Finance and Innovation Support for SMEs and Startups

KOTEC
KOREA TECHNOLOGY FINANCE CORPORATION

KOTEC leads Global Technology Finance, Creating Value through Innovation
Statutory Law
Korea Technology Finance Corporation Act

Corporate Status
Non-profit Government-affiliated Institution

Mission
To provide financial supports to innovative SMEs

Competent Authority
Ministry of SMEs and Startups (MSS)
TECHNOLOGY APPRAISAL
715,176 Cases

TECHNOLOGY GUARANTEE
$18.9B Balance

59 Technology Appraisal Centers
Young Entrepreneurs
Industry 4.0

TECHNOLOGY TRANSFER
INVESTMENT
R&D
Inclusive Business

TECHNOLOGY PROTECTION
Green Technology
TECH Valley

TECHNOLOGY ESCROW
PATENT MUTUAL AID

IP VALUATION
KTRS
Big Data

VENTURE INNOVATION
VENTURE BUSINESS
Smart Factory
Startups
Social Venture Valuation Center
Venture Investment Center
Technology Commercialization
MANAGEMENT CONSULT
Global Trend to look for the Next Prosperity based on Innovation

**Innovative & Sustainable Growth (Korea)**
* 4.0 Industry (AI, ICT Convergence, Robotics, Green-Energy & Mobile, Nano-Tech, Biotech (Medical), Cutting-Edge Technology), **Job Creation**, Promoting tech-based **SMEs and Startups**

**Innovation & Entrepreneur (WBG)**
* innovation and technology adoption, firm growth and productivity, and **small and micro entrepreneurs**, **creating jobs** and addressing developmental challenges

**Industry 2030 (EC)**
* Environmental Development (Decarbonisation, Global Climate Neutrality), **Social inclusiveness and values**, Major Cutting Enablers (AI, Big Data, Robotic, advanced materials, Photonics), Strengthen internationalism for **SMEs and Startups**
Technology Appraisal Infrastructure

KOTEC’s Staff

- PhDs: 244
- Technology Appraisal Experts: 945

External Network

- External Advisor: 1,074

External Institutions

- 24

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<tr>
<td>Total Employees</td>
<td>1,102</td>
<td>1,126</td>
<td>1,156</td>
<td>1,211</td>
<td>1,304</td>
<td>1,352</td>
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<tr>
<td>Technology Appraisal Experts</td>
<td>923</td>
<td>936</td>
<td>936</td>
<td>939</td>
<td>952</td>
<td>945</td>
</tr>
<tr>
<td>Ph.D Degree holders (or equivalent)</td>
<td>154</td>
<td>168</td>
<td>190</td>
<td>215</td>
<td>239</td>
<td>244</td>
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Manpower: out of 1,352 employees, +18% are PhDs, +40% majored in Science/Engineering
EIB reports selected KOTEC’s case as one of the best practice to reduce information asymmetry by providing technology assessment.

KOTEC stands out as the only Quantitative tech assessment tool that has been developed specifically for highly innovative companies such as KETs.

Credit Evaluation vs. Technology Evaluation (KTRS methodology)

Credit Evaluation:
- Evaluates Credit Risk
- Forecasts the Likelihood of Default
- Focuses on Company’s **Past history**
  e.g. Financial Track Records
- Evaluates Tangible Assets
- Financial Measures are dominant
- Suit for Mature Enterprises

Technology Evaluation:
- Evaluates Future Economic Benefits
- Forecasts the Possibility of Successful Technology Commercialization
- Focuses on Company’s **Future Potential**
  e.g. Technology Competency
- Appraises Intangible Assets
- Non-Financial Measures are dominant
- Suits for Startups and Ventures
Technology Appraisal Models under 13 Categories are operational

KOTEC has developed a variety of KTRS series models and policy-oriented models to meet different appraisal purposes and diverse demands

