

KOREA TECHNOLOGY FINANCE CORPORATION
ANNUAL REPORT 2021

2021 KOTEC Annual Report



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Adding value to technologies as the No.1 partner in innovative growth for SMEs and startups



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CEO Message



First, I would like to express my sincere gratitude to all the stakeholders from SMEs, startups, and related institutions who have demonstrated their unwavering trust and support for KOTEC.

Due to the prolonged situation with the COVID-19 pandemic in 2021, all citizens experienced inconvenience and difficulties in their lives. For businesses, in particular, many SMEs, including owner-operators and small-business owners, suffered significant damages and distress.

Under these circumstances, KOTEC concentrated its institution-wide capabilities on helping SMEs and startups teetering on the brink of viability, enabling them to continue to hold onto hope for overcoming this crisis.

First, KOTEC provided a total of KRW 25.5 trillion in guarantees – the most significant amount ever – by increasing its special guarantee programs for enterprises suffering from the effects of the COVID-19 pandemic. KOTEC reinforced joint support with banks for small-scale owner-operators with small sales figures and eased the guarantee-assessment criteria. We also widened the scope of target enterprises for extension of expiry of the total guarantee amount, contributing to resolving financial difficulties for SMEs.

Second, KOTEC expanded the accident-handling and legal-action deferment measures for businesses closed since 2020, providing opportunities for business normalization to SMEs experiencing temporary business difficulties in a crisis. KOTEC provides SMEs suffering from temporary managerial difficulties with opportunities to normalize their business. Furthermore, KOTEC increased turnaround-support guarantees for earnest-but-failed enterprises to help them turn failure into a foothold for a new leap. Doing so has led to building a virtuous circle for a recharge ecosystem.

Third, on top of the measures to help overcome the COVID-19 crisis, KOTEC also drew its utmost efforts toward leading innovative growth for SMEs and startups and securing future competitiveness for the Korean economy. In response to the governmental policies to transform the economic constitution, KOTEC implemented guarantee-support systems for the areas of digital, green, human, and regionally balanced new deals.

In addition, KOTEC expanded financial support for major policy areas, such as materials, parts, equipment industries, local companies, and startups, by raising the guarantee limit. We supported promising fast-growing enterprises, such as preliminary unicorn companies, to help their scale-up attempts to become K-unicorn companies.

Lastly, KOTEC applied its new technology-appraisal system (AIRATE), where expert opinions and AI technologies are combined for technology-appraisal tasks in the entire operation to improve the objectivity and reliability of technology appraisal.

KOTEC earned its designation as a dedicated agency to support technology transactions and commercialization of SMEs according to the 「Act on the Promotion of Technology Innovation for Small and Medium Enterprises」. KOTEC was also selected as a recipient of governmental support for the smart technology-transaction platform-implementation project, establishing the foundation for comprehensive support for SMEs' open technology innovation.

Furthermore, KOTEC strengthened technology-protection support for SMEs. We invigorated registrations to and loans from IP mutual aid, accelerating automation and digitalization of tasks, in general, and aiming to innovate work efficiency and customer services.

In 2022, I expect that the Korean economy, SMEs, and startups will yet again confront several crises and challenges. With the possible expansion of the COVID-19 pandemic as a remaining factor, earlier-than-expected normalization of major nations' monetary policies, continuing disturbances to supply chains, global insecurity, and skyrocketing prices due to the Russia-Ukraine conflict, the results indicate continued and growing uncertainty. Drastic changes to the social and economic structure, represented by digital transformation, carbon neutrality, and expansion of ESG management, have presented an opportunity to change our future while simultaneously posing a threat.

This year, to help SMEs and startups safely emerge from the long and dark tunnel of the COVID-19 pandemic, KOTEC will maintain the keynote of expanding guarantees and various special and deferment measures.

Furthermore, KOTEC will increase support in significant fields, such as DNA (data, network, AI), BIG 3 (system semiconductors, bio-health, future cars), innovative growth industries, materials-parts-equipment industries, and export enterprises, backing up the creation of future growth engines for the Korean economy.

Additionally, through cooperation with the central and local governments, and relevant institutions, we will develop various customized technology-appraisal projects and introduce project-level R&D commercialization-support programs to reinforce support for R&D-IP commercialization.

As a dedicated institution for technology transactions and SME commercialization, we will extend support for open technology innovation and improve unicorn-company fostering programs.

We will also execute simple agreements for future equity (SAFE) investments to actively support scale-up initiatives for enterprises boasting superior technology.

Moreover, it will continue to promote various new projects, such as factoring trade accounts and notes receivable without the right to recourse and guarantees based on carbon-value estimation. KOTEC will also implement an interactive ESG-management system with SMEs to lead sustainable growth. While including all these measures, it will do all it can to realize the vision of KOTEC as a No.1 partner for SMEs and startups in their endeavors toward innovative growth that helps add value to technology.

I hope that this annual report, which details the efforts and achievements of KOTEC, will help you develop a better and more precise understanding of our work. Thank you!

April 2022

President of KOTEC Jong-ho, Kim



Chapter 1.

General Status of KOTEC

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01 KOTEC Overview



키비오 기술보증기금

Institution name	Korea Technology Finance Corporation (CEO : Kim Jong-ho)
Date of establishment	April 1, 1989
Statutory Law	Korea Technology Finance Corporation Act (formerly, Financial Assistance to New Technology Businesses Act)
Competent Authority	Ministry of SMEs and Startups (changed from Financial Services Commission on July 26, 2017)
Type of institution	(Type of institution) Fund-managing quasi-governmental institution
Head office	(48400) 33 Munhyeongeumyung-ro, Nam-gu, Busan
Fundamental property and the ratio of guarantee utilization	KRW 2.926 trillion / 8.9 times (as of December 31, 2021)

02 Purpose of Establishment and Role

1. Purpose of establishment

KOTEC is a quasi-governmental institution for managing funds, established on April 1, 1989, according to the Korea Technology Finance Corporation Act (formerly the Financial Assistance to New Technology Businesses Act, enacted on December 26, 1986) in order to facilitate financing for new technology businesses by stabilizing and developing technology guarantees and furthering their contributions to the development of the national economy, as well as to make funds more readily available for enterprises lacking security solvency by guaranteeing their liabilities. In the time since its establishment, as the need to expand the role of KOTEC as a policy financing institution is growing and for the government to promote nationwide balanced development policies, through the amendment of the Korea Technology Finance Corporation Act (October 19, 2021), the purpose of its establishment was partially changed to contributing to balanced development among regions and balanced development of the national economy.


2. Role

Since KOTEC's establishment in 1989, technology guarantees amounting to roughly KRW 418 trillion have been provided for tech SMEs holding excellent technologies and business characteristics but remaining alienated from the private financial market due to the lack of security solvency, helping to support their improved financing capabilities and competitiveness and, by doing so, contributing to the development of the Korean economy.

Moreover, technology appraisal guarantees were resolutely introduced as an innovative financial system that provides financial support by assessing the future growth potential of enterprises through technology appraisal, and this product has gone on to lead the Korean technology appraisal and technology finance markets. Based on its excellent technology appraisal capabilities, KOTEC has implemented and operated differentiated programs to provide specialized support, such as relaying transfers of technologies held by universities and research institutes to SMEs and assisting commercialization of transferred technologies, providing technology trusts, technology bailments, and IP mutual aid services, operating the venture business and Inno-biz confirmation and certification systems and making direct investments mainly into startups in their earlier stages or regionally located venture businesses falling in the blind spots of the investment market. Therefore, it has taken the lead in helping the innovative growth of SMEs and startups and creating new growth engines for the Korean economy.

03 History

KOTEC's History



- 1989 ~**
 - 1989.04.** KOTEC was established
- 1990 ~**
 - 1997.03.** The first 'Technology Appraisal Center' was opened in Korea
 - 1999.02.** Technology Appraisal Guarantee System' was launched
- 2000 ~**
 - 2002.04.** Implemented the Venture Investment Guarantee System
 - 2005.07.** Developed a technology rating system (KTRS) specialized in technology financing
 - 2007.01.** Unified all guarantees into technology appraisal guarantees

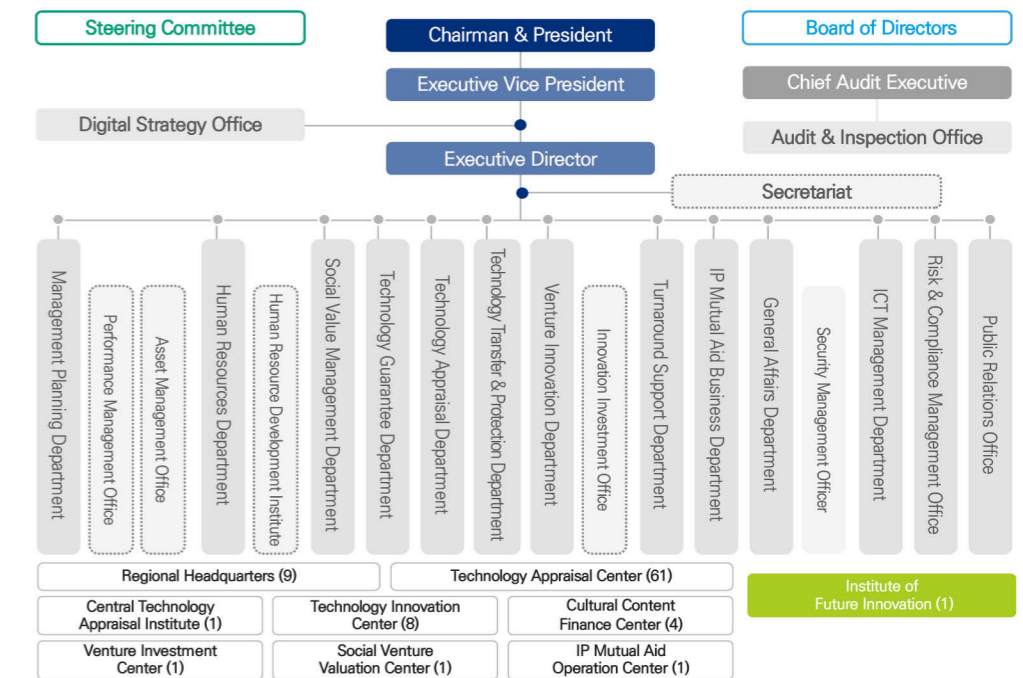
- 2010 ~**
 - 2011.05.** Completed the construction of its new head office in Munhyeon International Financial Complex in Busan and moved into the new office
 - 2012.06.** Legislation of guarantee-linked investment of KOTEC
 - 2014.06.** Opened the technology transfer and commercialization support system (Tech-Bridge)
 - 2017.07.** Competent authority was changed (Financial Services Commission → Ministry of SMEs and Startups)
 - 2019.02.** Opened the technology bailment system (Tech-Safe)
 - 2019.09.** Designated and approved as a specialized SME technology promotion institution (commercialization support institution) according to the Act on the Promotion of Technology Innovation of Small and Medium Enterprises (Ministry of SMEs and Startups)
- 2020 ~**
 - 2021.01.** Started using the new expert and AI-based technology rating system (AiRATE)
 - 2021.03.** Designated as a dedicated institution for promoting technology transfers and commercialization of SMEs according to the Act on the Promotion of Technology Innovation of Small and Medium Enterprises
 - 2021.04.** The cumulative total of guarantee provision reached KRW 400 trillion

04 Organization and Human Resources

1. Organization status

As of the end of 2021, KOTEC consists of its headquarters (11 departments, four offices, five affiliated offices, and one institute) and branch offices (nine Regional Headquarters, one Central Technology Appraisal Institute, 61 Technology Appraisal Centers, eight Technology Innovation Centers, four Cultural Content Finance Centers, one Social Venture Valuation Center, one Venture Investment Center, and one IP Mutual Aid Operation Center).

In 2021, the headquarters operated multiple temporary organizations to respond quickly in promoting new future businesses and changes to managerial environments, including the Trade Accounts and Notes Receivable Factoring Promotion Group to promote factoring of trade accounts and notes receivable without rights to recourse, which was selected as an innovative financial service program through a regulatory sandbox. The sales organization opened a new Daegu Dalseong branch office to reinforce close support for SMEs in consideration of service demands for guarantees, etc.



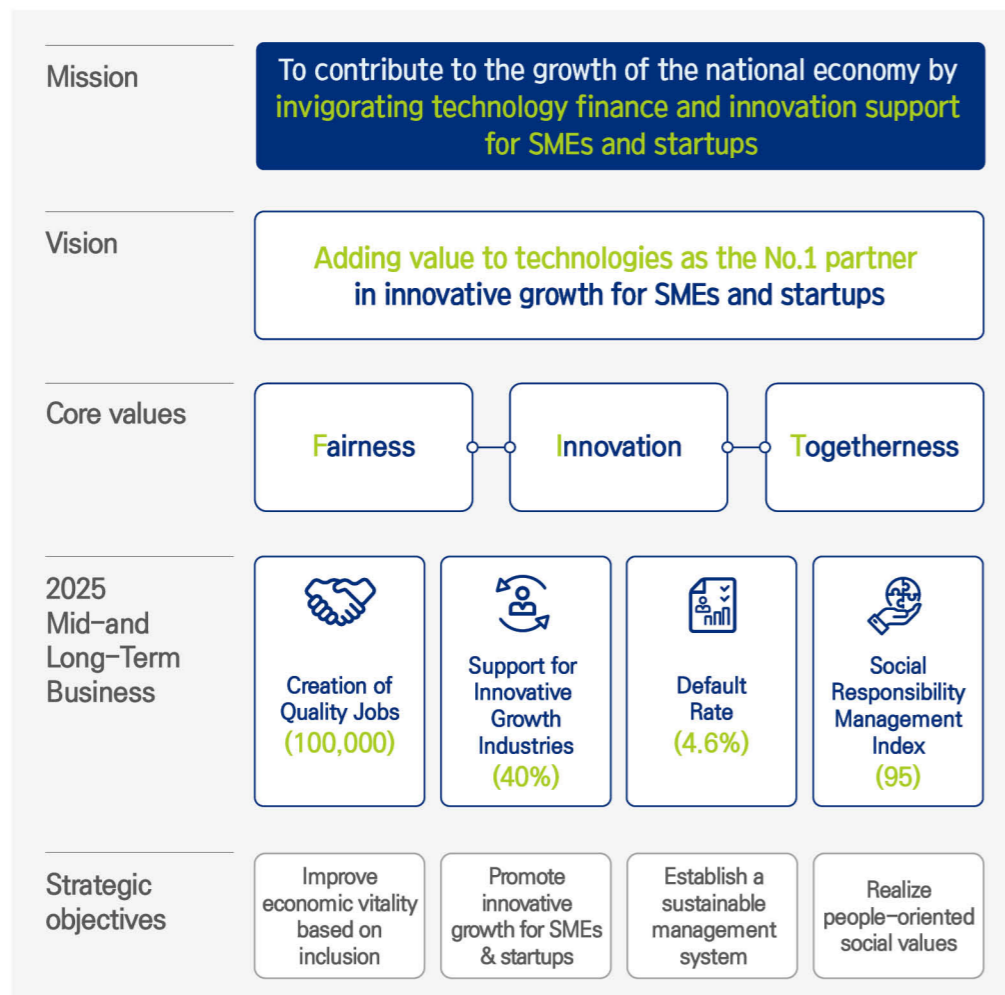
2. Workforce status

In line with the government policy to create quality jobs, KOTEC recruited 104 new regular employees in 2021. As of the end of 2021, a total of 1,563 employees, including seven executives and 215 special service employees, are working in the institution.

05 Mid-and Long-term Business Strategy

KOTEC drew up a new mission and consensus among its employees by reinterpreting and concretizing its purpose of establishment and role specified in the statutory law for the establishment from the citizens' and customers' perspectives in response to environmental changes and set a future vision based on these. To realize this vision, it established the mid-and long-term management strategy after collecting opinions from various stakeholders and actively promoting this strategy.

» Mid- and long-term management strategy diagram

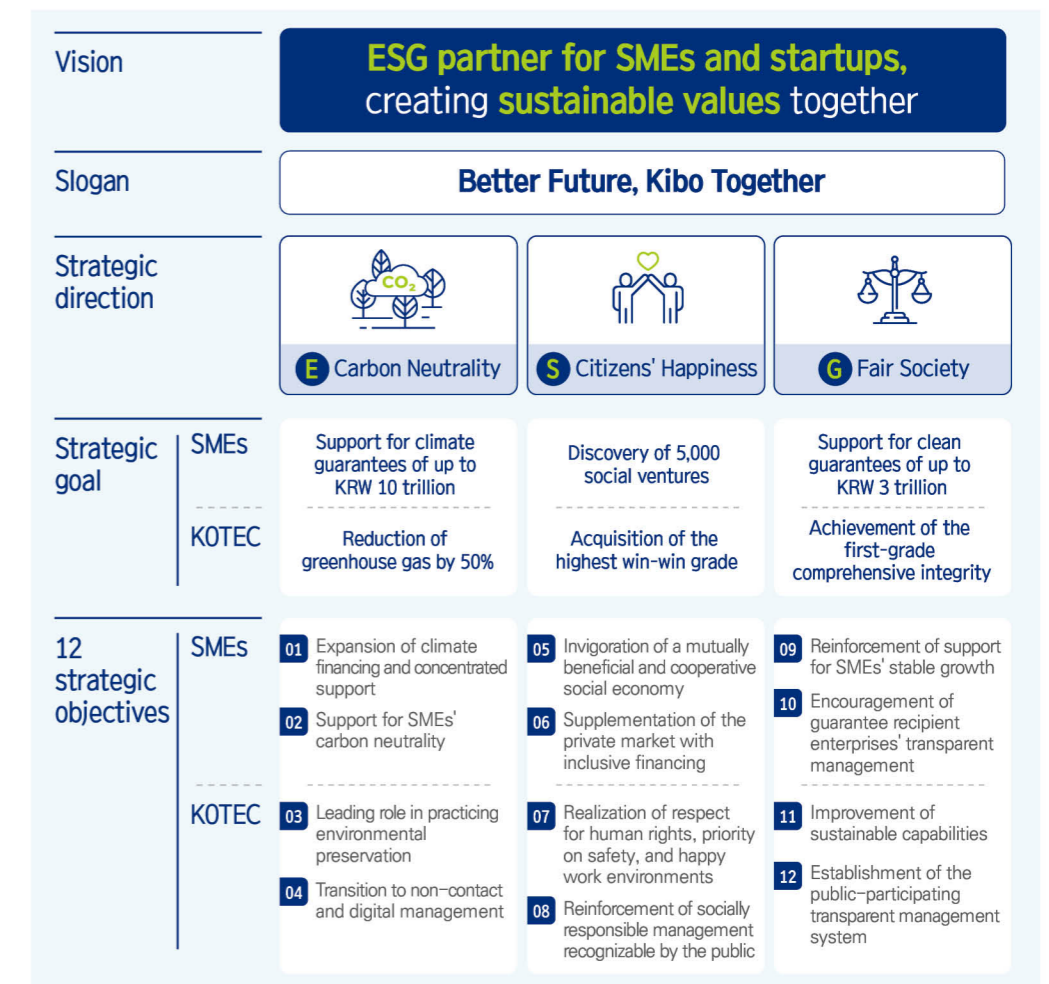


06 ESG Management Strategy

» Reinforcement of ESG management system

Given that ESG management has become a topic of conversation around the globe, KOTEC declared 2021 to be the first year of full-fledged ESG management and prepared the 「2030 KOTEC ESG Management Promotion Plan」 for systematic ESG management. Specifically, in addition to promoting this by itself, KOTEC established an ESG management strategy to encourage and support participation in ESG management for SMEs under the vision of “Becoming an ESG partner for SMEs and creating sustainable values together” and defined four strategic goals, 12 strategic objectives, and 36 comprehensive projects. Furthermore, it organized ESG promotion groups, assigned their roles, built execution, inspection, assessment, and feedback systems, and reinforced the overall ESG management promotion system.

