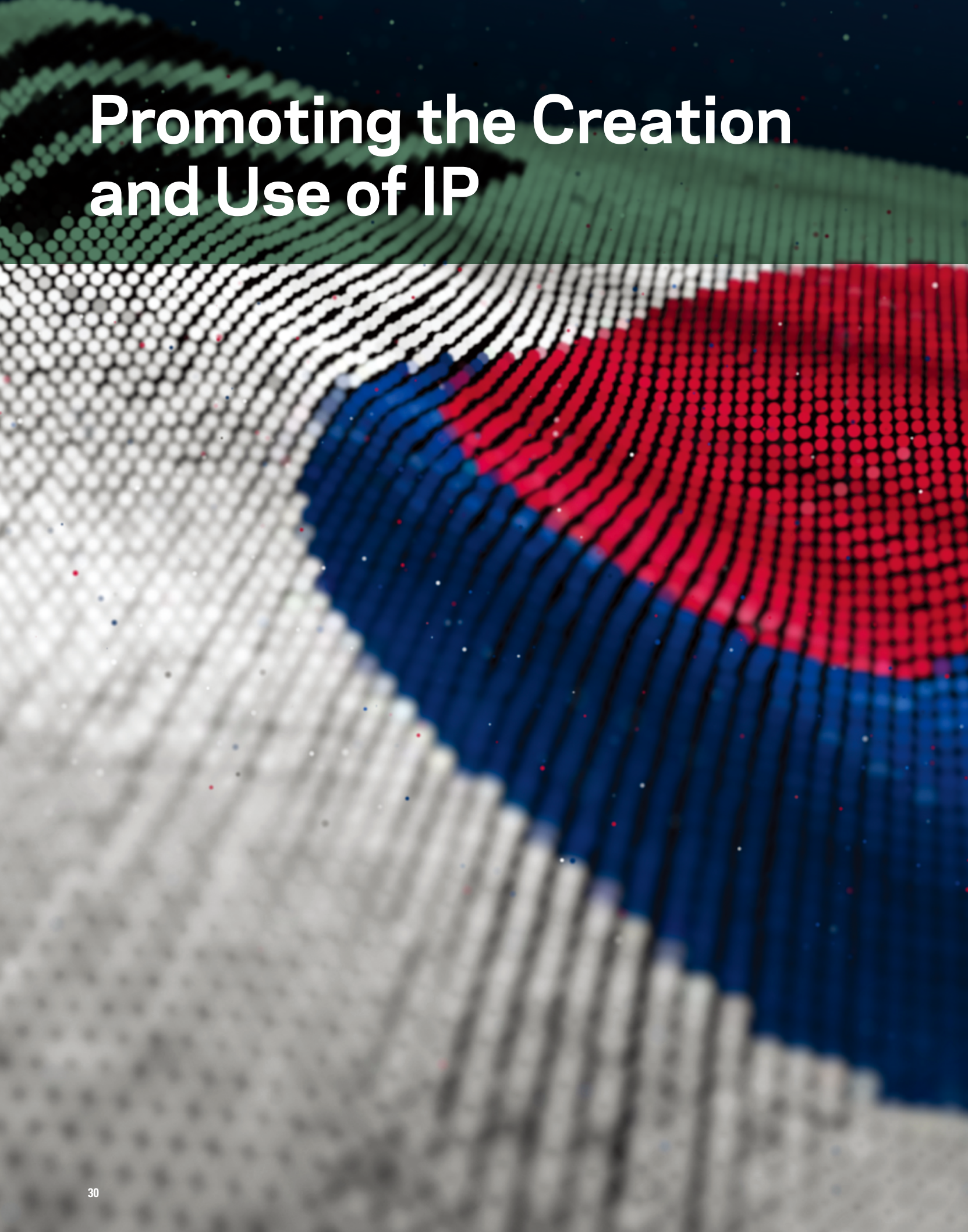
Promoting the Creation and Use of IP



3D Illustration of Korea Flag
Abstract glowing particle wavy surface with Korea flag texture. (8K 3D illustration)

Customized Support for IP-based R&D Strategies

Intellectual Property Creation Strategy Team

Intellectual property-based R&D (IP-R&D) refers to the utilization of patent analysis in the early stages of R&D. In other words, global patent information is analyzed to identify the best direction for the R&D projects to better overcome patent barriers and quickly obtain promising patents where there exists gaps of patented technology. KIPO provides customized IP-R&D strategies to SME & mid-market enterprises, universities, and public research institutions to develop strategic technologies and secure original and core patents.

In 2022, a total of 615 IP-R&D projects for small and medium-sized companies and 98 tasks were supported to streamline R&D for universities and public research institutes. KIPO also expanded support to R&D in important technology fields for leading global technology and overcoming the COVID-19 crisis, such as semiconductors, vaccines, materials, parts, and equipment.

Furthermore, KIPO established a new selective option that allows SMEs that lack IP capabilities to select one module of support at a low cost, such as either conflict prevention, excellent patent creation, or R&D direction. Once a year has passed since receiving IP-R&D support, a follow-up will be carried out to provide re-examination of the R&D direction and to support IPR registration.

The patent technologies from projects supported with IP-R&D strategies have resulted in higher industrial utilization value than patents generated by general R&D tasks. Over five years (2017-2021), patent quality indicators (e.g., high-quality patents, international patents, etc.) have shown an increase up to 2.5 times, the rate of patent transfer by 1.2 times, and royalties per technology transfer contracts by 3.7 times.