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<th>KTRS Series Model</th>
<th>Policy-purpose Model</th>
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<tbody>
<tr>
<td>General</td>
<td>For R&amp;D and financial support for prototype creation after completion of R&amp;D</td>
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<tr>
<td>Startups within five years from establishment</td>
<td>For younger generation (founders aged 17 to 39) startups (within five years from establishment)</td>
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<td>Revenue no greater than KRW 1 billion</td>
<td>For companies run by CEO alone, for the guarantee</td>
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<th>KTRS (8 areas)</th>
<th>R&amp;D appraisal model (two areas)</th>
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<tbody>
<tr>
<td>KTRS-SM (8 areas)</td>
<td>Younger generation startup appraisal model</td>
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<tr>
<td>KTRS-PM (8 areas)</td>
<td>One-person creative company appraisal model (two areas)</td>
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Innovative Knowledge Service Appraisal Model (six areas for startup/non-startup)

Cultural content appraisal model (1.5 genres)

Green technology appraisal model (three areas)

Pre-startup Rating Model

Investment-purpose technology appraisal model

Climate technology appraisal model (two areas)

Social Venture technology appraisal model (two areas)

For R&D company appraisal

For R&D task appraisal

Technology-based companies

- Startup
  - R&D (engineering)
  - R&D (liberal arts)
- Non-startup
  - Startup, R&D (engineering)
  - Startup, R&D (liberal arts)

Knowledge-based companies

- Startup, Post-commercialization
- Startup, Pre-commercialization

- Manufacturing technology
- Energy support technology
- High-efficiency technology
- Eco-friendly production, and post processing technology

- IT
- Others

All business category

- Security system
- Medical
- Education
- Mobile games
- Other movie/ animations
- TV animation
- Musical performance
- Musical

Characters: Startup, Non-startup, Drama, Character business, Online games, Other game, Mobile games, Other movie/ animations
WHAT IS TECHNOLOGY APPRAISAL?

TECHNOLOGY APPRAISAL

Technological Value
- Technology overview
- Domestic and overseas technology trends
- R&D environment
- Level of technology, etc.

Marketability
- Market size and characteristics
- Industry status
- Market demand outlook

Business Feasibility
- Sales outlook
- Price and quality competitiveness
- Business viability etc.

Technology Appraisal System

Value

Grade

1

Opinion
New Programs for Supporting Innovative SMEs

Industry 4.0 FIRST Guarantee
Enhancing competitiveness of high-tech industries that will lead 4th Industrial Revolution

4.0 Smart Factory Guarantee
Enhancing competitiveness of the Korean manufacturing industry by promoting construction of smart factories

TECH Valley Guarantee
Enhancing competitiveness of startups established by high-caliber individuals in universities (U-Tech Valley) and public research institutions (R-Tech Valley) with excellent research records

Pre-Unicorn Guarantee
Fostering large-scale growth funds for Startups with high potential to be a Unicorn Company

Social-Venture Impact Guarantee
Enhancing competitiveness of social companies that create ‘social values’
The “Korea-Sweden Social Entrepreneurship Dialogue” was held on June 15 with the participation of Norrsken Foundation in Stockholm and Korea Technology Finance Corporation (KOTEC)
EU IPF (INNO-Partnership Forum)

In 2012, KOTEC's technology rating system also earned recognition from Europe, with its INNO-Partnering Forum (IPF) introducing the system as a "good practice" in a report submitted to the European Commission.

EIB (European Investment Bank)

In a 2018 EIB report, the KTRS was referred to as a "global best practice".

KSP (Knowledge Sharing Program) of MOEF of KOREA

- **Vietnam**: Co-developed technology rating system (VTRS)
- **Thailand**: Co-developed technology rating system, advised credit guarantee policies (TTRS)
- **Peru**: Co-developed technology rating system, advised credit guarantee policies (PTRS)
- **EU**: Co-developed technology rating system (ITRS)

International Organizations
- WIPPO (World Intellectual Property Organization)
- UNIDO (United Nations Industrial Development Organization)
- UNESCO (United Nations Educational, Scientific and Cultural Organization)
The “KOTECK-MEXICO INNOVAION FINANCING WORKSHOP”
February 13, 2020
NEXT GENERATION OF KTRS
an artificial intelligence-based autonomous evaluation robot that automatically analyzes technology appraisal big data with artificial intelligence algorithms and automatically predicts the rating for each non-quantitative evaluation indicator of KTRS.
DREAM

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