◆ 2030 KOTEC ESG management strategy



» Establishment and operation of ESG Management Committee to improve the expertise and efficiency of ESG management

To improve the expertise and efficiency of ESG management, KOTEC established the “ESG Management Committee” in December 2021 and has been operating it ever since. The committee comprises three KOTEC executives and three external experts who gather advice from outside voices. In addition, one internal member and one external member were elected co-chairpersons. The committee holds regular meetings twice or more yearly in order to deliberate and resolve important matters related to ESG management and to inspect relevant activities.

» Holding the labor-management joint ESG declaration ceremony to form a consensus on ESG management

In November 2021, the “labor-management joint ESG declaration ceremony” was held with employees and included the participation of the chairperson of the board and the union head. During the declaration ceremony, KOTEC announced the ESG vision and slogan, and through the labor-management joint declaration, all the employees resolved to make joint efforts to put ESG management into practice and support SMEs' participation in ESG management.

» Production of CI and posters to improve and expand awareness of ESG management

To internalize ESG management and improve employees' awareness, KOTEC produced ESG management CI to be used for institutional documents and printed materials. Additionally, putting up ESG promotion posters in all branches across the nation was instrumental for SMEs visiting these branches to easily understand KOTEC's ESG activities and instill interest in ESG management.

◆ Labor-management joint ESG declaration ceremony



◆ ESG management CI



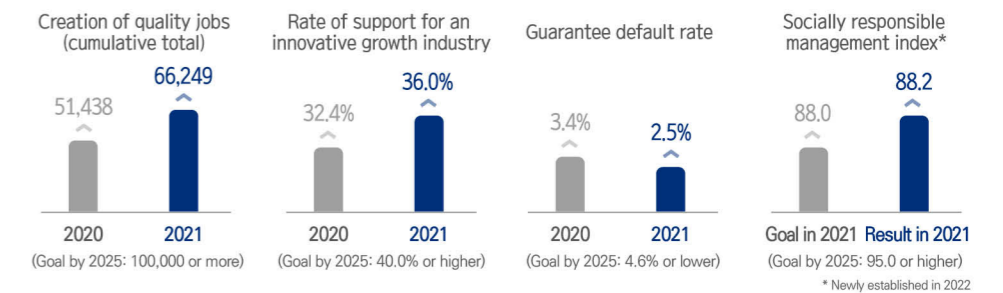
07

Accomplishments in 2021

1. Major business results in 2021

KOTEC has been putting ceaseless efforts toward positioning itself as the best comprehensive support institution for the innovative growth of SMEs and startups and as the most trusted institution among customers and citizens by creating various values through technology appraisal-based fair processing and cooperation.

» Results of promoting mid- and long-term management goals



» Key management index

Number of employees Current number of employees 1,563	Financial stability Fundamental property / Ratio of guarantee utilization KRW 2.962 trillion / 8.9 times	Guarantees Total guarantee support amount KRW 25.49 trillion	Technology appraisals New technology appraisal cases 40,809
Technology transfers New technology transfer contract relays 841	Technology protection New registrations to technology trust / bailment / TTRS 412/1,680/343	IP mutual aid New registrations to IP mutual aid 4,389	Investment New guarantee-linked investment support amount KRW 39.4 billion
Support for social ventures New social venture impact guarantee support amount KRW 147.6 billion	Discovery of ventures and Inno-Biz Venture business confirmation / Inno-Biz certification cases 11,485/7,856	Insolvency management Recovery amount of non-performing loans (cash type) KRW 179.9 billion	Turnaround support New turnaround support guarantee amount KRW 30.5 billion

KOTEC's footprints in 2021

January 4, 2021
Electronic contract platform opening ceremony



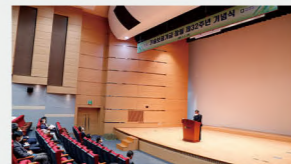
March 25, 2021
Human Resources Development Center remodeling completion ceremony



February 17, 2021
Daejeon Culture Content Finance Center opening ceremony



April 1, 2021
Celebration ceremony for the 32nd anniversary of the establishment



August 11, 2021
Dalseong branch opening ceremony



August 24, 2021
Webinar on promoting open technology innovation for SMEs

September 7, 2021
29th ATP, Insightful Webinar



November 9, 2021
Inauguration of new CEO Kim Jong-ho



November 11, 2021
Visit from the National Planning Department of Colombia

November 30, 2021
Declaration ceremony of KOTEC ESG management and its dedicated committee

October 11, 2021
Dalseong branch opening ceremony



August 24, 2021
Webinar on promoting open technology innovation for SMEs

October 26, 2021
Simulation training for KOTEC computing system's disaster recovery scheme



December 8, 2021
KOTEC IR Day for investors

December 15, 2021
Selection ceremony for 100+ small giants in the materials, parts, and equipment industries

December 24, 2021
Non-contact celebration ceremony for new recruits (104 persons)





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01 Management Overview

1. General review

In 2021, the Korean economy recorded a growth rate of 4.1%, the highest in 11 years, thanks to the base effect following negative growth for 2020 and the upswing in exports. Meanwhile, SMEs, including owner-operators and small business owners, revealed vulnerabilities to the prolonged COVID-19 pandemic and suffered many managerial difficulties. In response, KOTEC provided the largest-ever amount of guarantees (KRW 25.5 trillion) to help them overcome the COVID-19-driven crisis and maintained and expanded the application of full-amount expiry extensions for existing guarantees and the special accident handling and legal action deferment measures. In addition, to strengthen the future competitiveness of the Korean economy, it increased support for key policy fields, such as the materials, parts, and equipment industries, as well as for the scale-up of promising fast-growing enterprises. Furthermore, it applied the new technology rating system (AiRATE) to technology appraisals in the entire operation. It was designated as a dedicated institution to promote SMEs' technology transfers and commercialization and established a foundation of support for open technology innovation. Moreover, by promoting a diverse range of projects, including technology protection and IP mutual aid and accelerating automation and digitalization of processes, KOTEC has dramatically improved overall work efficiency and innovated customer services.

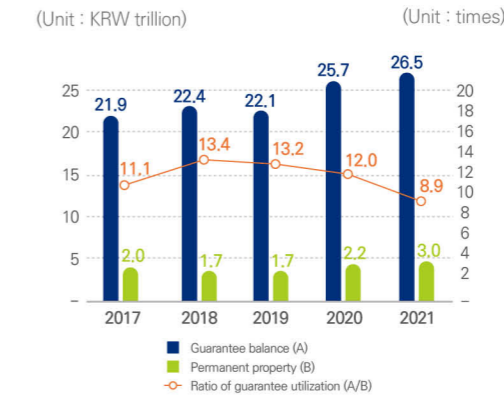
2. Fundamental property and ratio of guarantee utilization

The fundamental property is the financial resource for guarantees and investment support programs for SMEs with technologies. It serves not only as the capital but also as the reserve fund for subrogated payments, and it is prepared mainly through contributions from the government and financial institutions. The profit is comprised of fundamental property made from contributions, guarantee fees, and operating profits from deposits, and this sum is primarily appropriated for expenses to fulfill guarantee obligations and the institution's operation. In contrast, the surplus can be operated as deposits to financial institutions, purchases of bonds, acceptance of marketable securities, and other means necessary to achieve the purpose of establishment. In 2021, despite reduced government contributions and increased guarantee amounts, KOTEC's fundamental property significantly increased to KRW 2.962 trillion, from KRW 2.15 trillion in 2020, thanks to stable management of the guarantee default rate, a significant decrease in subrogated payment-related expenses, increased investment profits, etc.

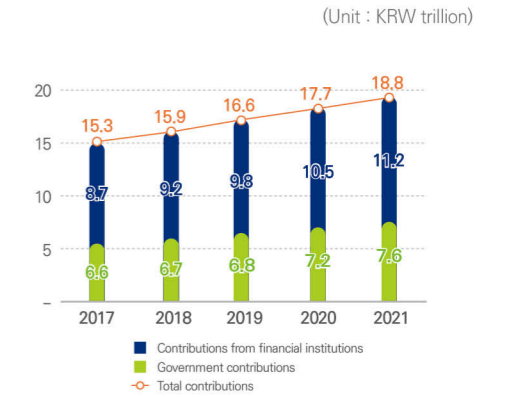
The ratio of guarantee utilization is the guarantee amount divided by the sum of the fundamental property and the profits carried forward. It indicates solvency in responding to subrogated payment claims and the support capacity available to answer to guarantee demands. It also reflects the multiplier effect, which is the most significant benefit of the guarantee system and is simultaneously used for financial stability management of the guarantee institution. According

to the Korea Technology Finance Corporation Act, the ratio of guarantee utilization cannot be greater than 20 times, and as of the end of 2021, the ratio for KOTEC is about 8.9 times.

◆ Guarantee balance and financial status for the past five years



◆ Accumulated contribution amount status for the past five years



02 Major Operation

KOTEC provides diversified financial and non-financial services for tech SMEs, in addition to technology guarantees. The operations specified in the Korea Technology Finance Corporation Act are as follows:

◆ Major operations of KOTEC

Major operations of KOTEC

Technology Appraisal
Evaluating the future value of a technology held by an enterprise and utilizing the results as a means toward technology financing for various purposes, such as guarantees and investment

Support for Enterprise Innovation
Various financial and non-financial support programs, such as investment-linked guarantees, guarantee-linked investments, venture business confirmation, and Inno-Biz certification, for innovative growth of tech SMEs

Technology Guarantee
Providing guarantees for a variety of financial debts taken on by tech-based SMEs in the process of financing business establishment, R&D, and commercialization

Investment-Linked Guarantee
A guarantee for SMEs with high future growth potential which has secured VC investment (if necessary, an option of converting guaranteed loans to investment is granted)

Technology Transfer
Matching and relaying the supply of technologies held by universities or research institutes and the demand for technologies required by SMEs and financial support for technology transfers and commercialization

Guarantee-linked Investment
Investment in link with guarantees for SMEs with high future growth potential that are currently using technology guarantees

Technology Protection
Legal and physical protection of technologies held by SMEs and financial support to prevent technology extortion (technology trusts, technology bailments, registration of technology material transaction records)

Venture Business Confirmation - Inno Biz Certification
Venture business confirmation according to the "Act on Special Measures for Promotion of Venture Businesses" and certification of technically innovative SMEs according to the "Act on the Promotion of Technology Innovation of Small and Medium Enterprises"

IP Mutual Aid
Mutual aid system that provides services, such as loans for expenses in IP disputes or domestic or international applications, using accumulated installments from SMEs and middle-standing enterprises as financial resources

Insolvency Management
Prevention of insolvency for guaranteed enterprises, guidance on normalization after bankruptcy, collection, and management of receivables through the exercise of legal rights against claim-related persons

Managerial and Technical Guidance, etc.
Managerial and technical diagnoses, consulting, technical consultations, M&A relays, business establishment education, and other support for business rationalization and technical development promotion

Turnaround Support
Support for credit recovery and reestablishment through debt settlement, retirement of receivables, guarantees, education, etc., for earnest-but-failed entrepreneurs

03 Technology Appraisal

1. Operation overview

▶▶ Concept of technology appraisal

Technology appraisal is a system that assesses the economic value of an intangible technology, such as intellectual property and technical know-how, in terms of technological competitiveness, marketability, and commercialization feasibility to express the result in an amount, rating, grade, opinion, etc.

The quantitative appraisal of an enterprise is generally done through credit assessment. However, in the case of enterprises in their earlier stages or technically innovative enterprises, it is difficult for them to be assessed fairly in the market, as their credit (financial) rating cannot be evaluated or underestimated. On the other hand, technology appraisal evaluates the economic value and potential of a technology, making it the necessary means of resolving the asymmetry of information and enabling policy-based support for tech SMEs that fall in the blind spot of aid.

◆ Scope of technology appraisal

Technology competency	Marketability	Business feasibility
<ul style="list-style-type: none"> • Technology Overview • Domestic and overseas technology trends • R&D environment and level of technology, etc. 	<ul style="list-style-type: none"> • Market size and characteristics • Industry status • Industry status 	<ul style="list-style-type: none"> • Sales outlook • Price and quality competitiveness • Business feasibility, etc.

▶▶ Types and targets of technology appraisal

Technology appraisals are categorized into technology valuation, business feasibility, and comprehensive technology evaluation. It is used for a technology or the enterprise holding the technology.

◆ Types of technology appraisal

Type of appraisal	Summary	Definition
Technology Valuation	Technology into amount	Appraises the value of the technology currently being manifested or to be manifested in the future and expresses the results of the appraisal in a monetary value
Technology Business Feasibility Evaluation	Technology into grade	Assesses the technological competitiveness and business feasibility of a technology project in ratings, etc., by an enterprise that aspires to commercialize any of its technologies or ideas or to increase investment in an ongoing technology project
Comprehensive Technology Evaluation	Evaluation Enterprise into grade and amount	Comprehensively evaluates all the technologies of an enterprise by grade and amount in connection with its profile covering the business environment and its prospects

▶▶ Progress of work

KOTEC established its first technology appraisal center, the first specialized technology appraisal organization in Korea, in March 1997 and has since led the technology appraisal market in Korea as the best technology appraisal institution through efforts such as the implementation of the technology appraisal guarantee system, designation as a venture business and Inno-Biz confirmation and certification institution, and development and application of an independent technology rating system.

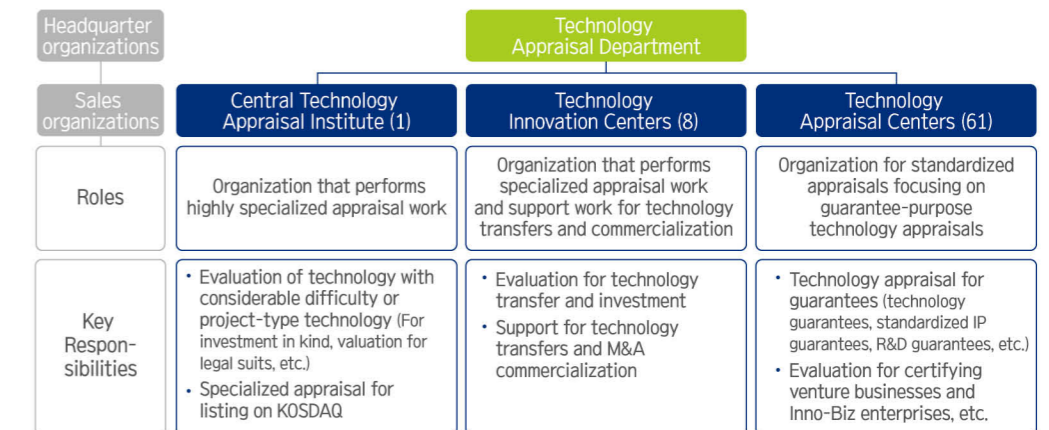
◆ Brief history of technology appraisal program

Category	Description
March 1997	Established the technology appraisal center for the first time in Korea and launched technology appraisal services
August 1998	Designated as an institution for the confirmation and assessment of venture businesses according to the Act on the Special Measures for the Promotion of Venture Businesses
April 2001	Designated as a specialized institution for technology appraisal and technology transfers, according to the Technology Transfer Promotion Act
August 2001	Designated as an Inno-Biz selection and assessment institution according to the Act on the Promotion of Technology Innovation of Small and Medium Enterprises
July 2005	Implemented the new technology rating system (KTRS) specialized in technology financing
April 2010	Designated as a green certification assessment institution according to the Green Growth Act
September 2017	Launched the patent appraisal system (KPAS)
January 2021	Implemented the new technology rating system (AiRATE)

▶▶ Technology appraisal organization

To reinforce the expertise and efficiency in processing technology appraisals, KOTEC has differentiated sales organizations based on the level of work difficulty, demand, etc., in addition to the technology appraisal department, which is the department under the headquarters in charge of overall administration and planning of technology appraisal work. As of the end of 2021, KOTEC has established and has been running one Central Technology Appraisal Institute, eight Technology Innovation Centers, and 61 Technology Appraisal Centers.

◆ Technology appraisal organization



▶▶ Workforce for technology appraisal

KOTEC has been continuously fostering and expanding its personnel dedicated to technology appraisals (including its doctoral-level workforce) who have acquired the theory and knowledge regarding technology appraisals and have obtained specific qualifications and capabilities through practical appraisal work.

◆ Workforce for technology appraisal

(Unit : number of persons)

	2019	2020	2021
Workforce dedicated to technology appraisal	688	750	761
Workforce holding a doctoral degree	257	269	284

Additionally, to overcome any limits in internal technology appraisal personnel and improve the expertise and objectivity for appraisals, KOTEC prepared a pool of external consultants who are experts from different areas, such as industries, academia, and research institutes, and invited them in on technology appraisals.

◆ Status of the pool of external technology appraisal consultants (as of the end of 2021)

(Unit : number of persons)

Mechanical Eng.	Accounting	ICT	Electrical & Electronic Eng.	BIO	Material Eng.	
145	148	113	111	85	71	
Patent Law	Chemical Eng.	Environment	Cultural Content	Textile Eng.	Others	Total
63	62	29	27	10	60	924

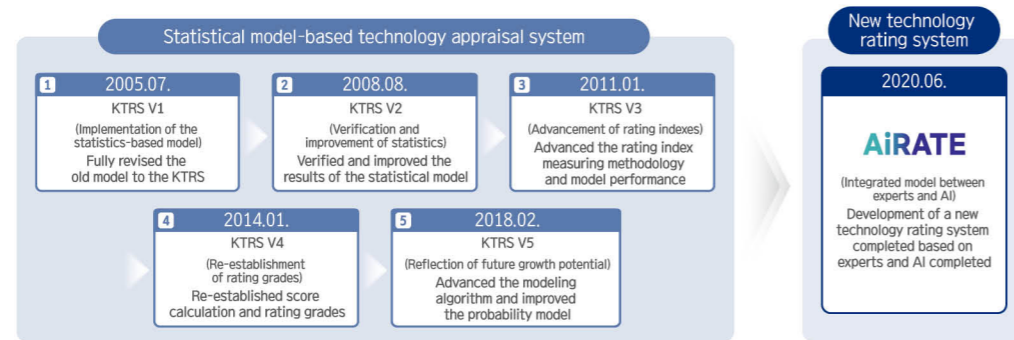
▶ Technology Appraisal System

■ New technology rating system (AiRATE)

Since the July 2005 development and introduction of the KIBO Technology Rating System (KTRS), KOTEC's independent technology rating system assesses and grades the technological competitiveness, marketability, business feasibility, etc., of technologies held by enterprises. KOTEC has been continuously improving and supplementing the system.

