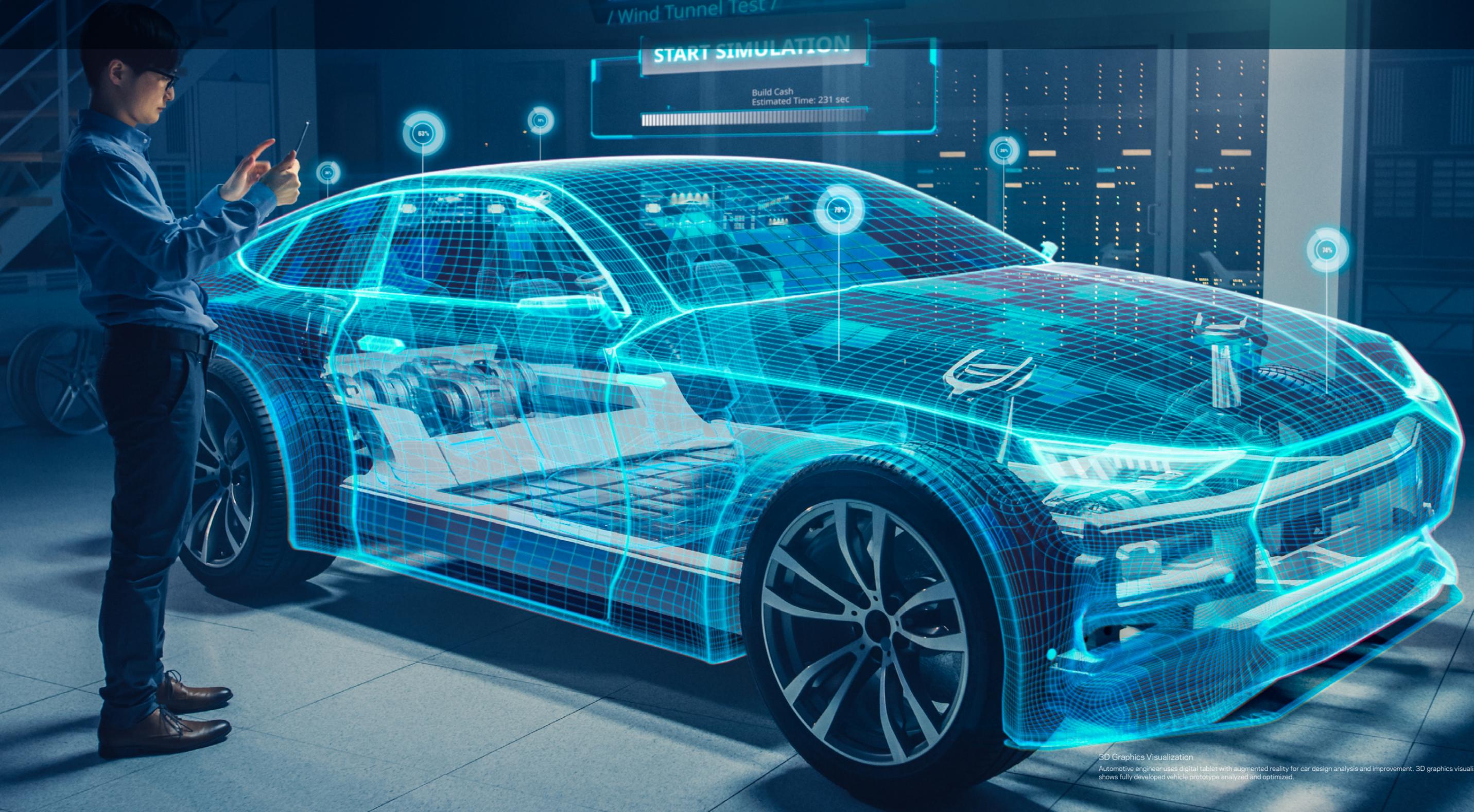


# Creating and Utilizing IP

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3D Graphics Visualization  
Automotive engineer uses digital tablet with augmented reality for car design analysis and improvement. 3D graphics visualization shows fully developed vehicle prototype analyzed and optimized.

## Exceeding Six Trillion South Korean Won in IP-Finance

### Intellectual Property Utilization Division

“IP-finance” refers to financing activities backed by the value of non-tangible IPRs owned by companies. Financial institutions provide funds to companies in the form of loans collateralized by IP, loans guaranteed by IP, and IP-based investments which are based on the valuation of IP assets of a company.

