required in a trial or appeal, the judge may designate one or more expert commissioners in the relevant technical field from the candidate list. An expert commissioner is confirmed after hearing the opinions of both parties so that no one party would be disadvantaged. While parties may even suggest that an expert commissioner participate in a trial or appeal by submitting a written statement, the presiding administrative judge makes the ultimate determination. Once chosen, an expert commissioner will submit a written explanation or opinion from a neutral position to provide clarity or explanation to the technological issues of the case. The use of this system will significantly contribute to helping a judge render a final decision so that the matter in concern is resolved quickly and accurately.