In June 2020, based on the analysis results of the accumulated technology appraisal data of about 330,000 cases, KOTEC introduced a new technology rating system (AiRATE) where experts' opinions and AI technology are seamlessly combined to calculate the appraisal grade. It was a first among financial support appraisal models and has been applying this system throughout the entire scope of technology appraisal work since April 2021.

◆ Advancement process of technology appraisal system

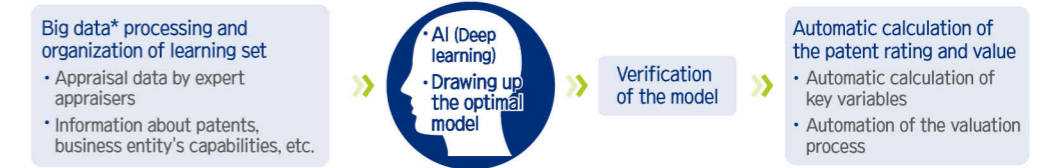


■ Patent appraisal system (KPAS)

KOTEC developed the Kibo Patent Appraisal System (KPAS), an intelligent rating system that learns from big data and appraisal patterns from internal and external experts to calculate the rating and value of a patent automatically, and it has been using this system for the selection of excellent IP, protection of IP, financial support for IP, etc. There are two kinds of systems: one is a patent rating system (KPAS-I) (September 2017), and the other is a patent valuation system (KPAS-II) (December 2018).

The patent rating system (KPAS-I) assesses a patent based on the deep neural network using internal indicators, where the intrinsic characteristics of the patent are reflected, and external indicators, where the characteristics of the technological environment of the patent are reflected, in order to distinguish patents with high transaction potential, automatically rating the result on a scale of nine grades (AAA-C). On the other hand, in the patent valuation system (KPAS-II), based on the patent information and learned appraisal patterns from experts, AI automatically calculates the value of the patent into a monetary amount.

◆ KPAS concept diagram



2. Major results and achievements

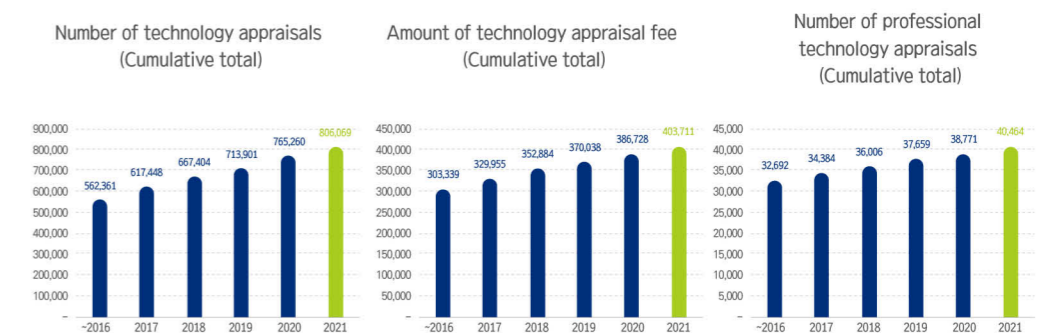
▶ Overall technology appraisal results

Since launching its technology appraisal work in March 1997, KOTEC has conducted a total of 806,069 cases of technology appraisals (up until the end of 2021) and has accumulated revenue from technology appraisal fees of KRW 403.7 billion. In 2021, a total of 40,809 cases of technology appraisal were conducted, including 32,881 cases (80.6%) of technology business feasibility assessment, 5,813 cases (14.2%) of comprehensive technology assessment, and 2,115 cases (5.2%) of technology valuation.

Meanwhile, KOTEC also performs high-difficulty technology appraisals that require high-level expertise and objectivity, such as assessments of industrial property rights for investment-in-kind exceptional cases, checks to determine the reference value of a technology transfer and trade, appraisals for reference by the court or in a lawsuit, and assessments for listing on the KOSDAQ market. The cumulative total of such cases at the end of 2021 is 40,464.

◆ Technology appraisal performance results

(Unit : number of cases, KRW 1 million)

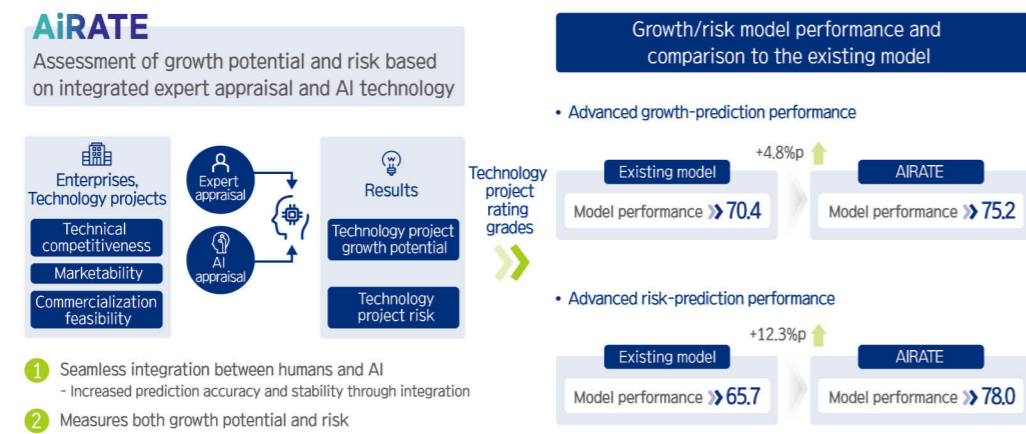


» Full introduction of AI and expert converged new technology rating model (AiRATE)

To improve the reliability and objectivity of its technology appraisals and strengthen future growth potential-based technology appraisals, KOTEC developed a new technology rating system (AiRATE) where experts' opinions and AI technology are combined, launching its application to technology appraisal work in January 2021.

The AiRATE system is a technology rating system where the scientific and automated learning algorithm is applied using AI and big data technologies. It can calculate the growth grade and risk grade of a technology project independently, and thanks to its modular structure, it can be applied efficiently as a seamless customized model upon a policy's specific purpose. In addition, it was verified to offer improved prediction performance compared to the existing model through a performance verification test, meaning it is expected to contribute to discovering and fostering promising tech enterprises.

◆ Concept of AIRATE and performance comparison with existing statistics-based system



» Leading the IP financing market using KPAS

After the preemptive introduction of IP-based advanced technology financing, such as patent technology valuation linked guarantees and technology valuation linked guarantees, in Korea in 2006, KOTEC rearranged the relevant systems in August 2013 and restructured the programs into the IP appraisal-based guarantee. It has taken the lead in vitalizing IP financing, by operating a differentiated guarantee system that appraises the value of the excellent IP held or taken by tech SMEs and providing support for them.

KOTEC developed the AI-based patent rating system (KPAS-I) and patent valuation system (KPAS-II) and introduced programs using these systems to provide IP financing support. In 2021, it offered a total of KRW 433.5 billion in IP rating-based guarantees using KPAS-I, a total of KRW 177.5 billion in IP fast guarantees, and IP venture special guarantees based on KPAS-II.

» Expanding non-financial technology appraisal programs to support innovative growth of SMEs and startups

In addition to technology appraisal programs for financial support, KOTEC is also reinforcing non-financial technology appraisal programs based on its expertise and public confidence. Led by the expertise and innovation assessment team, it is expanding the scope of specialized technology appraisals that require expertise, such as technical assessments for the KOSDAQ market, technology valuations for investment-in-kind, technology transfers, and M&A with specialized assessments for investment.

Furthermore, KOTEC is participating in policy projects run by the government and extending public-sector technology appraisal projects for which public confidence as an official technology appraisal institution and policy demands are recognized, contributing to the innovative growth of SMEs and startups.

◆ Non-financial technology appraisal programs by governmental departments

Leading agency	Non-financial technology appraisal programs
Ministry of SMEs and Startups	R&D planning support for SMEs, investment-type R&D assessments, selection of excellent tech companies, such as small giants, etc.
Ministry of Science and ICT	Technology valuations for research institutes or enterprises, software technology valuations, etc.
Ministry of Trade, Industry, and Energy	Investment-purpose technology appraisals, etc.
Korean Intellectual Property Office	Support for IP appraisals (guarantee-linked, commercialization-linked, investment-linked), etc.

» Contribution to low-carbon green growth through green certifications, green guarantees, etc.

KOTEC is the only financial institution among 11 appraisal institutions participating in the green certification assessment program to encourage the inflow of private capital into the green industry in line with the enforcement of the Framework Act on Low Carbon Green Growth in April 2010. There are four types of green certification, and a brief description of each certification type is as follows:

◆ Brief description of each green certification

Categories	Certification and verification target
Green technology certificate	Technologies capable of minimizing emissions of greenhouse gases and pollutants throughout the entire process of social and economic activities, such as reduction of greenhouse gases, efficiency improvement in energy use, clean energy, resource recycling, and eco-friendly technologies (promising technologies in 10 areas (93 key areas))
Green business certificate	Businesses with significant economic or technical ripple effects with economic activities related to green growth, such as installation or construction of green industrial facilities or infrastructure and application, distribution, or spreading of green technologies or industries (109 businesses in nine areas)
Green specialized enterprise verification	Enterprises lasting for a year or longer from the establishment and for which the sum of sales amounts for certified green technologies and verified green technology products in the previous year are more than 20% of the total sales amounts in the previous year
Green technology product verification	Products commercialized for sales and in which certified green technology (according to the Framework Act on Low Carbon, Green Growth) is applied

In 2021, KOTEC performed 577 green certification assessments, including 158 green technology certification cases, five green enterprise confirmation cases, and 414 green product confirmation cases, which account for 48.2% of the total green certification assessments. Its cumulative total for assessment cases by 2021 is 2,959, representing the second largest, following an environmentally specialized institution, among the 11 assessment institutions.

Meanwhile, KOTEC was designated on April 16, 2021, as an execution institution for the “green guarantee project” led by the Ministry of Trade, Industry, and Energy as part of the Green New Deal project for 2050 Carbon Neutrality. As a result, it developed a carbon valuation method in June 2021 and prepared a new renewable energy guarantee system that provides guarantees for developing and industrial companies in the new renewable energy field recommended by the Korea Energy Agency. As a result, guarantees of up to KRW 175.2 billion were provided in 2021.

◆ New renewable energy guarantee support system



➤ Expansion of the technology rating system into the global financial market

KOTEC has raised the awareness and status of the technology rating system by transferring its advanced technology financings, such as its own-developed technology rating system (KTRS) and technology know-how, to overseas targets like Europe and developing nations.

KOTEC participated as a key partner in the data-based assessment model development project of the European Commission (EC) to support and improve the decision-making process on financing for innovative SMEs. As a result, it received full support for the entire development expenses from EC for 36 months, from January 2019 to December 2021, and developed and exported an EU-style technology rating system (ITRS).

KOTEC has also been sharing its technology rating system and know-how with Asia and South American nations. For example, the knowledge sharing program (KSP) for economic development experience led by the Korean government helped Vietnam and Thailand build a technology rating system for technology innovation and shared improvement know-how with them. For Peru, it transferred technology appraisal indexes and certifications, guarantees, and technology innovation systems. In addition, KOTEC shared its technology rating system and know-how upon requests from Mexico, Colombia, etc., spreading its technology rating system to the globe and contributing to improving Korea’s national image.

◆ Status of sharing the technology rating system overseas

Nation	What was shared	When
Europe	• Developed and delivered an EU-style technology rating system (ITRS) (Amount of contract : EUR 210,000 thousand)	December 2021
	• Selected as a developer for an EC innovative SME appraisal tool development project	September 2018
	• Concluded an MOU with EIB for trial application of KTRS for enterprises in Europe	November 2017
	• Requested for “introduction of the KTRS model in Europe” by EC	December 2016
Others	Colombia • Received a request for transfer of technology financing and technology appraisal know-how from the National Planning Department of Colombia	November 2021
	Mexico • Instructed on the technology rating system and know-how to Mexico	February 2020
	Peru • Instructed on the technology rating and guarantee systems to the Foundation for Guarantee Fund for Loans to Small Industries (FOGAPI) of Peru	April 2018
	Thailand • Instructed on the technology rating and guarantee systems to the Thai Credit Guarantee Corporation	May 2017
	Vietnam • Instructed on the technology rating system to the State Agency for Technology Innovation (SATI) of Vietnam	April 2016

04 Financial Support for Carbon Neutrality

1. Carbon neutrality promotion system

To actively join the government’s carbon neutrality policy and promote carbon neutrality systematically, KOTEC established the carbon neutrality promotion strategy (Kibo Net-Zero+ 2030) in December 2020 and later organized the “Carbon Neutrality Promotion Group” in January 2021, which remains in operation. The Carbon Neutrality Promotion Group comprises three teams and administers carbon neutrality-related work.

2. Financial support for SMEs’ carbon neutrality

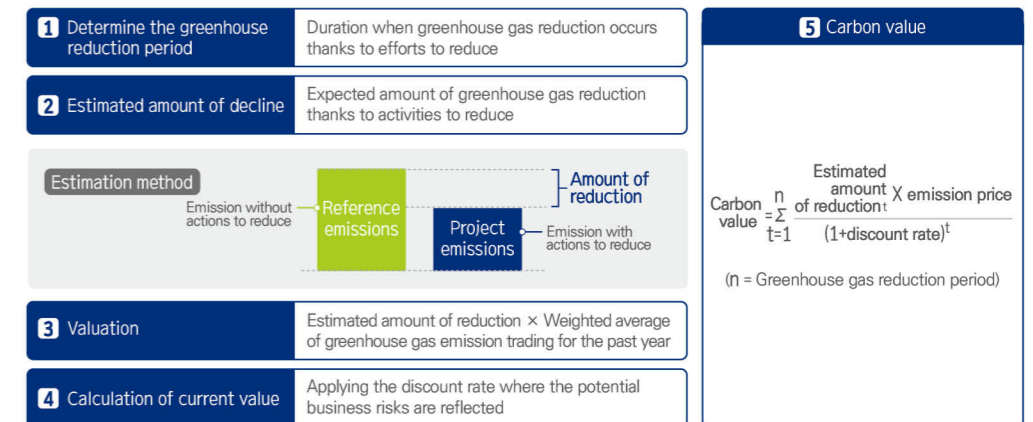
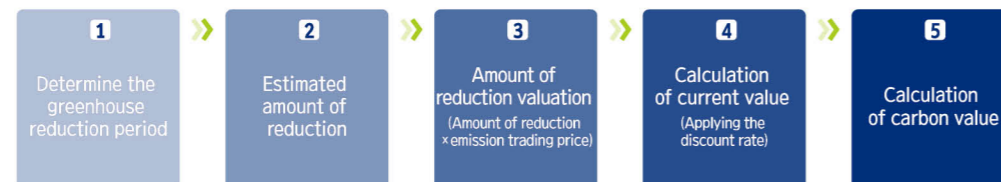
» Preemptive operation of a support system for enterprises in the climate and environment fields

KOTEC was designated as the “green technology certification and assessment institution” by the government in 2010 for the first time among financial institutions. Since then, along with the development of the climate technology rating system (CTRS), it has preemptively introduced diverse and specialized guarantee measures for enterprises in the fields of climate and the environment, including preferred guarantees for enterprises holding businesses in the green growth industry, environmental industry, and energy industry or those owning climate technologies, mutually beneficial guarantees for new renewable energy, and preferred guarantees for fine-dust-reducing enterprises as a way to reinforce support.

» Development of a carbon valuation model and introduction of a new-concept financial system

In 2019, KOTEC developed a “carbon valuation model” that calculates the amount of greenhouse gas that an enterprise can reduce by adopting climate- and environment-related technologies and commercializing projects into money for the first time in Korea.

◆ Procedure and method of carbon valuation



Since the partial trial application of the carbon valuation model to green guarantees in July 2020, KOTEC has been actively applying the model in guarantee support, such as launching an exclusive product for carbon neutrality support in 2021.

KOTEC’s carbon neutrality support system utilizes the climate technology rating system (CTRS) and carbon valuation model for enterprises that use technologies to reduce greenhouse gas from manufacturing and production processes or that introduce greenhouse gas reduction facilities. It consults the automatically calculated carbon value in determining guarantee support.

Moreover, to promote the carbon neutrality program consigned by the Ministry of Trade, Industry, and Energy, KOTEC introduced a “new renewable energy guarantee” in June 2021. The new renewable energy guarantee is a guarantee system for enterprises that hold new renewable energy development projects or that manufacture or install related facilities based on carbon valuation in cooperation with the Korea Energy Agency. The guarantee support amount is calculated by adding the carbon value to the common operating expenses. Since the system’s enforcement in June 2021, KOTEC has provided guarantees worth KRW 175.3 billion for a total of 231 enterprises until the end of the year and will continue to offer new guarantees worth KRW 650 billion by 2024.

The operation of such diversified and differentiated rating and guarantee systems provided KRW 1.2 trillion in total for new guarantees for enterprises within the climate and environment fields in 2021, backing up the transition to the low-carbon industrial structure and fulfillment of SMEs’ carbon neutrality.

Meanwhile, in 2022, using the climate response fund of the Ministry of Economy and Finance, set according to the 「Framework Act on Carbon Neutrality and Green Growth for Coping with Climate Crisis」, to transition to a carbon-neutral society and promote green growth through the expansion of financial support, KOTEC will newly introduce the “carbon valuation guarantee”, which provides support for enterprises that achieved or are expected to achieve greenhouse gas reduction results using the carbon valuation model and will offer about KRW 500 billion worth of support per year.

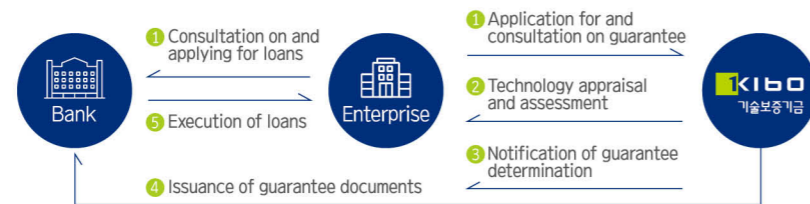
05 Technology Guarantee

1. Overview

▶▶ Concept of technology guarantees

Technology guarantees refer to SMEs holding new tech businesses, enterprises for which the total assets amount to less than KRW 500 billion, and Industrial Technology Research Cooperatives with support for financial obligations to financial institutions, etc. With these guarantees, tech SMEs lacking security solvency but holding excellent technological competitiveness and significant future growth potential can receive timely support for necessary funds.

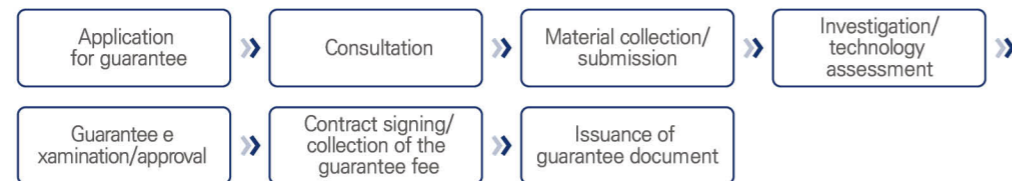
◆ Technology guarantee support system



▶▶ Procedure for technology guarantee support

The standard procedure for a technology guarantee is as in the following. The overall process from application for a guarantee to issuance of a guarantee document is non-contact and digitalized, meaning a customer can get support for a guarantee without even visiting a KOTEC branch.

