Technology Appraisal+

its use and application in technology transfer & commercialization

2014.04

Wanghee You

Manager

Technology appraisal department

Korea Technology Finance Corporation(KOTEC)

Korea Technology Finance Corporation

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I. About KOTEC

WHO WE ARE

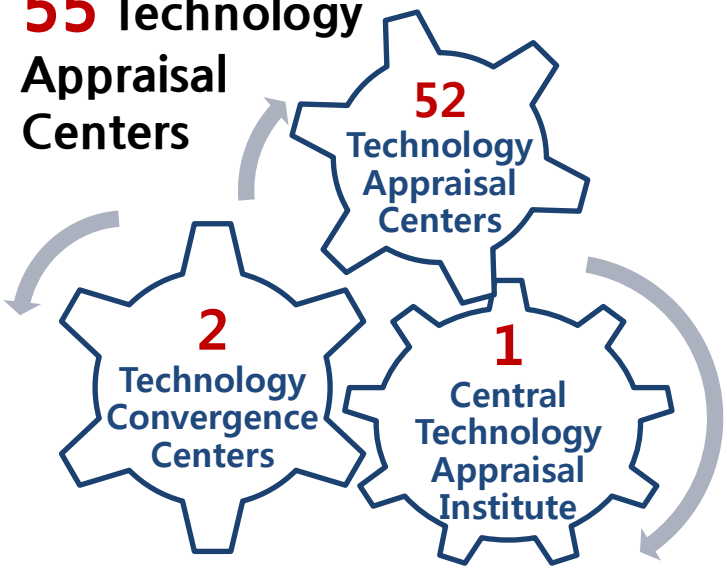
What is KOTEC?

- ▶ Founded in 1989 (President: Mr. Kim han-chul)
- ▶ Non-profit financial institution(No Shareholders)
- ▶ Contributions from Government & Financial Institutions
- ▶ "Technology Guarantee" : a special type of credit guarantee

Organization

Headquarter (Busan,Korea)