With proven results, KIPO has been working to expand IP-R&D into important technology fields through legislative systems. As a result, IP-R&D (strategic analysis of IPRs) has became a mandatory requirement reflected in the *National Advanced Strategic Industry Act (Semiconductor Special Act)* in 2022 and is planned to be reflected in the *National Strategic Technology Promotion Special Act* in 2023.

Vitalization of the Linkage between Patent Big Data Analysis and R&D

Patent Analysis Division

The value of IP information and its strategic utilization, such as utilizing patent big data in R&D activities is becoming more important as the competition for technological dominance and resource protectionism increases. In November 2022, KIPO hosted a meeting with personnel from R&D institutions to discuss and establish plans for promoting R&D investment efficiency through analysis of patent big data.

Participants shared about the current situation of patent big data analysis in key industrial and technological areas with R&D-specialized institutions, such as the Korea Institute of Science & Technology Evaluation and Planning (KISTEP) and Korea Evaluation Institute of Industrial Technology (KEIT), and considered ways to link government and private R&D policies and patent big data analysis as well as to encourage inter-institutional cooperation.

KIPO has been carrying out projects to support industrial innovation based on patent big data since 2019. About 500 million patent information worldwide is analyzed to identify promising technologies and provide R&D innovation strategies to relevant institutions in order to establish direction of R&D investment in the government and private sector.

Topics for analysis are chosen from areas crucial to industrial policies (e.g., national strategic technologies, etc.) or areas that can be linked to R&D implementation plans according to government departments. Quantitative patent indicators are used to analyze national/enterprise patent trends and various big data analysis methods are applied to identify emerging future technologies.

In 2022, patent big data analysis activities identified a total of 173 emerging technologies by focusing on four strategic industries (digital healthcare, aerospace, digital security, synthetic biology), three new industries (metaverse, advanced robots, smart manufacturing), and two areas with ongoing issues (nuclear power generation, smart agriculture). The analysis results were disseminated to the public through the "2022 Patent Big Data-based Emerging Technology Conference" to help establish R&D strategies and be used in government R&D as well.

Implementation Stages of Patent Big Data-based Industrial Innovation Strategies

1 Environment Analysis	2 Quantitative Analysis	3 In-depth Analysis	4 Policy Proposal
· Analyze policy trends of major countries · Analyze industrial and market environment · Define technology classifications	· Extract relevant patents · Produce quantitative indicators · Analyze trends	· Analyze highlighted keywords · Analyze social networks and clusters · Collect expert opinion	· Identify promising technologies · Propose new R&D · Derive policy recommendation

Support for Stable Growth of Innovative Enterprises

Intellectual Property Utilization Division

Expansion of Designated Institutes for IP Valuation

IP valuation refers to the assessment of the economic value of IP which is essential to providing financial services based on IP or "IP finance" (e.g., IP collateralized loans, IP mutual aid, etc.). Valuation is carried out by a KIPO-designated institute specializing in evaluating the technical and business merits of inventions by using methods such as appraisal, grading, or scoring. As the IP finance market grows, there has been a call to increase the number of institutes capable of evaluating inventions.

KIPO began the process of accepting applications from institutions, conducting on-site inspections, and organizing a designation review committee. In result, five additional private evaluation institutes were designated as invention evaluation institutes. As of 2022, there are a total of 23 designated invention evaluation institutions (9 public and 14 private institutions) in the ROK. IP valuation by these institutes can be utilized to get IP guarantee certificates, IP collateral loans from banks, analysis of business feasibility, and evaluation of damages from IP-related disputes.

However, the lack of established models to assess value for specialized fields raised concerns about the reliability of evaluations. To address these concerns, KIPO revised the *Invention Promotion Act* in December 2022 to improve the reliability of IP valuation. Key features of the amendments include strengthening the legal basis for valuation, expanding the scope of evaluation, and introducing a quality control system. The amendments are scheduled to be enacted in January 2023 and will be effective from July 2023.

Surpassing 10,000 Members for IP Mutual Aid

Intellectual Property Mutual Aid is a financial service operated by the Korea Technology Finance Cooperation which allows members (e.g., SMEs) to make monthly deposits for future loans. As of 2022, the program reached a total of 12,531 members and accumulated KRW 146.1 billion in deposits, which began with 1,409 members by the end of the first year of its launch in 2019.

There are two types of loans available. "Loans for IP costs" require reasons such as domestic and foreign IP applications, domestic and foreign IP litigation, and IP transfer or commercialization. "Loans for operation funds" are for when temporarily funds are needed for business management and operation. As of 2022, a total of 161 cases worth 4 billion won were provided in loans for IP costs and 590 cases worth 11.2 billion won in loans for operating funds.

The Mutual Aid allows loans up to five times the accumulated deposits funds for filing domestic/international IP applications, dealing with IP conflicts or other IP costs. First, the Korea Technology Finance Corporation reviews the reason for requesting the loan and at least six deposits must have been made to the mutual aid program before funds are provided.

KIPO has been supporting the stable implementation of the mutual aid by subsidizing business operating expenses and providing legal and institutional support as well as overseeing the Korea Technology Finance Corporation. As such, KIPO will continue to improve the commercial value of this service and diversify membership channels to make it an essential financial product that helps the growth of enterprises.

Types of IP Mutual Aid Loans

Type	Purpose of Use	Interest rate	Duration	Limit
Loans for IP Costs	Domestic and International IP applications, IP disputes, Transactions/commercialization	1.75%	Up to 5 years	Up to 5 times the deposits
Loans for Operation Funds	Temporary fund for operation	2.75%	1 year	Up to 90% of deposits