◆ Procedure of technology guarantee support



▶▶ Rate, limit, etc., of technology guarantee

The principle is to apply the rate of a technology guarantee as 85% of the loan amount. However, if a preferred guarantee, such as a guarantee for the key fields or an agreement guarantee, is required, the rate can be raised. Additionally, the guarantee limit per enterprise is KRW 3 billion, but in the case of specific guarantees, such as special guarantees for preliminary unicorns, support can be raised to a maximum of KRW 20 billion.

2. Major results and achievements

▶▶ Overall technology guarantees support results

In 2021, in order to help tech SMEs suffering through the prolonged COVID-19 situation overcome the crisis and realize innovative growth, KOTEC provided a total of KRW 25.5 trillion in guarantees, marking the most significant amount ever, including new guarantees and expiry-extended guarantees. As a result, as of the end of 2021, the guarantee balance reached KRW 26.5 trillion, increasing about KRW 800 billion compared to the end of 2020.

◆ Guarantee supply results by year

(Unit : KRW trillion)

Category	Guarantee supply				Guarantee balance			
	2019	2020(A)	2021(B)	Change (B-A)	2019	2020(C)	2021(D)	Change (D-C)
Total guarantees*	22.0	25.4	25.5	+0.1	22.1	25.7	26.5	+0.8
Technology guarantees* (new guarantees)	21.8 (4.8)	25.3 (7.8)	25.4 (4.9)	+0.1 (△2.9)	21.8	25.4	26.3	+0.9
Guarantee for liquidization enterprises*	0.2	0.1	0.1	-	0.3	0.3	0.2	△0.1

Furthermore, to back up the revival of the Korean economy and secure future competitiveness amid the fast transition to the non-contact and digital era accelerated by COVID-19, and with fiercer competition from the global technological hegemony, KOTEC has introduced a variety of technology guarantee measures to provide funds for tech SMEs for business establishment, innovative growth, and technology development.

◆ Support results for key technology guarantee types

(Unit : KRW trillion, %)

Category	2019		2020		2021		
	Support amount	Weight	Support amount	Weight	Support amount	Weight	
Technology guarantee	22.0	100.0	25.4	100.0	25.5	100.0	
Guarantee type*	Innovative tech SMEs	21.3	96.8	24.8	97.5	24.8	97.3
	Innovative growth SMEs	5.5	24.9	8.2	32.3	9.1	35.7
	Knowledge & culture industry	4.2	19.0	5.0	19.8	5.5	22.4
	Export SMEs	3.1	14.3	3.7	14.6	3.4	13.3
	Young startups	1.7	7.6	1.7	6.7	1.8	7.1
	R&D guarantees	5.5	25.2	6.1	24.0	6.3	24.7

» Support for recovery of economic vitality

◆ Support to help overcome the COVID-19 crisis

Following 2020, KOTEC concentrated its capabilities to help overcome the COVID-19 crisis in 2021. Although the government budget was not allocated, it provided support of up to KRW 7.2 trillion (KRW 5.6 trillion in 2020) for enterprises suffering from the COVID-19 pandemic by establishing an emergency support plan and allocating KRW 1.1 trillion for special COVID-19 guarantees. It also extended the expiry of the total guarantee amount of KRW 18.3 trillion (KRW 14.4 trillion in 2020), including for enterprises whose credit rating has been downgraded.

Furthermore, easing the assessment criteria for guarantees expanded the scope of guarantee support and hastened the provision of KRW 3.8 trillion (KRW 3.3 trillion in 2020) in guarantees. It secured a unique contribution of KRW 128.3 billion (maximum KRW 2.616 trillion in guarantee support available) by signing contracts for contributions with financial institutions to ease the financial burden of enterprises, such as for loan interest and guarantee fees.

Moreover, for small-scale owner-operators with annual sales of KRW 500 million or less, it concluded joint business agreements with 15 banks and provided guarantees worth KRW 96 billion. Furthermore, it increased the guarantee support for enterprises with excellent technological competitiveness but experiencing poor financial conditions (accounting for 8.8% of new guarantees). To prevent the expansion of the COVID-19 pandemic and improve customer convenience, it minimized contact with customers by increasing non-contact one-click guarantee support (KRW 152.8 billion → KRW 381.9 billion) and by invigorating non-contact applications for guarantees and the use of electronic agreements.

◆ Brief description of major supports to help overcome the COVID-19 crisis in 2021

Category	Details
Support for enterprises suffering from the COVID-19 pandemic	Support for new guarantees, expiry extension for the total amount, and exceptional accident cases for enterprises suffering from the COVID-19 pandemic
Expiry extension for the total amount	Expiry extension for the total amount amid the growing burden for enterprises due to reduced sales and increased expenses
Ease of examination criteria	Ease of the enterprise examination criteria and expansion of the scope of guarantee-eligible SMEs
Increase of special contribution agreements	Reduction of loan interest and guarantee fees for enterprises based on secured special contributions
Support for small-scale owner-operators	Reinforcement of guarantee support for SMEs with small amounts or no amount of sales (jointly with 15 banks)
Support for enterprises with excellent technology but in poor financial condition	Increase in the portion of guarantees for enterprises with excellent technology but the poor financial condition
Implementation of non-contact guarantee applications and electronic contracts	Non-contact consultations, document submission, guarantee agreements, etc., for customers
Expansion of one-click guarantees	Quick support of non-contact one-click guarantees

■ Support to create and protect jobs

Amid the COVID-19 situation, KOTEC chose retention of employment and the creation of jobs for SMEs as one of its highest-priority tasks and made efforts to strengthen the employment safety net. By allowing SMEs suffering from managerial difficulties to extend the expiry for the entire guarantee amount (KRW 18.3 trillion), it protected 747,000 jobs and, by providing new guarantees (KRW 4.9 trillion), it helped create 13,000 new jobs. Furthermore, to increase guarantee support for enterprises contributing to job creation despite the COVID-19 situation, it provided KRW 1.098 trillion using the “Good-Job guarantee” system, a unique support system for different employment types for enterprises in 2021.

» Support for SMEs’ participation in ESG management

Although ESG management is emerging as a new topic of conversation, compared to large and middle-standing enterprises, SMEs lack awareness of ESG and may experience difficulties coping with the subject due to cost and workforce issues. Therefore, KOTEC established the ESG management vision as the “ESG partner of SMEs and startups creating sustainable values together” to support their participation in ESG management and set up strategic goals for providing climate guarantees of KRW 10 trillion, discovering 5,000 social ventures, and keeping a clean plus guarantee of KRW 3 trillion by 2030.

Moreover, KOTEC prepared guarantee systems for different ESG areas, providing guarantees of KRW 1.2 trillion for the environment (E) area, KRW 1.8 trillion for the social (S) area, and KRW 0.1 trillion for the transparent governance (G) area, backing up SMEs’ participation in ESG management and their sustainable growth.

◆ Major guarantee system by ESG area and new guarantee results in 2021

(Unit : KRW 100 million)

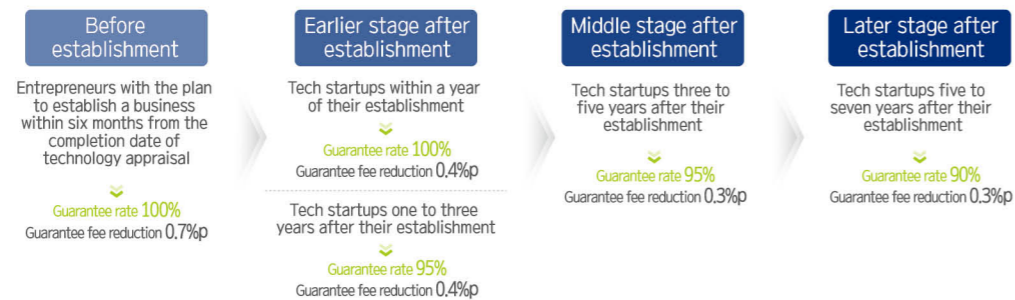
Category	Guarantee system	Details	2021
E	Green guarantee	• Support for preferred guarantees for greenhouse gas reduction promoting enterprises	1,312
	Climate and environment guarantee	• Support for guarantees for enterprises holding green growth, environmental, and energy businesses	8,821
	New renewable energy guarantee	• Support for guarantees for new renewable energy generation and industrial enterprises	1,752
S	Good-Job guarantee	• Support for preferred guarantees for enterprises creating jobs for different employment types	10,985
	Safety infra guarantee	• Support for preferred guarantees for vulnerable safety enterprises and excellent safety enterprises	1,713
	Happy workplace guarantee	• Additional support for enterprises promising the retention of employment for the next year	972
	Social venture impact guarantee	• Support for preferred guarantees determined as social ventures	1,476
	Preferred guarantee for social enterprises	• Support for preferred guarantees for (preliminary) social enterprises and regionally contributing enterprises	282
G	Guarantee for female and disabled entrepreneurs	• Support for preferred guarantees for enterprises led by female and disabled entrepreneurs	5,703
	Clean plus guarantee	• Guarantees with prior inspection on use of loans	1,041

» Challenging and innovative business establishment and scale-up

■ Support for innovative establishment

To build the future growth base through active technology-based business establishment and support the growth of startups with high job creation effects, KOTEC is providing them with preferred guarantees for each stage of business establishment.

◆ Status of preferred guarantees for each stage of business establishment



Moreover, KOTEC has operated customized guarantee measures for business establishment and growth to provide full support for the four business establishment promotion areas, depending on the type of establishment, which are knowledge and culture businesses, natural science and engineering challenger businesses, technology experience, and root businesses, and advanced and growth businesses.

Moreover, in August 2021, KOTEC reformed the preferred program for young entrepreneur startups within five years of their establishment to promote challenging business establishments for young entrepreneurs and launched new young tech star guarantees for excellent enterprises that have participated in the government's startup support programs. In addition, KOTEC also operated the Meister tech startup guarantee for highly experienced tech personnel with commercializable skilled technology and strengthened guarantees for startups by middle-aged experienced tech personnel with abundant field experiences, technical knowledge, network, etc., contributing to spreading the growth of startup culture.

■ Support of scale-up

KOTEC has been strengthening the support for the scale-up of enterprises demonstrating innovative growth into K-unicorns. KOTEC continues to support high-growth prospective companies with high future growth potential through the KIBO-star vally program.

In addition, to encourage business establishment for professors and researchers and to promote the commercialization of their technologies, KOTEC is running the Tech-Valley program. For this, it signed the U-Tech Valley agreement with 80 business establishment leading universities, the R-Tech Valley agreement with 19 government-contributed research institutes, and the M-Tech Valley agreement with three major companies.

◆ Comparison between the Kibo-Star Valley program and Tech-Valley program

Category	Kibo-Star Valley program	Tech-Valley program*
Support target	Ventures, Inno-Biz innovative-growth enterprises within 12 years of their establishment (tech-business growth rate of G6 or higher)	Startups by universities, research institutes, employees or former employees of large companies' research labs within seven years of their establishment
Support details	Within KRW 5 billion of the prior limit (differentiated by the number of years since establishment, tech-business ratings, gradually in link with the sales results for the past three years)	Within KRW 5 billion of the prior limit (gradually in link with the sales results for the past three years)

* Companies in the Tech-Valley program can participate in the Kibo-Star Valley program at the same time if they meet the requirements.

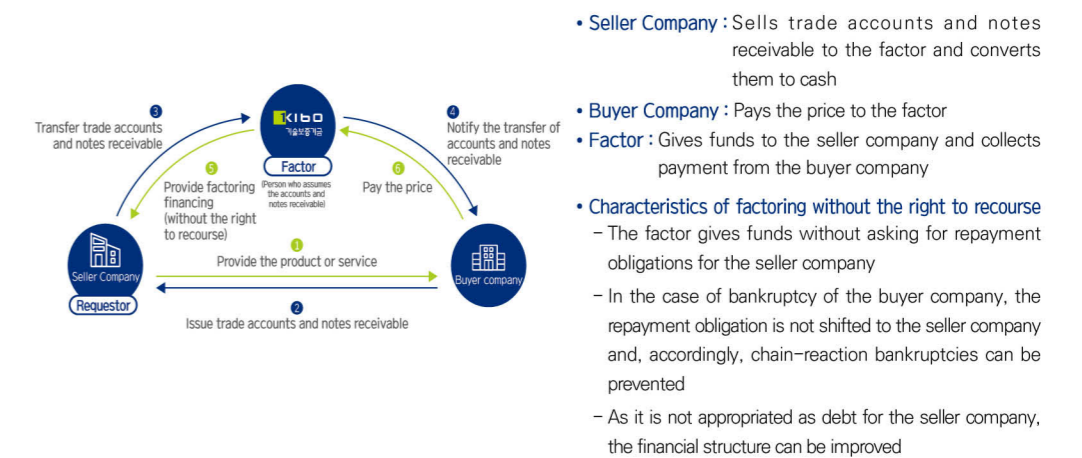
In order to offer preemptive support for the scale-up of innovative-growth enterprises, KOTEC operated the Kibo-Star Valley and Tech-Valley programs and increased guarantee support.

» Mutually beneficial cooperation and support for entrance into the global market

■ Promotion of factoring of trade accounts and notes receivable

KOTEC is promoting the "factoring of trade accounts and notes receivable without right to recourse" project, meant to ensure that enterprises can make trades without worrying about their counterparts going bankrupt by resolving the limitations of the existing bill market, such as delays in collecting payments for business transactions between companies and serial bankruptcy due to non-payment.

◆ Basic structure for the factoring of trade accounts and notes receivable



■ Support for the cultural content industry

To vitalize the content industry depressed due to the COVID-19 pandemic, KOTEC made aggressive efforts, such as turning the existing support systems into market-friendly ones and supplementing the support infrastructure. It added 23 advanced convergence

technologies, business categories, and items based on the standard innovative growth criteria to the scope of support-eligible content fields. It included publication (completion guarantees), which accounts for the most significant portion of the cultural content market, into the list of support-eligible genres. Additionally, as a measure to expand support for regionally based content enterprises, it opened the Cultural Content Finance Center in Daejeon, the regional base of the content industry in the Chungcheong and Honam regions, to the existing centers in Seoul, Gyeonggi, and Busan.

Moreover, it provided agreement-based guarantees by concluding agreements with relevant institutions in each field of the cultural content industry, such as animation, broadcasting, film, and performance.

■ **Support for exports and entrance into the global market**

KOTEC enhanced the support systems for exporting companies and companies entering the global market to increase exports by domestic companies and help more companies enter the global market. KOTEC established a customized support system for exporting companies by providing preferred guarantees after classifying companies into three export stages:

- companies expecting exports (1st stage)
- companies with export results (2nd stage)
- companies concentrating on exports (3rd stage)

In the case of guarantees for entrance into the global market, to support domestic holding companies with overseas subsidiaries, it expanded the scope of business categories for domestic holding companies from manufacturing businesses, wholesale and retail businesses combined with manufacturing businesses and service businesses to all businesses, laying the foundation for companies in various business categories to grow through entrance into the global market.

▶ **Support for the Korean New Deal for transition into a leading economy**

KOTEC has worked on helping tech SMEs lead the post COVID-19 era, such as by setting up a guarantee support system for the success of the Korean New Deal 2.0. To that end, it prepared guarantee products corresponding to the four new deals – the Digital New Deal, Green New Deal, Human New Deal, and Regional Balance New Deal – and strengthened support.

■ **Digital New Deal**

To accelerate digital transformation and invigorate the data economy based on the ICT industry, where Korea enjoys an advantage, KOTEC increased support for the key future new industries. Through D.N.A.+BIG3* guarantees, non-contact and digital guarantees, Industry 4.0 guarantees, smart manufacturing, and service guarantees, etc., KOTEC provided KRW 4.8 trillion in guarantees for 2021.

*Data, networks (5G network), AI, system semiconductors, bio-health, future vehicles

■ **Green New Deal**

KOTEC ensured to keep pace with the government’s policy to preemptively respond to climate change and transform the carbon-dependent economy to a green and low-carbon economy. KOTEC newly introduced a preferred guarantee for companies that have moved or are set to move into the smart green industrial complex or to hold water industry through cooperation with related institutions, diversifying its guarantee products for the Green New Deal related fields. As a result, it provided KRW 4 trillion in guarantees for 2021.

■ **Human New Deal**

KOTEC also contributed to transitioning into an inclusive society by raising investment for humans, supplementing employee and social safety nets, and resolving existing gaps. Providing close support for enterprises run by females, disabled individuals, and young entrepreneurs promoted independence and growth for those enterprises. To systematically back up the safe management of companies, such as by improving the work environment and preventing safety accidents, it provided KRW 5.9 trillion in guarantees for the Human New Deal related fields in 2021.

■ **Regional Balance New Deal**

For innovation of the regional economy and balanced development of the national economy, KOTEC strengthened support for regionally located SMEs. It signed business agreements to support Regional Balance New Deal companies with local governments and banks and provided agreement-based guarantees worth KRW 47.4 billion for 236 enterprises. Moreover, the scope of recipients for the advantage given to enterprises that moved into local districts was widened from manufacturing businesses to include all businesses, while the number of restricted key items increased from 232 to 260. Thanks to those efforts, the proportion of guarantees offered to non-metropolitan-area-located enterprises increased to 51% (based on the number of recipient enterprises) in 2021.

◆ **Representative guarantee products and support status for different new deal areas**

(Unit : KRW 1 trillion)

Type	Digital New Deal	Green New Deal	Human New Deal	Regional Balance New Deal
Representative products	<ul style="list-style-type: none"> • D.N.A.+BIG3* guarantee • Non-contact and digital guarantee • Industry 4.0 guarantee • Smart manufacturing and service field guarantee, etc. 	<ul style="list-style-type: none"> • Green guarantee • Preferred program for the water industry • Climate and environment guarantee • New renewable energy guarantee, etc. 	<ul style="list-style-type: none"> • Safety infra guarantee • Good-Job guarantee • Happy workplace guarantee • Social venture impact guarantee • Female and disabled entrepreneurs guarantee 	<ul style="list-style-type: none"> • Regional Balance New Deal agreement guarantee • Regulatory sandbox guarantee, etc.

*Data, networks (5G network), AI, system semiconductors, bio-health, future vehicles

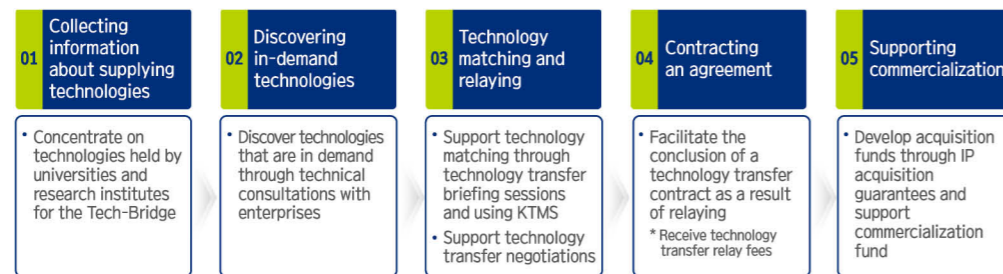
06 Technology Transfer

1. Overview

» Concept of technology transfers

A technology transfer is a relay of technology transfer from one technology holder to another through transfer, license grant, technical guidance, joint research, joint venture, and takeover. KOTEC supports technology searches, relay of technology transfers, and financing for commercialization, etc., for SMEs to take over needed technologies from research institutes, universities, etc., and to commercialize them, promoting the establishment of an open technology innovation ecosystem.