The cumulative total of overall IP-finance transactions in the ROK as of 2021 exceeded KRW 6 trillion. Specifically, loans collateralized by IP accounted for KRW 1.931 trillion, loans guaranteed by IP for KRW 3.214 trillion, and IP-based investments for KRW 862.8 billion. Within the year 2021 alone, newly provided funds increased 21.3% to amount KRW 2.504 trillion compared to 2.064 trillion in 2020. Loans collateralized by IP accounted for KRW 1.508 trillion, loans guaranteed by IP for KRW 844.5 billion, and IP-based investments for KRW 608.8 billion.

Most notably, the scale of investment

into companies with valuable IP assets grew 2.3 times that of the previous year to KRW 608.8 billion from KRW 262.1 billion in 2020. This was possible due in part to collaboration between KIPO and private investment institutions to expand fund raising for IP-based investments and cooperation with venture capital firms to promote IP-based investments in the promising IP of companies.

As the IP-finance market grows, it will be important to properly assess the value of IP to allow innovative companies to be given appropriate financing opportunities. A survey conducted on 1,390 companies indicated that 78% of the companies were able to receive loans using their IP as collateral which would otherwise have been ineligible due to their low credit ratings. By continuing to improve the quality of the IP valuation services, promising and innovative SMEs and venture companies can make the best use of IP-finance.

## Publishing a Non-mRNA Vaccine Patent Analysis Report

### Intellectual Property Creation Strategy Division

In December 2021, KIPO published a patent analysis report on non-mRNA vaccines to support companies, universities, and research institutions in their effort to develop COVID-19 vaccines. The report has been made available in Korean on “COVID-19 Patent Information Navigation,” a website which provides the latest patent information related to COVID-19 in real time. (<http://kipo.go.kr/ncov>)

The “Non-mRNA Vaccine Patent Analysis Report” provides analysis of 15 types of international non-mRNA vaccines that are undergoing global clinical trials. The report describes the characteristic of each platform technology and key patents and includes detailed analyses of recently published COVID-19 patents and their original patents. Making such information available to the public will

aid researchers identify existing patents of vaccine technology platforms and help set the direction of vaccine R&D as well as establish strategies to avoid, invalidate, buy or license key patents as necessary.

This publication comes after a “mRNA Vaccine Patent Analysis Report” published in September 2021. Due to expedited development and worldwide distribution of mRNA vaccines created by pharmaceutical companies such as Moderna and Pfizer, there has been relatively low public interest in earlier non-mRNA vaccine platform technologies such as virus vector, synthetic antigens, self-amplifying RNA, and DNA. However, non-mRNA vaccines have been known to be more stable, have less severe side effects, and are easier to store and distribute. Therefore, both reports were published by KIPO as it is important to support the development of non-mRNA vaccines as well as mRNA vaccines.



## Ranking No.1 in Standard-Essential Patents

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### **Intellectual Property Creation Strategy Division**

The ROK became the No.1 country with the largest amount of declared standard-essential patents by 2021 reported to three international standard-setting organizations (SSOs)—the International Organization for Standardization (ISO), International Electrotechnical Commission (IEC), and the International Telecommunication Union (ITU). Standards frequently make reference to technologies that are protected by patents, and a patent that protects technology which is essential to a standard is called a “standard-essential patent (SEP).” In total, the ROK has declared 3,390 SEPs (22.6% of all SEPs) which is more than six times the amount of 571 patents in 2017.

Along with the three international SSOs, there are two SSOs—the Institute of Electrical and Electronics Engineers (IEEE) and European Telecommunications Standards Institute (ETSI) related to ICT (e.g. wifi, mobile telecommunication, etc)—which are collectively considered as the five major SSOs. Considering all five major SSOs, the ROK ranks No.3 with a total of 20,616 patents declared SEPs, which comes after the U.S. at No.2 with 28,980 patents and China at No.1 with 32,859 patents.

SEPs are particularly important for market competition as it is impossible to manufacture standard-compliant products, such as smartphones or tablets, without using the technologies covered by one or more SEPs. From that aspect, the growth of Korean company’s competitive edge in standardization can be evidenced through the ROK’s rises in overall global ranking of declared SEPs from No.5 to No.1 among the three international SSOs and No.4 to No.3 among the five major SSOs over the five past year.

In order to secure this competitiveness, the Korean government has been striving to interconnect R&D, standards, and patents, such as developing institutions specializing in standard patents through cooperation among the Ministry of Science and ICT’s “Information, Communication, and Broadcast Standard Development Project”; the Ministry of Trade, Industry and Energy’s “National Standard Technology Enhancement Project”; and KIPO’s “Standard Patent Creation Support Project,” as well as supporting strategies for SEP creation by institutions that carry out R&D-standardization projects. These efforts will lay the foundation for improving technological trade profitability in the future.