◆ Procedure for a technology transfer



» Work progress

Since its designation as a specialized technology transfer institution, according to the 「Technology Transfer and Commercialization Promotion Act」, in April 2001, KOTEC has implemented its online technology transfer platform (Tech-Bridge) and has been performing technology transfer work, including relay of technology transfers, led by Technology Innovation Centers, which are specialized sales organizations. In April 2021, it was also designated as a dedicated institution for the promotion of SMEs' technology transfers and commercialization, according to the 「Act on the Promotion of Technology Innovation of Small and Medium Enterprises」.

» Technology transfer infrastructure

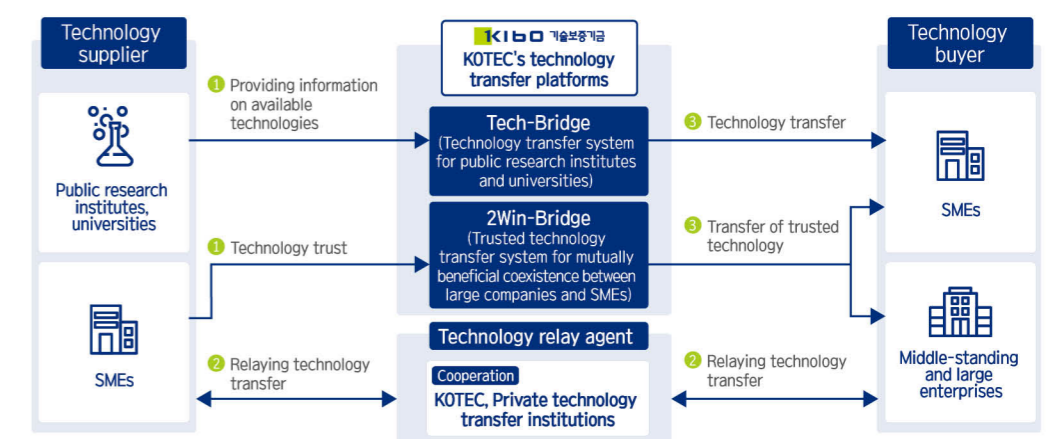
KOTEC has installed and is operating Technology Innovation Centers in eight regional bases nationwide for technology transfers and commercialization support. Together with this, it has secured online-offline merged technology transfer infrastructure by implementing the open online technology transfer platform, "Tech-Bridge," and the trusted technology transfer system "2Win-Bridge" for SMEs.

Tech-Bridge is a platform for technology transfers and commercialization that gathers information about held technologies (supplied technology) in the public sector, such as

research institutes and universities, and needed technologies (technology in demand) for SMEs. Since it is integrated with the Kibo Technology Matching System (KTMS) that is equipped with the technology information providing module and matching system, technology demands and supplied technologies can be automatically matched and recommended. As of the end of 2021, it held about 410,000 supplied technologies by public research institutes. Every year, KOTEC discovers 1,500 or more technologies in demand and provides opportunities for market participants, such as enterprises, research institutes, and technology transfer agencies.

Meanwhile, 2Win-Bridge is a system that matches SMEs' superior technologies under protection through trust and technology demands by large and middle-standing companies and moves the results forward to technology transfers or M&A.

◆ KOTEC's technology transfer platforms concept diagram



2. Major results and achievements

» Technology transfer support results

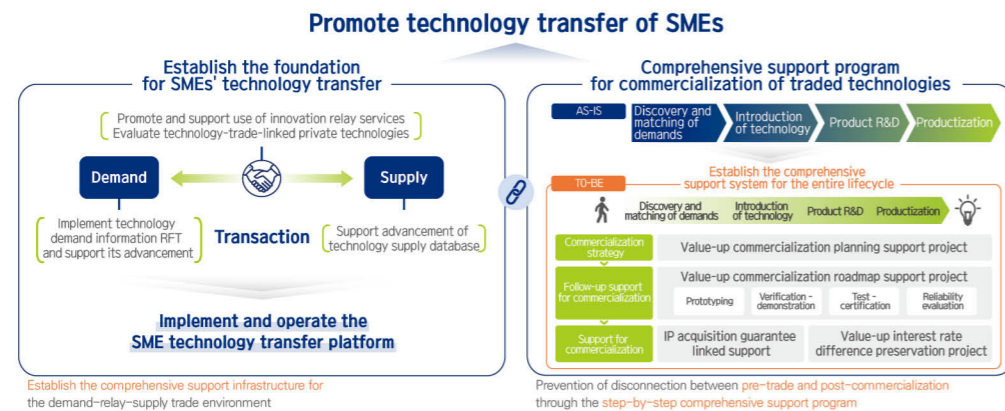
Looking into the technology transfer support results for 2021, KOTEC discovered 1,760 technology demands, signed 841 technology transfer contracts, transferred 1,030 technologies, and provided KRW 71.2 billion for new IP acquisition guarantees.

» Establishment of an ecosystem to provide concentrated support for SMEs' open technology innovation

KOTEC was designated as a dedicated institution for promoting SMEs' technology transfers and commercialization for the first time in Korea through the amendment of the Act on the Promotion of Technology Innovation of Small and Medium Enterprises in October 2010. As the first program following this amendment, the SMEs' technology transfer promotion and support

program will be fully launched in 2022. The program is set to provide comprehensive support from building the foundation for SMEs' technology transfers to supporting technology transfers and commercialization.

◆ Overview of the SMEs' technology transfer promotion and support program



» Advancement of the demand-centered open technology transfer infrastructure based on data, networks, and AI (D.N.A.)

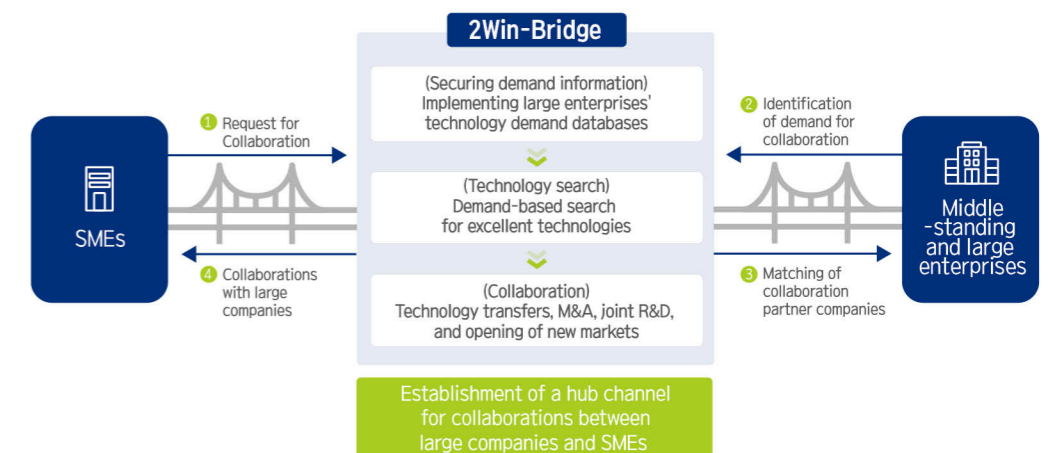
To prepare a non-contact digital technology transfer infrastructure suitable for the post COVID-19 era, KOTEC is implementing a comprehensive system for technology transfer information management and technology recommendations based on D.N.A., which stands for "data," "network," and "AI." Additionally, to advance the current technology transfer platform (Tech-Bridge), which has been in operation since its introduction in 2014, it proposed the "AI and big data based smart technology transfer platform" to the "private-business-creating public innovation platform implementation project" by the Ministry of Science and ICT. It was selected as the final project performing agency. With the secured relevant budget, KOTEC will start developing a new platform to create private businesses in 2022 in link with the subsequent new project according to the revised 「Act on the Promotion of Technology Innovation of Small and Medium Enterprises」.

» Expansion of the use of 2Win-Bridge to strengthen mutually beneficial collaborations between large companies and SMEs

In response to the demand for a fair-trade environment, such as paying the right price for technologies held by SMEs, KOTEC established the 2Win-Bridge system to transfer SMEs' trusted technologies to large and middle-standing companies in 2020. After conducting a pilot project, it concluded business agreements with large companies, including SKC, and discovered and recommended 253 trusted technologies held by SMEs.

From 2021, the scope of application of the 2Win-Bridge was expanded significantly from trades of SMEs' trusted technologies to various cooperative programs, such as technology transfers (including transfers of trusted technologies), M&A, joint R&D, and opening of new markets.

◆ Concept of 2Win-Bridge



Moreover, by discovering middle-standing and large companies seeking collaborations with SMEs, such as technology transfers, KOTEC concluded two "mutually beneficial technology collaboration MOUs between large companies and SMEs for the realization of ESG." With this, an ecosystem was established for mutually beneficial collaboration and co-growth between large companies and SMEs to perform joint R&D, joint marketing, and opening of new markets, laying the foundation for a collaborative network for large companies and SMEs to realize their social values.

07 Technology Protection

1. Overview

» Concept of technology protection

KOTEC provides comprehensive technology protection services to help eradicate extortion of technologies held by SMEs and establish a fair technology transfer culture. Specific services for technology protection include technology trusts, technology bailments, and technology data transaction record registration.

◆ Comprehensive technology protection support system for SMEs

① Technology trust	② Technology bailment	③ Technology data transaction record registration system (TTRS)
Protection of patented technologies	Protection of unpatented trade secrets, etc.	
	Protection of technology know-how, management information, etc.	Protection of technology data, etc., that may be leaked in the process of a technology transfer

- ① Technology trust : A system where KOTEC is entrusted with the right of the technology and its use, manages and protects it, and relays the technology transfer to make sure technologies held by SMEs to be transferred after the right price is paid
- ② Technology bailment (Technology Guard) : A system where KOTEC keeps possession of SMEs' key technological or managerial secrets in preparation for those secrets being leaked to the outside, verifies the holder of technology in case the technology is leaked and allows the counterpart company in a technology transfer to use the bailed technology even if the counterpart company that developed the technology goes bankrupt
- ③ Technology data transaction record registration (Evidence Guard : TTRS*) : A system where KOTEC, as a reliable third party, stores a variety of unofficial technology theft evidence produced by SMEs during the process of a technology transfer, such as business proposals, bidding, and contests, systematically and safely for their possible use in later legal disputes

* TTRS : Technology data Transaction record Registration System

» Technology protection infrastructure

KOTEC launched "Tech Safe," an online technology safe, in January 2019 and has since been operating it. The system provides technology bailments (Technology Guard) and technology data transaction record registration (Evidence Guard) services. Information eligible for technology bailments in the "Tech Safe" includes know-how or managerial information that can hardly be registered under patent but holds critical secrets regarding the management of an enterprise. So, it can be divided into technical details and managerial information.

◆ Information eligible for technology bailment

Category	Target information
Technical information	Information related to technology development, such as product design, the combined percentage of a substance, and R&D reports
Managerial information	Information related to the corporate operation, management, and sales, such as the prime cost, buyers, and marketing information

The TTRS in the "Tech Safe" provides services to register records in various formats, ranging from the technology development stage to the infringement response stage. In addition, it stores records safely for their possible future use as evidence in legal disputes.

◆ Target information for technology data transaction record registration

Stage	Target information
Technology development stage	Technology development research notes, experiment reports, design drawings, meeting materials, etc.
Information management stage	Confidential agreements from internal employees, emails with confidential information, reporting materials about confidential information, etc.
Transfer negotiation stage	Official documents or emails from customers about transfers or offers, official documents created during the transfer negotiation stage, MOU agreements, recording files, etc.
Actual transfer stage	Emails or official documents requesting technical information reports on work details, materials about customers' inspection results, materials about work by staff in charge involved in the transfer, etc.
Infringement response stage	Evidence of infringement detected at a certain point in time (in the case where the technical information is provided for a third party in a confirmation letter, recorded tape, etc., for related persons)

2. Major results and achievements

» Overall technology protection support results

Since the implementation of the technology protection system in 2019, the support results for KOTEC have been on a growing trend. For the past three years, KOTEC processed 948 cases of technology trusts, 4,239 cases of technology bailments, and 982 cases of TTRS as technology protection services.

◆ Technology protection support results

(Unit : number of cases)

Category	2019	2020	2021	Cumulative total
Technology trust	219	317	412	948
Technology bailment	1,037	1,522	1,680	4,239
Technology transfer data transaction record registration	272	367	343	982
Sum	1,528	2,206	2,435	6,169

08 IP Mutual Aid

1. Overview

» Concept of IP mutual aid

IP mutual aid is a mutual aid program where the accumulated installments by SMEs and middle-standing enterprises, as a measure to disperse and mitigate the financial risk of a member company imposed with a cost burden due to domestic or overseas application of an IP right, IP right-related dispute, etc., the member can get a loan within five times the accumulated monthly installments. This is a policy program that KOTEC is entrusted with by the Korean Intellectual Property Office (KIPO).

As global competition regarding IP rights is getting fiercer, the number of overseas IP right applications and disputes is growing. IP mutual aid mitigates and resolves patent-related risks of SMEs and middle-standing enterprises backs up their entrance into the global market, and helps realize the value of coexistence and cooperation among members.

» IP mutual aid products

SMEs and middle-standing enterprises can join IP mutual aid, and details on the conditions to join and the product structure are as follows:

◆ Conditions to join the IP mutual aid program

Registration target	Registration limit	Monthly installments	Payment duration	Total installment amount limit per case
SMEs and middle-standing enterprises (excluding some gambling businesses)	Three cases per member	KRW 300,000 to a million	30 - 70 months	KRW 500 million

◆ Procedure to join IP mutual aid



• You can find details on how to register at "Customer Support - User Manual" on the IP Mutual Aid website

◆ Structure of an IP mutual aid product



KOTEC provides enterprises that joined IP mutual aid and have paid installments on six or more occasions with loans that they can receive and repay later, as in the following.

◆ Loan program for IP mutual aid member enterprises (as of the end of 2021)

Category	Purpose of fund	Loan limit	Loan duration	Loan interest*
Loan for IP expenses	Expenses for applications for domestic or overseas IP rights, an IP right trial or retrial, annulment of a trial decision, infringement lawsuits, and transfers or commercialization	Min (five times the accumulated installments, actual expenses)	Within five years (Repayment by annual installments)	1.25% (Previously 1.75%)
Loan for managerial expenses	Managerial expenses necessary for business operation	90% of accumulated installments	One year (extension and replacement allowed)	2.25% (Previously 3.25%)

* Loan interest : Variable interest rate (The interest rate is temporarily lowered to help overcome the Covid-19 crisis (Sept. 1, 2020 - Aug. 31, 2022))

Moreover, in cooperation with KIPO, KOTEC has been offering a variety of preferred benefits, in addition to loans, to IP mutual aid member companies.

2. Major results and achievements

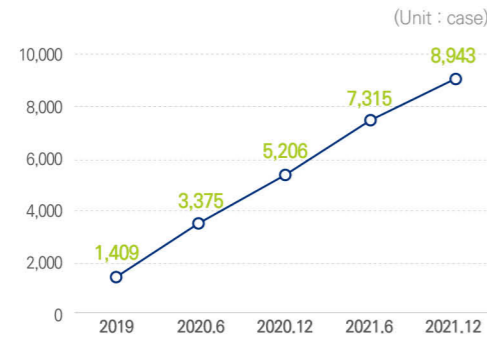
» Status of IP mutual-aid registration

The number of registrations to KOTEC IP mutual aid (based on the valid registrations) is 8,932 as of the end of 2021, which is about a 72% increase from the figure of 5,206 at the end of 2020. The paid installment balance recorded KRW 90.65 billion, about a 174% increase compared to the end of the previous year, showing a sharp growth trend.

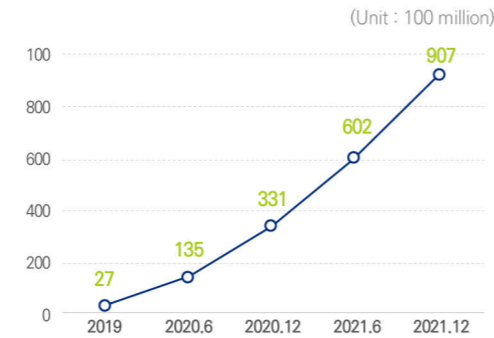
09

Support for Enterprise Innovation

◆ Trend of the number of registrations

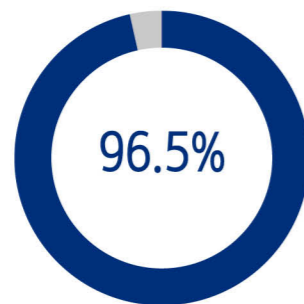


◆ Trend of paid installments

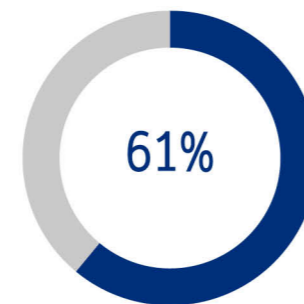


Meanwhile, as of the end of 2021, the status of IP mutual aid member companies and monthly installments are as follows:

◆ Proportion of enterprises holding guarantee contracts with KOTEC



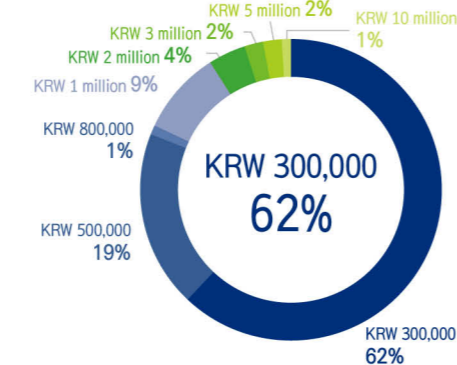
◆ Proportion of IP right holding enterprises



◆ Proportion by business category



◆ Proportion by monthly installment amount



▶ Status of loans to IP mutual aid member companies

KOTEC started providing loans for patent mutual aid members in July 2020, and, as of the end of 2021, the cumulative total of IP expense loans and managerial expense loans is KRW 5.6 billion.

Support for enterprise innovation is a concept that embraces various financial and non-financial supports to support tech SMEs' innovation and growth. It comprises multiple forms, including investment-linked guarantees, guarantee-linked investment, confirmation of venture businesses, Inno-Biz certification, support for social ventures, and operation of Kibo Venture CAMP.

1. Investment-linked Guarantee

1. Overview

An investment-linked guarantee is provided for SMEs with high future growth potential that attracts investment from private venture capital, etc. By operating various investment-linked guarantee systems throughout all stages of investment and by providing follow-up support in growth funds for enterprises that have attracted personal investment by their investment stage, KOTEC is actively responding to private investment promotion policies and supporting scale-ups for promising enterprises.

◆ Status of investment-linked guarantee products

Category	Eligible recipients	Guarantee limit
Angel investment-linked guarantee	Enterprises that have attracted KOTEC angel partners' investments worth KRW 30 million or more in the past three years (within seven years of their establishment)	KRW 3 billion (Operation)
Post angel guarantee	Enterprises with excellent results (sales, employment, follow-up investment attraction) among enterprises that have attracted angel investment or received the angel investment linked guarantee	KRW 3 billion (Within the estimated sales amount or attracted investment amount)
Venture investment-linked guarantee	Enterprises that have attracted investment from venture investment institutions (including innovative venture funds)	KRW 3 billion
Special guarantee for VC investment matching	① Enterprises that have attracted KRW 2 billion or more in investment from venture investment institutions in the past six months and are recommended by KOTEC VC partners ② Enterprises selected for the baby unicorn fostering program ③ Successful TIPS for R&D enterprises or enterprises participating in Post-TIPS	KRW 5 billion
Special guarantee for preliminary unicorns	① Enterprises that have attracted venture investment (KRW 5 billion or more; in the case of regional star enterprises, KRW 3 billion or more) and for which the average annual sales growth rate for the past three years is 20% or higher ② Enterprises for which the corporate value is KRW 100 billion or more	KRW 10 billion (KRW 20 billion from April 2022)
Guarantee with an investment option	① Enterprises with excellent technological competitiveness within seven years of their establishment ② Enterprises holding an angel investment or venture investment linked guarantee or a VC investment matching special guarantee	① KRW 1 billion ② Limit of the relevant guarantee

2. Major results and achievements

KOTEC has been increasing its support for excellent startups by ceaselessly introducing and improving a variety of investment-linked guarantee systems where the market situation and customer demands are reflected, such as enforcing the “post angel guarantee” for the continuous growth of excellent startups that have grown thanks to angel investment linked guarantees in January 2021.

Meanwhile, KOTEC introduced the special guarantee system for preliminary unicorns to discover preliminary unicorns meeting the innovation, growth potential, and market verification requirements and to help them grow into unicorns in the future, providing guarantees worth KRW 441 billion to 76 companies up until 2021. Of these, 31 companies attracted KRW 1.919 trillion in follow-up investments, five went through their initial public offerings (IPO), and three grew into unicorns.

◆ Support results of the special guarantee for preliminary unicorns

(Unit : KRW 100 million, number of persons, number of enterprises)

Category		2019	2020	2021	Total
Number of enterprises selected as preliminary unicorns		27	29	20	76
Follow-up investment	Number of successful enterprises that attracted investment	17	11	3	31
	Amount of attraction	14,929	3,695	567	19,191
Number of jobs created		3,179	1,228	412	4,819
Number of enterprises that went through IPO		4	1	-	5
Number of M&A enterprises		-	1	-	1
Number of enterprises recognized as unicorns		1	2	-	3

2. Guarantee-linked Investment

1. Overview

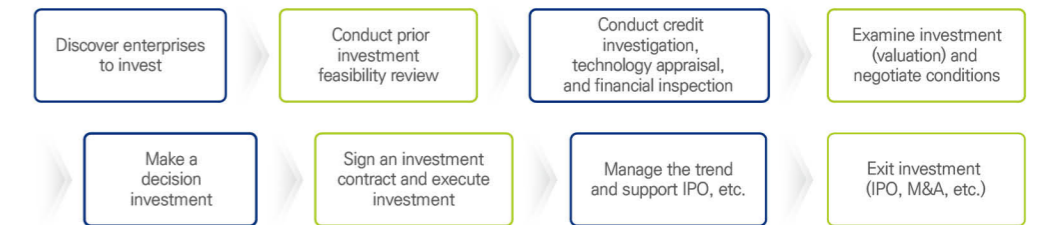
KOTEC is making direct investments in link with guarantees aimed at providing technically innovative startups with excellent technological competitiveness and significant growth potential with opportunities for immediate financing and is helping them improve their financial structure. Additionally, it is supplementing the private investment sector by concentrating investment on startups in their earlier stages and regionally located enterprises that would otherwise be easily alienated in the private investment market.

◆ Overview of the guarantee-linked investment system

Category	Details
Investment target	<ul style="list-style-type: none"> Startups within five years of their establishment (however, this excludes enterprises recognized with the necessity of policy support, etc.) Enterprises holding guarantee contracts with KOTEC Enterprises for which the investment rating is T18 or higher
Investment method	<ul style="list-style-type: none"> Stocks, convertible bonds, bonds with warrants, simple agreements for future equity (SAFE), etc.
Investment limit	<ul style="list-style-type: none"> KRW 3 billion per enterprise (sum of guarantee and investment as KRW 20 billion), the limit on the total amount is 20% of the sum of the fundamental property and retained earnings carried forward

Whether to execute guarantee-linked investment is decided following a comprehensive examination, where investment experts, such as internal doctoral-level employees and external accounting firms, are among the participants to discuss the technological competitiveness, marketability, business feasibility, credit rating, investment profitability, etc., of an enterprise, and this is conducted based on the technology appraisal.

◆ Work procedure for guarantee-linked investment



Meanwhile, since December 2019, KOTEC has been writing an investment assessment report (brief) about invested enterprises and is providing it for private venture capital companies through an investment information platform. The distributed report assists private venture capital companies' decision-making on investment and gives enterprises invested in by KOTEC more opportunities to attract follow-up investment, facilitating the private investment market.

◆ Procedure of providing investment information for the outside

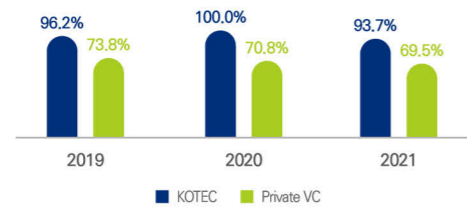


2. Major results and achievements

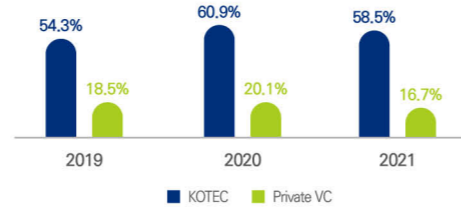
KOTEC invested KRW 374.7 billion in 395 enterprises between January 2005 and the end of December 2021. By the end of 2021, the number of invested enterprises was 245, and the investment balance is KRW 206.3 billion.

Meanwhile, KOTEC has been concentrating its investment efforts on startups in their earlier stages and regionally located enterprises (58.5%) that are often easily alienated in the private investment market. As a result, those enterprises attracted follow-up investments at rates as high as 4.7 times the investment by KOTEC, with 32 enterprises proceeding to IPO, and the accumulated net profit from the investment was KRW 124.8 billion, with the accumulated return on investment being 33.3%. In 2021, the investment earnings recorded their highest figure of KRW 96.3 billion.

◆ Proportion of investment in startups (as of the end of the year)



◆ Proportion of investment in regionally located enterprises (as of the end of the year)



* Source of private VC investment status : 2022 KVCA YEARBOOK (May 2022)

◆ Cumulative total of guarantee-linked investment support (as of the end of December 2021)

Cumulated investment target enterprises	Cumulated investment amount	Follow-up investments	Successful IPO	Cumulated profit and loss	Cumulated rate of investment
395	KRW 374.7 billion	191 enterprises/ KRW 1.746 trillion (4.7 times the investment amount)	32 enterprises (8.1%)	KRW 124.8billion	33.3%

Moreover, among enterprises invested in by KOTEC, about 103 enterprises wishing to attract follow-up investment had key information, such as the corporate status, technology rating, investment points, status of executives and stockholders, financial statements, etc., provided by KOTEC through the investment information platform for private venture capital companies.

3. Assessment for Venture Business Certification

1. Overview

To provide enterprises with technological competitiveness and excellent growth potential with various tangible and intangible benefits, such as funds, technology, workforce, and location, and doing so to create future growth engines, the government introduced the venture business certification system in 1998 based on the Act on Special Measures for the Promotion of Venture Businesses. Since its designation as a venture business confirmation institution regarding the technology appraisal guarantee type and R&D type, KOTEC has assessed 71.7% of all venture businesses as of 2021, contributing to discovering and expanding the existing base.

2. Major results and achievements

The government announced the「Measures for private-led innovation of the venture ecosystem (January 2018)」that includes a provision on changing the main business confirmation agents from public institutions to private institutions. Following this, the government drastically reformed the venture business confirmation system, such as by newly adding the innovative growth enterprise type as separate from the technology appraisal guarantee and loan enterprise types, incorporating the existing three venture business confirmation institutions, including KOTEC, into the Korea Venture Business Association, and designating a plurality of institutions, including KOTEC, as specialized assessment institutions to conduct practical appraisal work.

◆ Types and requirements of venture business confirmation

Venture business type*	Requirements
Common	• SMEs (except for enterprises holding gambling businesses, etc.) according to Article 2 of the 「Framework Act on Small and Medium Enterprises」
① Innovative growth enterprises	• Enterprises with excellent technology innovativeness and business growth potential
② R&D type	• Having one of either a company-affiliated research institute, dedicated R&D department, company-affiliated creation research institute, or dedicated creation department • R&D expenses in the previous four quarters are KRW 50 million or more, and the proportion of R&D expenses to the sales amount is greater than a reference value set by business category or sales amount • Enterprises with excellent business growth potential
③ Preliminary venture type	• Entrepreneurs who are preparing to establish a corporation or registration of a business and have excellent technology innovativeness and business growth potential
④ Venture investment type	• The investment amount is KRW 50 million or more, and the proportion of the investment amount to capital is 10% or higher

* KOTEC is a specialized assessment institution of type ①, ②, and ③.

To stabilize the private-led venture business confirmation system, following the reform of the system, KOTEC performed assessments accounting for 63.6% of the total assessment cases and confirmed 71.7% of the entire venture businesses as of the end of 2021.

◆ Status of venture businesses for each year (as of the end of the year)

(Unit : number of enterprises)

Item	2018	2019	2020	2021
Number of confirmed venture businesses(A)	36,820	37,008	39,511	38,319
Number of venture businesses confirmed by KOTEC(B)	29,112	29,020	31,006	27,486
Proportion(B/Ax100)	79.1%	78.4%	78.5%	71.7%

Moreover, as of the end of 2020, among 633 hundred-billion venture businesses*, the number of companies receiving KOTEC's technology guarantee or technology appraisal support is 581 (91.8%), demonstrating that KOTEC has been contributing to the innovative growth of venture businesses.

* Hundred-billion venture businesses : Among companies with a record of venture business confirmation, companies for which the sales amount is KRW 100 billion or greater

◆ Support status for hundred-billion venture businesses (as of the end of 2020)

(Unit : number of enterprises)

Number of hundred-billion venture businesses (A)	Number of companies not holding contracts with KOTEC	Number of companies holding contracts with KOTEC			
		Technology guarantee contract(a)	Technology appraisal contract(b)	Sum(B=a+b)	Proportion (B/Ax100)
633	52	519	553	581*	91.8%

* 491 companies that received both guarantee and technology appraisal support are considered

** (Source) Ministry of SMEs and Startups (November 2021), 2020 Hundred-Billion Venture Enterprise Investigation

KOTEC has provided venture businesses with complete financial services, such as guarantees and investment. As of 2021, KOTEC put 47% of the total guarantee amount, 46.0% of the new guarantee amount, 95.9% of the new investment amount, and 67.2% of the cumulative total of investment into venture businesses.

◆ Financial support results for venture businesses (as of 2021)

(Unit : KRW 100 million)

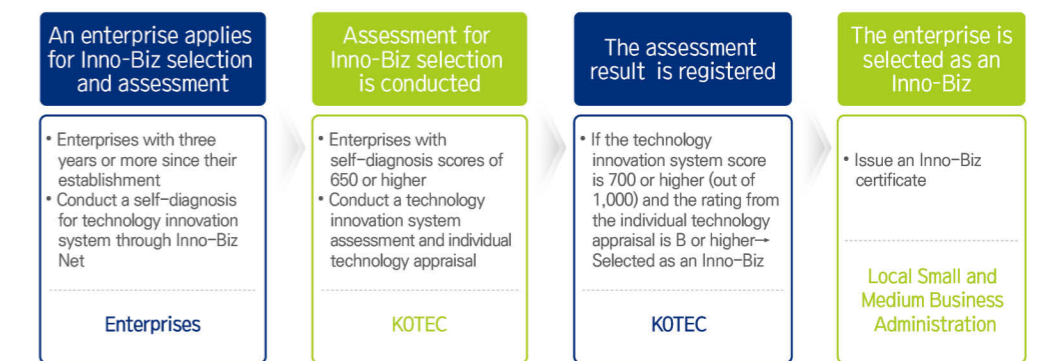
Item	Guarantee		Investment	
	Total guarantee support amount	New guarantee support amount	New investment amount	Cumulative total of investment
All enterprises(A)	262,684	49,276	394	3,747
Venture businesses(B)	123,350	22,684	378	2,519
Proportion(B/Ax100)	47.0%	46.0%	95.9%	67.2%

4. Assessment for Technical-Innovative SMEs (Inno-Biz) Certification

1. Overview

To foster technically innovative SMEs that will lead the Korean economy, the government established the "technically innovative SME discovery and fostering plan" based on the Act on the Promotion of Technology Innovation of Small and Medium Enterprises in 2001 and has been carrying out the plan ever since. Furthermore, as the only assessment institution that selects SMEs with excellent technological competitiveness and future growth potential as technically innovative SMEs (Inno-Biz), KOTEC has been providing technologies, funds, and sales channels to help them grow global-scale enterprises.

◆ Procedure of Inno-Biz selection



2. Major results and achievements

As of the end of 2021, the number of Inno-Biz firms is 20,205, and KOTEC conducted 7,856 Inno-Biz assessment cases in 2021. Of those cases, the number of new assessment cases was 2,171, whereas the number of extended assessment cases was 5,685.

KOTEC has been operating the "Inno-Biz financial support agreement guarantee" since 2001 for an Inno-Biz to get one-stop guarantees as soon as their selection is confirmed. To this point, it has signed agreements with 12 dedicated loan banks and provided new guarantees amounting to KRW 59.7 billion in 2021, accelerating the provision of funds.

◆ Results of Inno-Biz financial support agreement guarantee

(Unit : KRW 100 million)

Item	2018	2019	2020	2021
Amount of new Inno-Biz guarantees	8,265	7,928	18,372	9,873
Amount of new Inno-Biz agreement guarantees	75	76	175	597

5. Fostering Social Ventures

1. Overview

Social ventures are enterprises that pursue economic and social values while using innovative technologies and ideas and sustainable business models. And the role of social ventures is gaining importance as a means to resolve various social and economic issues, such as balanced development across regions, resolution of polarization, and job creation for the youth by the private sector itself. According to the "social venture fostering plan" announced by the government in May 2018, KOTEC has been playing a critical role in putting the social venture fostering policy into practice by determining and assessing social ventures, providing impact guarantees, and conducting factual surveys on social ventures.

2. Major results and achievements

Following the enforcement of the revised 「Act on Special Measures for the Promotion of Venture Businesses」 in July 2021, the concept and scope of social venture enterprises, basis for support, including technology guarantees and investment, basis to conduct factual surveys for systematic fostering, etc., are being prepared. KOTEC was designated as the only social venture determination institution in Korea by the Ministry of SMEs and Startups.

Based on that, KOTEC has been promoting a variety of support programs to nurture social ventures systematically and vitalize the related ecosystem, such as by installing and operating the Social Venture Valuation Center, determining social ventures, providing impact guarantees, conducting factual surveys on social ventures, measuring social values created by social ventures, and operating a dedicated platform for social ventures.

Meanwhile, KOTEC performed 1,620 determinations of social ventures by the end of 2021 and established the social venture impact guarantee support plan worth a total of KRW 500 billion for five years from 2018. As a result, KOTEC provided guarantees amounting to as much as KRW 424.1 billion for 936 enterprises until 2021.

◆ Status of social venture determination and impact guarantees for social ventures

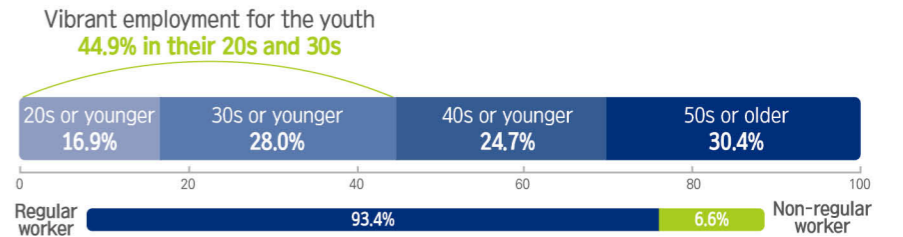
(Unit : number of enterprises, KRW 100 million)

Item	2018	2019	2020	2021	2022	Sum	
Number of determined social ventures	4	214	639	763	-	1,620	
Impact guarantee	Support plan	300	700	1,150	1,350	1,500	5,000
	Support result	685	841	1,239	1,476	-	4,241
	Number of support recipient enterprises	118	196	321	301	-	936

◆ Result of Factual Survey on Social Ventures (Necessity of fostering social ventures)

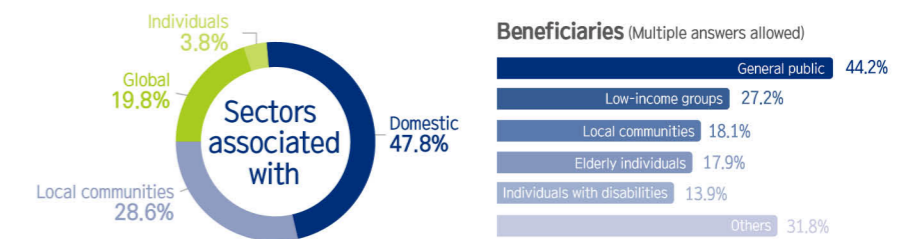
Employment status (as of the end of 2020)

Average number of employees **22.8**



Social impact

To solve social problems for vulnerable individuals, including the elderly, individuals with disabilities, women



* Source : Ministry of SMEs and Startups, 2021 Social Venture Factual Survey Report (December 2021)

6. Kibo Venture CAMP

1. Overview

KOTEC Venture CAMP is an accelerating program meant to lead successful startups and create quality jobs by providing concentrated nurturing and support services for new and promising venture businesses through cooperation with the private sector, including private accelerators and crowdfunding brokers, using the technology-appraisal infrastructure held by KOTEC.

* CAMP : Competitiveness Accelerating Management Program (Program to help newly-established startups strengthen their competitiveness)

◆ Kibo Venture CAMP process



2. Major results and achievements

In 2021, 768 enterprises around the nation applied for participation in Kibo Venture CAMP (8th and 9th periods), and through the first round of document screening and second round of a presentation test, a final 100 enterprises were selected.

For selected participating enterprises, KOTEC sets up a synergy-creating environment through cooperation with private institutions, such as accelerators, crowdfunding relay agents, and financial institutions, and it provides various financial and non-financial services. As a result, in 2021, out of 100 participant enterprises, 91 received guarantees worth KRW 19 billion, one enterprise received financial support of KRW 500 million in investment, and six enterprises received non-financial support in the form of technology transfers.

◆ Key supports by private institutions for participant enterprises in Kibo Venture CAMP

Item	Accelerators	Crowdfunding relay agents	Woori Bank	KOBACO	KOTRA
Key supports	Accelerating activities, including consulting, mentoring, diagnosis of business plans, and market positioning	Providing participant enterprises with opportunities to participate in crowdfunding	Operating exclusive loan products, providing support for guarantee fees, etc.	Providing support for advertising production and advertising expenses	Providing support for startups with promising export potential to enter the overseas market

◆ Kibo Venture CAMP Demo Day



10 Insolvency Management and Turnaround Support

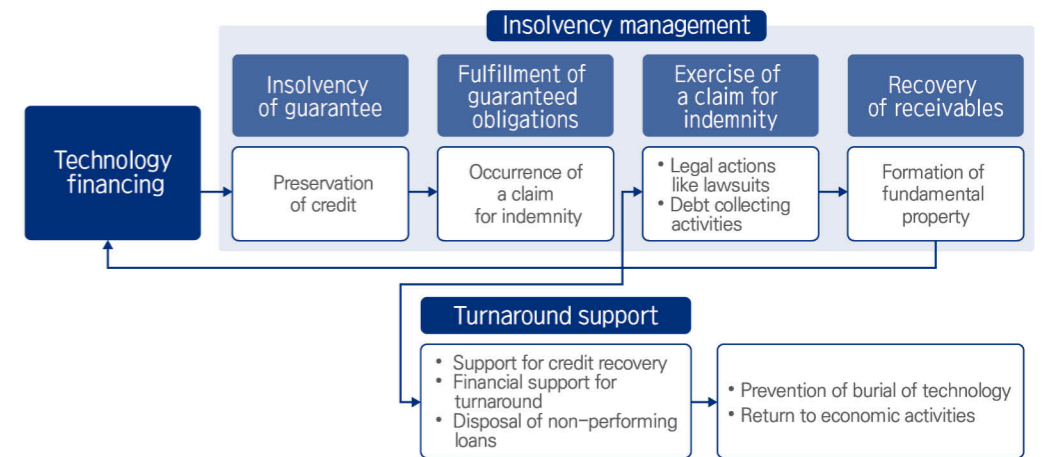
1. Overview

▶▶ Concept of insolvency management and turnaround support

Insolvency management is the work accompanied by the support of public guarantees for tech SMEs that are alienated from the private financial market. It refers to a series of tasks, including prevention of guarantee insolvency, management of guarantee accidents, fulfillment of guaranteed obligations to creditors, the exercise of claims for indemnity and recovery of receivables, charge-off, and disposal of non-performing loans. The funds recovered through such activities are used as financial resources for guarantee support, etc.

Turnaround support refers to tasks to give diligent-but-failed enterprises and entrepreneurs opportunities for a turnaround, such as through debt adjustment, burning of non-performing loans, guarantee approval for a turnaround, and support for competence strengthening. By providing such opportunities, KOTEC has been contributing to establishing a virtuous-cycle ecosystem for business reopening where the experience of failure can serve as a foothold for a rebound and for building an inclusive financial environment.

◆ Procedure of insolvency management and turnaround support



▶▶ Organizations for insolvency management and turnaround support

In addition to the Turnaround Support Department, which is housed at the headquarters and administers and plans insolvency management and turnaround support work, KOTEC is running nine Turnaround Support Centers in nine regional bases around the nation to reinforce the expertise and efficiency of related work. After general branch offices (Technology Appraisal Centers) perform guarantee insolvency prevention and accident handling work, such as post-

management of guarantee-recipient enterprises, the Turnaround Support Centers perform the overall work related to non-performing loans, including fulfillment of guaranteed obligations, legal actions, recovery, charge-off, and disposal of non-performing loans, as well as work for turnaround support guarantees.

2. Major results and achievements

▶ Strengthening of guarantee solvency and preventing insolvency for enterprises suffering through a temporary managerial crisis

As the guarantee balance increased to the highest ever figure in 2021 due to expanded guarantee support for overcoming the Covid-19 pandemic, there are growing concerns over increased guarantee insolvency and aggravated financial stability. To respond to this situation, KOTEC forecast liquidity changes by possible scenarios and strengthened risk management for new guarantees and post-management of guaranteed enterprises, such as by conducting factual surveys.

Meanwhile, to reject uniform accident handling of temporarily closed enterprises due to temporary managerial difficulties and to support their business normalization, KOTEC expanded the application of special accident handling, in force since October 2020, to closed enterprises maintaining regular financial transactions (March 2021). This measure was selected as the “main active administration project” by the Ministry of SMEs and Startups, and through such active efforts to support management normalization, including said measures, KOTEC encouraged business normalization for 271 enterprises.

As a result, in preventing guarantee insolvency and supporting normalization, despite the economic slowdown and rapid increase in the guarantee amount due to the prolonged Covid-19 pandemic, the annual guarantee default rate was stably managed at 2.5%.

◆ Guarantee default rate and number of enterprises experiencing guarantee accidents

(Unit : %, number of enterprises)

Item	2017	2018	2019	2020	2021
Guarantee default rate	4.4	4.5	4.5	3.4	2.5
Number of enterprises experiencing guarantee accidents	3,124	3,718	3,862	3,304	2,530

▶ Improvement of financial stability through efficient non-performing loan recovery activities

KOTEC has made various efforts to improve the results of non-performing loan recovery. For example, cooperation with relevant institutions increased the kinds of received public information (from 13 to 15) in order to discover new resources for recovery. It also reinforced employees' capabilities and diversified recovery methods by holding a variety of training programs, sharing work knowledge and successful recovery cases, and fostering internal experts (loan management specialists).

◆ Non-performing loan recovery result

(Unit : KRW 100 million)

Item	2017	2018	2019	2020	2021
Total amount of non-performing loans recovered*	2,788	2,503	2,321	2,352	2,349

▶ Support for diligent-but-failed entrepreneurs for their successful turnaround attempts by establishing an inclusive financial environment

To recover non-performing loans aggressively and build an inclusive financial environment where failures are accepted, KOTEC is expanding support for turnaround efforts of diligent-but-failed entrepreneurs. To that end, it has been operating customized guarantee systems for different support recipients (① Sole debtors → Turnaround support guarantees for retrials, ② Multiple debtors → Turnaround support guarantees for reopening of businesses, ③ Those whose duty of repayment is complete → Guarantees for those whose debt adjustment is complete) and provided turnaround support guarantees worth KRW 30.5 billion for 191 enterprises in 2021.

Additionally, KOTEC concluded the “SME turnaround support business agreement” with the Korea Asset Management Corporation (November 2021) to support enterprises hoping for a turnaround after experiencing difficulties in financing due to a history of failure. KOTEC prepared a measure to link turnaround guarantee support and DIP financing* for enterprises whose rehabilitation procedures are complete, all as efforts to expand additional financing opportunities for enterprises seeking a turnaround.

* DIP (Debtor in Possession) financing : Financing for enterprises whose rehabilitation procedures are underway or that spent a certain period after completing the procedures



Chapter 3. Management Support

01 Risk Management 66

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04 International Exchanges and Cooperation 73

01 Risk Management

1. Overview

» Concept of risk management

Risk management refers to a series of processes to avoid or minimize risks or maintain them at a proper level by identifying the sources of risks in advance and estimating the size and adequacy of risks, where risks mean possible damages due to future uncertainties, such as changes to the economic or managerial environment. The kinds of risks and complicated concepts are as follows:

◆ Kinds of risks and their definitions

Kind	Concept
Credit risk	Risk of the potential damage that could result from the default of the contract's counterpart
Market risk	Risk of damage that results from price changes for market-linked financial products due to market risk factors, such as interest rate, stock price, and exchange rate
Liquidity risk	Risk of damage that results from inability to finance or disposal of assets at proper prices due to probable insolvency following lack of liquidity or unexpected fund leakage
Operation risk	Risk of damage that results from improper or wrong internal procedures, employees, or systems, or due to external incidents

2. Major results and achievements

» Integrated risk management

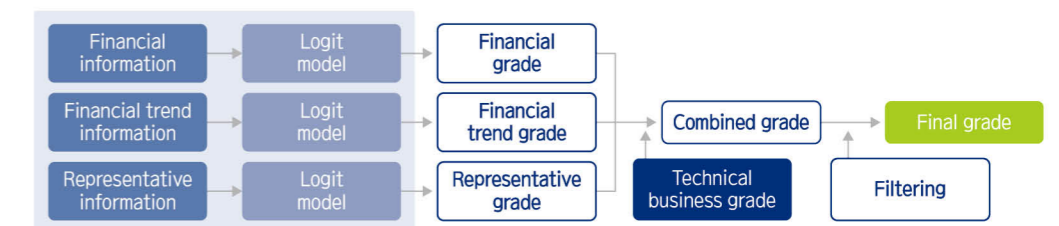
In preparation for the post Covid-19 era, in 2021, KOTEC set up a basic plan for integrated annual risk management to improve its comprehensive crisis response capabilities and secure financial stability. It defined the goals of keeping the total risk amount at KRW 1.443 trillion or lower, the integrated RCR* at 135% or higher, the risk rate of total guaranteed assets at 5.05% or lower, etc., and achieved these goals through the company-wide efforts for risk management.

» Credit risk management

Credit risk refers to the potential damage that could result from the default of the contract's counterpart. In the case of KOTEC, this mainly means the risk of possible damage following the insolvency of guaranteed assets.

KOTEC calculates and manages the risk amount of the total guaranteed assets by quantifying individual enterprises' risks. It first sets an annual risk goal for the total guaranteed assets, specifies reference risks by major guarantee categories and risk limits for new guarantees, and then allocates them to each branch office. Then, while presenting a reference portfolio according to the business category and size that minimizes the total damage of the guaranteed assets, it manages the proper exposure (guarantee amount) limit by region and industry.

◆ Risk management system using the risk assessment model



» Market risk management

KOTEC defines the allowable risk limit at the proper level while considering a trade-off between profits and risks in asset operation in advance and performs inspections regularly. Moreover, if the risk exceeds the permissible limit, it adjusts the portfolio of asset operation to keep the amount of market risk within the allowable limit.

◆ Market risk management process

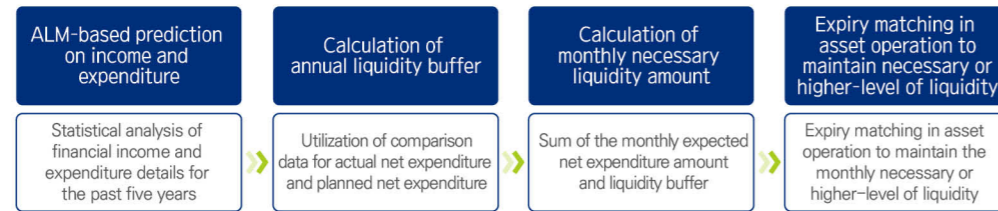


» Liquidity risk management

KOTEC estimates the annual liquidity buffer with a confidence level of 95% based on the average and standard deviation of the difference between the monthly planned net expenditure (expenditure - income) and actual net expenditure for the past five years and calculates the necessary monthly liquidity based on this estimation and matches the expiry of fixed interest rate products, such as balance and CD, to maintain the monthly minimum or higher-level of liquidity. This strategy is controlling and managing the liquidity risk. By doing so, it controls and manages its liquidity risk.

02 Digitalization

◆ Liquidity risk management process



▶▶ Operation risk management

Under the circumstance where the guarantee amount has significantly increased while enterprises are being helped to overcome the Covid-19 crisis. KOTEC discovered internal and external potential insolvency risks and improved the key risk indicator (KRI) and risk control self-assessment (RCSA) items to preemptively prepare for the post Covid-19 era, such as through completion of financial mitigation measures. Furthermore, it strengthened operation risk management by shortening the interval for an operation risk inspection from three months to two months to detect various risks inherent to work processes and responding to them quickly. Based on these efforts, it obtained its re-certification for the Anti-bribery management systems standard (ISO 37001) (December 2021).

◆ Operation risk management process



1. Overview

▶▶ Digital innovation promotion organization and system

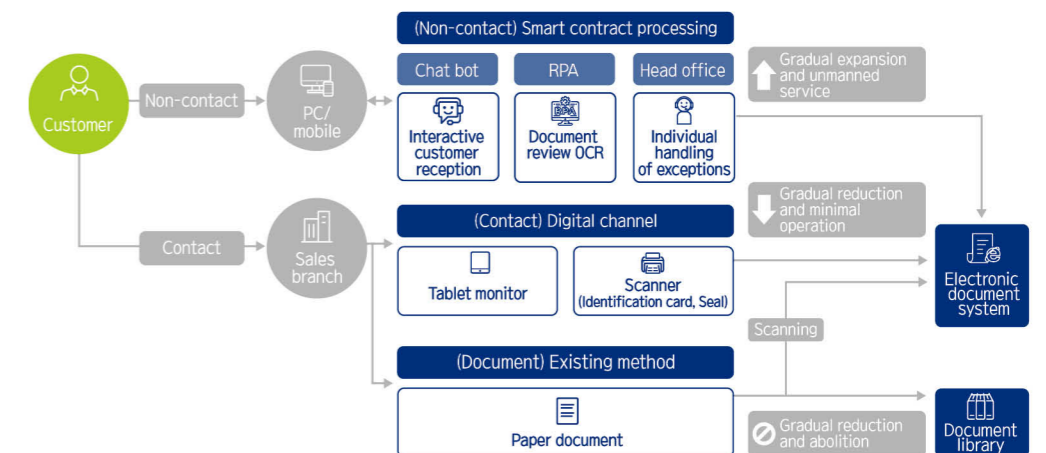
In preparation for the non-contact and digital transformation era, KOTEC has been promoting digital and data-based innovation across its areas of operation to innovate customer services and maximize its work efficiency and institutional competitiveness. Additionally, to accelerate such execution, in January 2020, it newly established the Digital Finance Office (expanded to the Digital Strategy Office in January 2021), a digital innovation administration department, and assigned a Chief Digital Innovation Officer (CDIO) (October 2020). KOTEC also organized and operated the Digital Innovation Committee, the highest-level decision-making body for relevant matters.

2. Major results and achievements

▶▶ Transition to non-contact financial services

Since introducing the digital-based non-contact guarantee support services with which customers can be issued guarantee certificates without needing to visit a sales office, as a first among public financial institutions, KOTEC has been continuously upgrading its system.

◆ Concept diagram of the electronic contract platform



In addition to introducing a scenario-based chatbot in 2020 that can guide procedures for using guarantee services, display the office, and recommend guarantee products, KOTEC introduced a natural language-based AI chatbot that can respond to customers 24 hours a day, such as by connecting to the customer center and linking to digital branch offices, in 2021. Furthermore, using the scraping* technology, it digitalized and automated the submission and collection of

customer documents. Again, building an electronic library based on blockchain technology and document notarization where digitalized collected documents and contract documents can be stored eliminates risks of document leakage and improves the efficiency of the office's physical space.

» Digital-based innovation of internal work processes

As opportunities to work from home expanded due to the Covid-19 pandemic, KOTEC quickly implemented and started operating a remote work system in 2020. In addition, in 2021, it established the smart office system where access to work systems is available without restrictions of time or place based on VDI* technology.

* VDI (Virtual Desktop Infrastructure) : Virtualization technology that allocates cloud server resources to a plurality of users and allows them to use as through a PC

KOTEC also extended the application of robotic process automation (RPA), which was applied to 11 work processes as a pilot project in 2019, jumping to 61 in 2020 and to 70 in 2021, improving work accuracy and efficiency, saving time for both customers and employees.

» Implementation and improvement of IT infrastructure for digital innovation

For flexible and agile response to new technologies and new business requirements, KOTEC integrated the existing old and multi-distributed server systems to an HCI-based private cloud system and migrated the physical independent servers and old virtualization servers to the up-to-date virtualized server. By achieving zero-downtime resource allocation, dualization (high availability), simple backups, and recovery, a solid foundation to further improve work continuity and efficiency was prepared.

As remote work became the norm due to the Covid-19 pandemic, and the volume of non-contact and online processing of both employees and customers significantly increased, in order to stably support the situation, it newly introduced 5G based wireless Internet, replaced the wireless connection devices (AP), and implemented a real-time integrated management screen, thereby upgrading the quality and infrastructure of wireless communication.

Meanwhile, KOTEC also made efforts to establish a data-based intelligent service environment. It built the "integrated data collection, storage, and management repository (data lake)" where structured data (internal work data) held by KOTEC and non-processed unstructured data (research data PDFs, images, etc.) are combined for data analysis. In addition, it upgraded the big data platform to add more functions to the platform and extend the usage of services, improved the visualization functions, and implemented the technology appraisal information portal (K-INFO) that provides information specialized for technology appraisals of SMEs through integration and processing of internal and external data.

1. Overview

KOTEC established the Future Innovation Research Center, the research administration organization. To respond to the fast-changing managerial environment and various related issues and prepare plans for the institution's development, it conducts its own studies alongside external expert institutions through consignment.

Moreover, it has been continuously applying for and registering patents regarding its research results, widely recognized for their originality, and through active exchanges with various associations and relevant institutions, is seeking means for mutually beneficial cooperation and development.

2. Major results and achievements

» Conducting internal studies and consigning studies to external expert institutions

KOTEC conducts studies on its own regarding the institution's major issues using advanced techniques, such as quantitative data analysis, led by doctoral-level employees, and, at the same time, entrusts projects that require high-level expertise to specialized external institutions. The results from such studies are reflected and applied to decision-making for project promotion and policy development.

» Development and investigation of guaranteed enterprises' business survey index (BSI)

The business survey index (BSI) is an indicator indexed from the observation results of the trend in enterprises' determination, prediction, and planning regarding economic performance. Many institutions announce BSI, but since each institution uses different populations, sampling plans, etc., it was inappropriate for KOTEC to adopt these results.

Therefore, KOTEC applied the statistical technique to reflect the characteristics of guarantee-recipient enterprises, designed a representative sample of 2,500 or more recipient enterprises, and added survey questions on technology development. As a result, it managed to develop the "guarantee-recipient enterprise BSI" with which it is possible to identify the actual economic sentiments and managerial conditions of tech SMEs. For this, it has been conducting a monthly survey since October 2021 and calculating indexes segmented by region, business category, years of operation, and amount of sales.

» Application for and registration of domestic and overseas patents

KOTEC registered 10 patents (including one overseas patent) and applied for two patents regarding technologies it developed on its own, including the technology appraisal method, up until the end of 2020. In 2021, it additionally applied for a domestic patent on the “carbon valuation system and method.” In consideration of the circumstance where carbon neutrality has emerged as a global issue, thus giving the corresponding technology a high possibility of being used overseas, KOTEC is currently working on its application for an international patent to promote related projects stably through the international protection of rights and to strengthen the global status in related valuation fields.

» Participation and presentation in conferences

KOTEC has carried out active exchange activities with associations and institutions in fields highly related to its operations. It also participated in various conferences and seminars to share and promote its research results and operational achievements and to grasp the changes. While doing so, it actively seeks ways to cooperate and develop together.

04 International Exchanges and Cooperation

1. Overview

KOTEC is spreading its technology rating system and technology financing system, which have been recognized for their excellence in Korea, to developing nations, such as Southeast Asia and South America, and developed countries, such as EU member nations. Furthermore, it strengthens exchanges and cooperation with relevant overseas institutions for mutually beneficial development.

2. Major results and achievements

» Sharing the technology rating and financing systems overseas

KOTEC participated in the Europe Big Data Value Forum (November 29 – December 3, 2021) as a speaker and highlighted the excellence of KTRS. KOTEC also completed the “InnoRate Project,” developing a European technology rating model led by the European Commission (EC). It is a data-driven tool based on KTRS for supporting and enhancing investors’ decision-making processes to fund innovative SMEs with high growth potential. Furthermore, KOTEC organized a consortium with eight European institutions and played a crucial role in the consortium for three years (January 2019 – December 2021). As a result, it laid the foundation for cooperation between Korea and the EU for developing SMEs and established the global standards for technology rating models.

- ◆ Presentation at European Big Data Value Forum (November 19 – December 3, 2021)
- ◆ Participation in EC InnoRate Project Meeting (December 15, 2021)



» Strengthening the global network and cooperation

KOTEC was invited to the “International IP Rating Seminar” (May 13, 2021) co-hosted by the Industrial Technology Research Institute (ITRI) of Taiwan and the Patent Attorney Association, and gave a lecture on its IP rating model and its practical application to about 100 governmental officials from Taiwan, patent attorneys, and employees of relevant institutions. It also participated

in the “Korea–Indonesia Financial Cooperation Seminar” (May 28, 2021). During the event, the topic was the development status of the Indonesian economy and financial market and ways to cooperate for future strategic development projects in Indonesia. In addition, to prevent international exchange activities from being scaled down due to the Covid-19 situation, KOTEC extended non-contact cooperation channels and made efforts to strengthen the global network and cooperation. Furthermore, KOTEC held the 29th ACSIC Training Program (ATP) online for the first time among ACSIC (Asian Credit Supplementation Institution Confederation) member organizations on September 7–8, 2021.

◆ Korea – Indonesia Financial Cooperation Seminar (May 28, 2021)

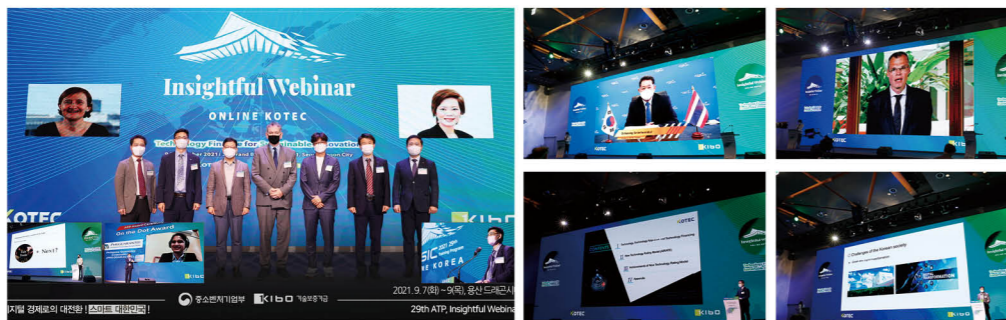


◆ 29th ACSIC Training Program (September 7–8, 2021)



KOTEC successfully held the Insightful Webinar (September 9, 2021) with about 200 employees from relevant overseas institutions, such as the World Bank Group, European Investment Bank, and Green Climate Fund. In the event, it introduced the technology rating system, technology financing and green financing cases and suggested the development direction for SMEs’ financing to strengthen the network and cooperation with relevant overseas institutions.

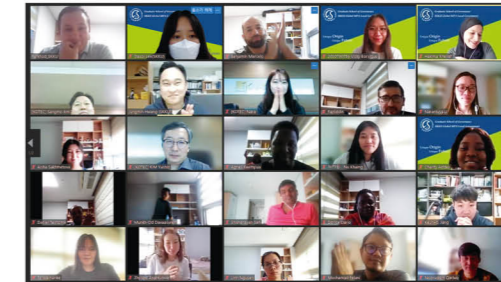
◆ Insightful Webinar (September 9, 2021)



For 39 students (from 22 countries) who are studying in the global MPA master’s degree course at the Graduate School of Governance, Sungkyunkwan University, KOTEC prepared a special online lecture to introduce the technology rating system and cases, the rating method of KTRS, and technology transfer cases (October 29, 2021). Meanwhile, on November 11, 2021, Daniel Gomez Gaviria, the Vice Minister of the National Planning Department of Colombia, and other delegates visited KOTEC to develop their national development plan, policy, and system. In addition, KOTEC shared the technology

system and a variety of SME support systems, introduced the practice of sharing the technology rating model to Thailand, Vietnam, Peru, EU, etc., and discussed ways for cooperation between KOTEC and Colombia in the future.

◆ KOICA–Sungkyunkwan University Global Webinar (October 29, 2021)



◆ Visit of the National Planning Department of Colombia to KOTEC (November 11, 2021)



◆ Status of participation in international conferences

Conference	Date	Location	Details
ITRI International Knowledge Assessment Seminar	May 13, 2021	Non-contact	Introduction of IP valuation methods and IP financing, etc., of KOTEC
Korea – Indonesia Financial Cooperation Seminar	May 28, 2021	Korea Institute of Finance	Discussion on how Korean and Indonesian financial institutions can cooperate
ACSIC Working-Level Discussion (ATP)*	September 7–8, 2021	Seoul Dragon City Hotel	Introduction of major programs and innovative financing in each nation, etc.
Insightful Webinar (WBG, EIB, GCF, etc.)*	September 9, 2021	Seoul Dragon City Hotel	Introduction of technology financing for innovation, green innovation, etc.
KOICA–Sungkyunkwan University Global Webinar	October 29, 2021	Non-contact	Introduction of KTRS, appraisal methods, technology transfers, etc.
Annual General Meeting of ACSIC	November 16, 2021	Non-contact	Introduction of innovative financing cases, strategies to cope with the Covid-19 pandemic, etc.

* ATP/Insightful Webinar were held as non-contact international conferences by KOTEC



Chapter 4.

Appendix

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01 Governance Structure

1. Supervision and decision-making system

The supervision and decision-making system of KOTEC is as follows:



2. Board of Director and Auditor

» Board of directors

The board of directors is the executive body that deliberates and decides on important matters regarding KOTEC's operation, such as making amendments to the articles of association, enacting or making changes to operation manuals, establishing and making changes to managerial objectives and work plans, allocating, establishing, and making changes to budgets and operation plans, revising or abolishing important provisions, etc.

The board of directors comprises executive directors, including chairperson & president, executive director, and non-executive directors. The principle is to hold a regular board meeting once a month and, if necessary, a special board meeting can be announced irregularly.

◆ Members of the board of directors

Chairperson & President	Kim Jong-Ho	
Executive Vice President	Lee Jong-Bae	
As of Mar. 31, 2022		
Executive Director	Non-executive Directors	
Yoon Bum-Soo	Kim Sun-Hwa	Director of Management Consulting Center, Korea Small Business Institute
Kim Young-Gap	Ahn Byung-Whan	Former managing director of Taihan Cable & Solution
Lee Eun-il	Kim Hyun-Jung	Former head of Korea National Office Financing Labor Union
Park Ju-Seon	Jeon Jung-Sook	Lawyer at Lawfirm Jeongmak
	Lee Soo-Hyung	Lawyer at Lawfirm Merit
	Choi Seung-Ki	Former director of Board of Audit and Inspection
	Kim Jin-Kyu	Former president of DH Savings Bank

» Audit organization

The auditors of KOTEC hold independent positions from the resolution and execution organization of the institution and perform audits on accounting and related work and other tasks specified by the code of conduct, relevant laws, and other provisions. For efficient execution of audit work, KOTEC has an audit office, an office to support audits, and operates an audit advisory committee composed of external experts to collect professional and diverse opinions regarding audit activities.



Lee Jong-Bae
Executive Vice President



Kim Jong-Ho
Chairman & President



Jang Se-Hong
Chief Audit Executive



Park Ju-Seon
Executive Director



Yoon Bum-Soo
Executive Director



Kim Young-Gap
Executive Director



Lee Eun-il
Executive Director



3. Steering Committee

▶ Steering Committee

KOTEC organized and has been operating a steering committee to establish the baseline policy regarding the institution's operation according to Article 17 of the Korea Technology Finance Corporation Act. Furthermore, the steering committee makes decisions on setting amendments to the articles of association, enacting or making changes to operation manuals, establishing and making changes to mid- and long-term management plans and work plans by year, allocating, making changes to, and settling the budget, repaying the right of indemnity, etc. The regular meetings of the steering committee are held in February and November, and, if necessary, the chairperson can call a special meeting.

◆ Organization status of the steering committee

(As of March 31, 2022)

Category		Steering Committee			
Chairperson		President of KOTEC			
Appointed Members (5)	Public official appointed by the Minister of SMEs and Startups (1 person)	Ministry of SMEs and Startups	Venture Innovation Policy Director	Park Yong-soon	
	Public official appointed by the Minister of Economy and Finance (1 person)	Ministry of Economy and Finance	Economic Budget Inspector	Im Ki-geun	
	Public official appointed by the Financial Services Commission (1 person)	Financial Services Commission	Director General for Financial Policy	Gwon Dae-yeong	
	Executive appointed by the president of the Industrial Bank of Korea (1 person)	Industrial Bank of Korea	Vice-President	Kim Yeong-joo	
	Executive appointed by the president of Kookmin Bank (1 person)	Kookmin Bank	Executive Director	Jeong Mun-cheol	
Commissioned Members (7)	Executives or executive offices of financial institutions commissioned through discussions between the Ministry of SMEs and Startups and the Financial Services Commission (3 persons)	Shinhan Bank	Vice-President	Choi Ik-seong	
		Woori Bank	Vice-President	Jo Byeong-gyu	
		Hana Bank	Vice-President	Seong Yeong-su	
	Commissioned by the chairperson of the Korea Chamber of Commerce and Industry (1 person)	Korea Chamber of Commerce and Industry	Executive Vice-President	Woo Tae-hee	
		Commissioned by the chairperson of the Korea Federation of SMEs (1 person)	Korea Federation of SMEs	Executive Vice-President	Jeong Yoon-Mo
			Technology experts commissioned through discussions between the Ministry of SMEs and Startups and the Ministry of Science and ICT (2 persons)	Korea industrial technology association	Executive Vice-President
Innopolis Foundation	President	Kang Byeong-sam			

02 Financial Statements

▶ Summary of Statement of Financial Position 2021

As of Dec. 31, 2021 (Unit : KRW million)

Assets		Liabilities and Net Assets	
Item	Amount	Item	Amount
I. Current assets	3,225,820	I. Current liabilities	197,482
Cash and cash equivalents	7,436	Deferred revenue	178,371
Short-term financial instruments	1,202,860	Others	19,111
Short-term investment securities	1,761,852	II. Long-term liabilities	1,149,758
Short-term loan	195,310	Reserves for claim payment	1,091,237
Other current assets	58,362	Reserves for paying claims on P-CBO guarantee	13,740
II. Investment assets	659,070	Accrued liability for retirement allowance	44,781
Long-term financial instruments	396,000	III. Other non-current liabilities	849
Long-term investment securities	258,832	Total liabilities	1,348,089
Other investment assets	4,238	I. Basic net assets	10,360,891
III. Tangible properties	133,057	Basic fund at the time of foundation	21,768
Land	71,900	Contributions	10,339,123
Buildings	53,368	II. Accumulated reserves and surpluses	(7,439,862)
Machinery	3,933	Retained earnings carried over from the previous year	(8,240,997)
Furniture, fixture, and transport equipment etc.	3,856	Other changes in net assets	350,000
IV. Intangible properties	5,798	Financial operation results	451,135
Software, etc.	5,798		

V. Other non-current Assets	286,893	III. Net asset adjustment	41,520
Long-term claim for indemnity	234,224	Gain and loss on investment valuation	41,520
Deposit and others	52,669	Total net assets	2,962,549
Total assets	4,310,638	Total liabilities and net assets	4,310,638

▶▶ Summary of Statement of Financial Position 2021

As of Dec. 31, 2021 (Unit : KRW million)

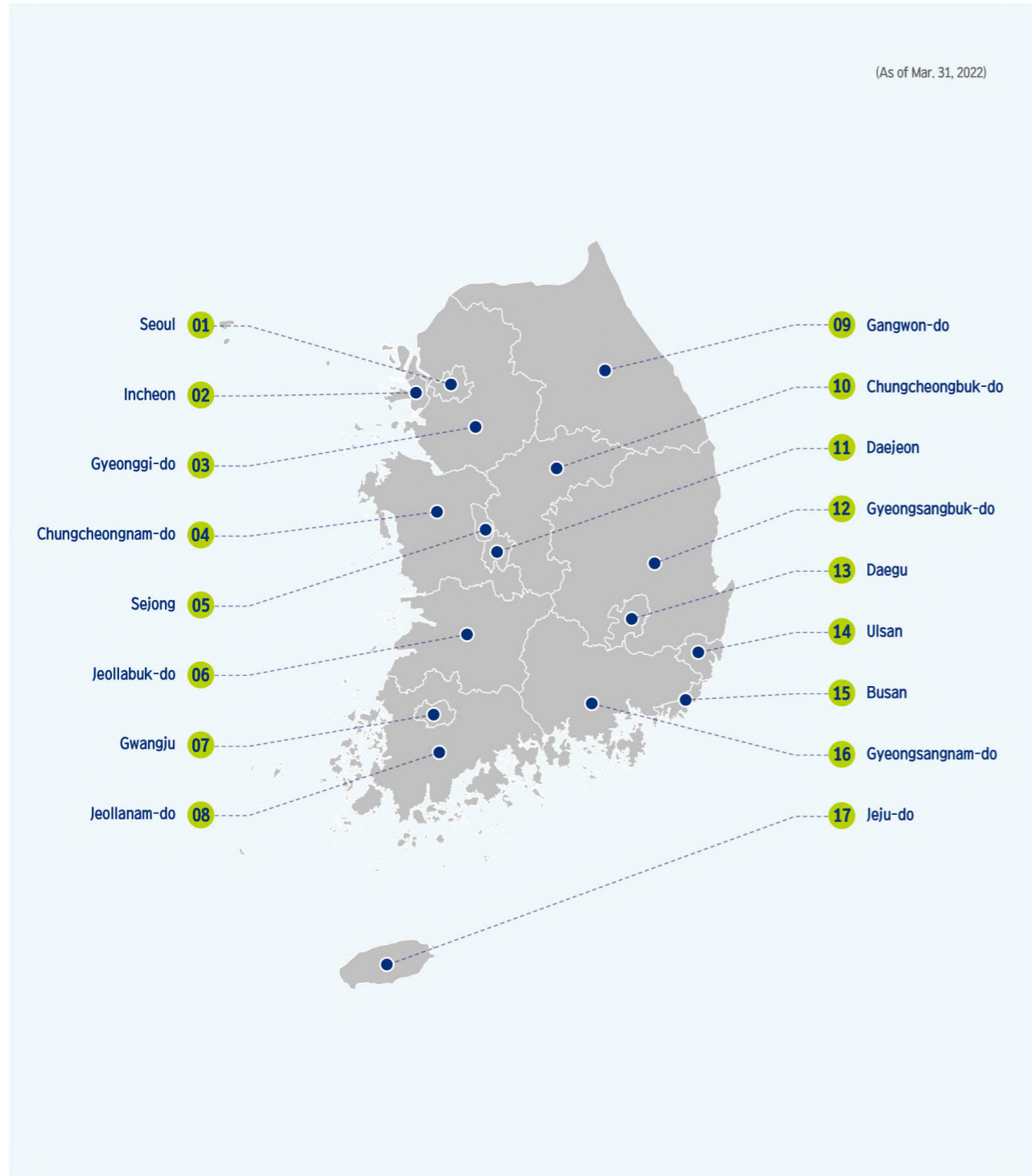
Item	Amount		
	Total cost	Income	Net cost
I. Program net cost	691,634	(502,443)	189,191
Industrial financial support	691,634	(502,443)	189,191
II. Management cost			89,358
Labor cost			32,322
Expenses and others			57,036
III. Non allocated expenses			4,900
Asset impairment loss and others			4,900
IV. Non allocated income			41,232
Interest income and others			41,232
V. Net operation cost (I + II + III - IV)			242,217
VI. Non exchange revenue			693,352
Contribution revenue			565,094
Other sourcing and transfer			128,258
VII. Operation result (V - VI)			(451,135)

▶▶ Summary of Statement of Financial Position 2021

From Jan. 1 to Dec. 31, 2021 (Unit : KRW million)

Item	Amount			
	Net asset	Accumulated reserve and surplus	Net asset adjustment	Total
I. Basic net asset	10,360,891	(8,240,997)	30,493	2,150,387
Reported amount	10,360,891	(8,240,997)	30,493	2,150,387
II. Statement of operation	-	(451,135)	-	(451,135)
III. Adjustment accounts	-	350,000	11,027	361,027
Gain and loss on investment securities valuation	-	-	(2,323)	(2,323)
Gain on asset revaluation	-	-	13,350	13,350
Other gain and loss on net asset	-	350,000	-	350,000
IV. Ending balance of net asset (I - II + III)	10,360,891	(7,439,862)	41,520	2,962,549

03 Branch Network



<p>01 Seoul</p> <p>Technology Appraisal Center Gasan/Gangnam/Guro/Seoul/Secho/Songpa/Jongno Technology Innovation Center Seoul Eastern District/Seoul Western District Cultural Content Finance Center Seoul Social Venture Valuation Appraisal Center IP Mutual Aid Operation Center Central Technology Appraisal Institute Venture Investment Center</p>	
<p>02 Incheon</p> <p>Technology Appraisal Center Bupyeong/Incheon/Incheon Central Technology Innovation Center Incheon</p>	
<p>03 Gyeonggi-do</p> <p>Technology Appraisal Center Gyeonggi Gwangju/Gimpo/Bucheon/Seongnam/Suwon/Sihwa/Ansan/Anyang/Osan/Yongin/Uijeongbu/Insan/Pangyo/Pyeongtaek/Hwaseong/Hwaseong-dong Technology Innovation Center Gyeonggi Cultural Content Finance Center Gyeonggi</p>	
<p>04 Chungcheongnam-do</p> <p>Technology Appraisal Center Asan/Cheonan</p>	<p>12 Gyeongsangbuk-do</p> <p>Technology Appraisal Center Gyeongsan/Gumi/Pohang</p>
<p>05 Sejong</p> <p>Technology Appraisal Center Sejong</p>	<p>13 Daegu</p> <p>Technology Appraisal Center Dalseong/Daegu/Daegu-Buk/Daegu-Seo Technology Innovation Center Daegu</p>
<p>06 Jeollabuk-do</p> <p>Technology Appraisal Center Iksan/Jeonju/Gunsan office of Iksan</p>	<p>14 Ulsan</p> <p>Technology Appraisal Center Ulsan</p>
<p>07 Gwangju</p> <p>Technology Appraisal Center Gwangju/Gwangju-Buk/Gwangju-Seo Technology Innovation Center Gwangju</p>	<p>15 Busan</p> <p>Technology Appraisal Center Noksan/Dongnae/Busan/Sasang/Saha Technology Innovation Center Busan Cultural Content Finance Center Busan</p>
<p>08 Jeollanam-do</p> <p>Technology Appraisal Center Mokpo/Suncheon</p>	<p>16 Gyeongsangnam-do</p> <p>Technology Appraisal Center Gimhae/Masan/Yangsan/Jinju/Changwon</p>
<p>09 Gangwon-do</p> <p>Technology Appraisal Center Gangneung/Wonju/Chuncheon</p>	<p>17 Jeju-do</p> <p>Technology Appraisal Center Jeju Office of Gwangju</p>
<p>10 Chungcheongbuk-do</p> <p>Technology Appraisal Center Jincheon/Cheongju/Chungju</p>	
<p>11 Daejeon</p> <p>Technology Appraisal Center Daejeon/Daejeon-dong Technology Innovation Center Daejeon Cultural Content Finance Center Daejeon</p>	

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