55 Technology Appraisal Centers



Staff

1,095
Total Employees

Certified Technology Appraisers

865

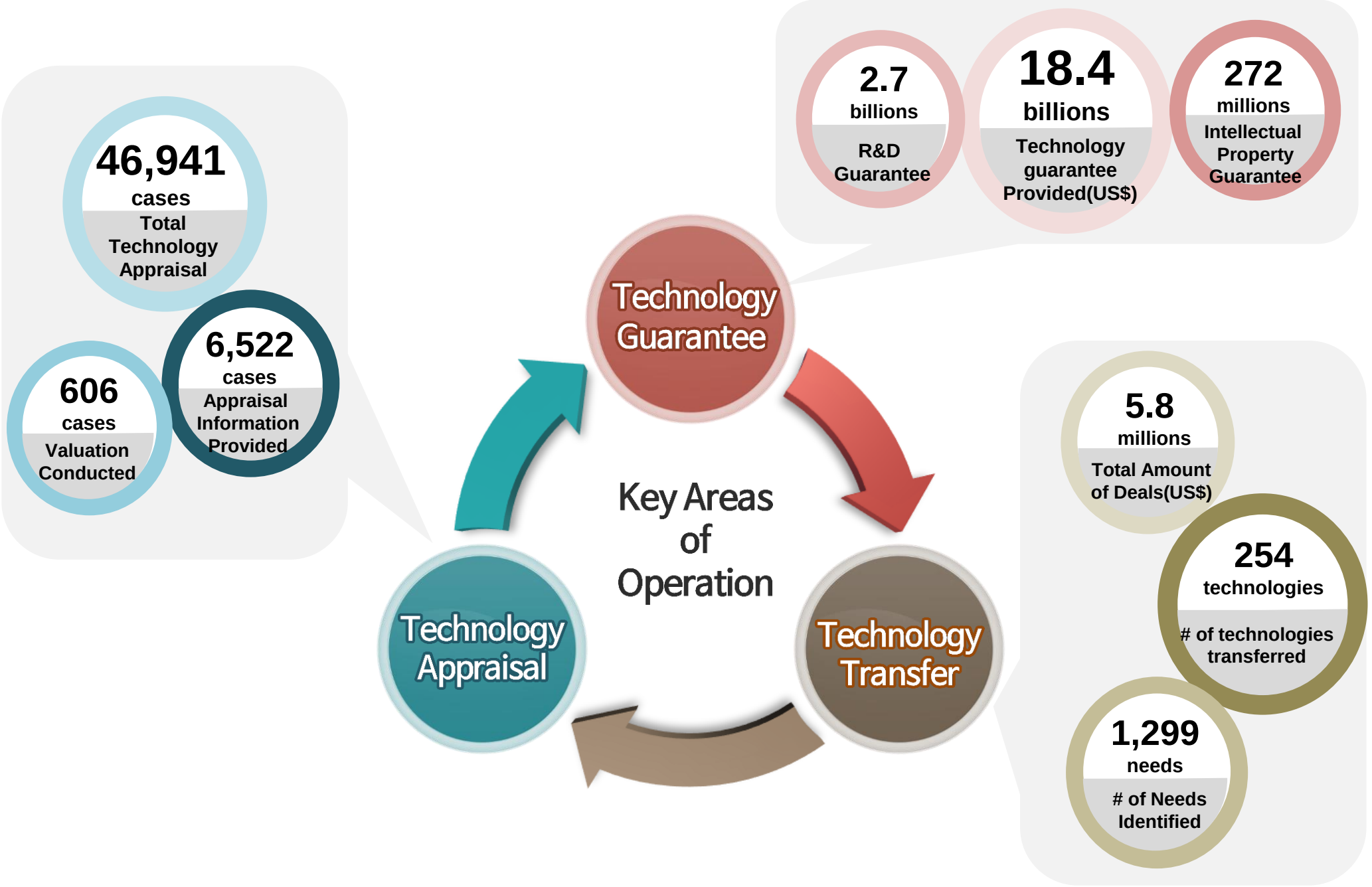
Ph.Ds

154

Partner for innovative SMEs, Global Leader in Technology Financing

I. About KOTEC

Key Areas of Operation



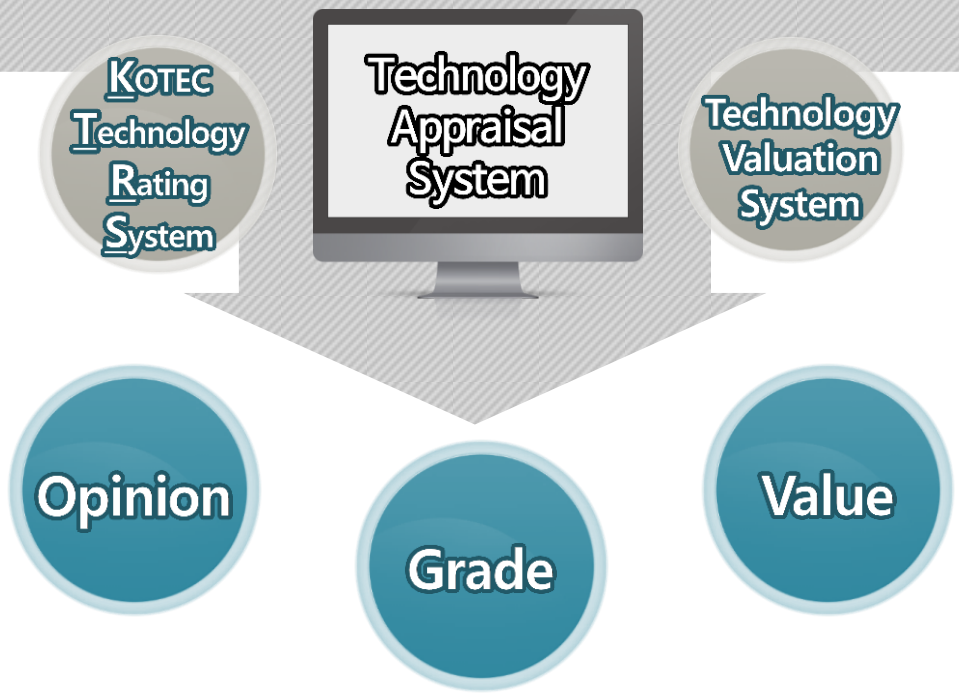
II. Technology Appraisal

Overview

What is "Technology Appraisal"?

Technology

Technological Value	Marketability	Business Feasibility
▪ Level of technology ▪ Readiness Level, R&D environment	▪ Market Size, competitive structure ▪ Market growth poential	▪ Sales forecast ▪ Price and Quality competitiveness



II. Technology Appraisal

KTRS

Credit Rating System and KTRS

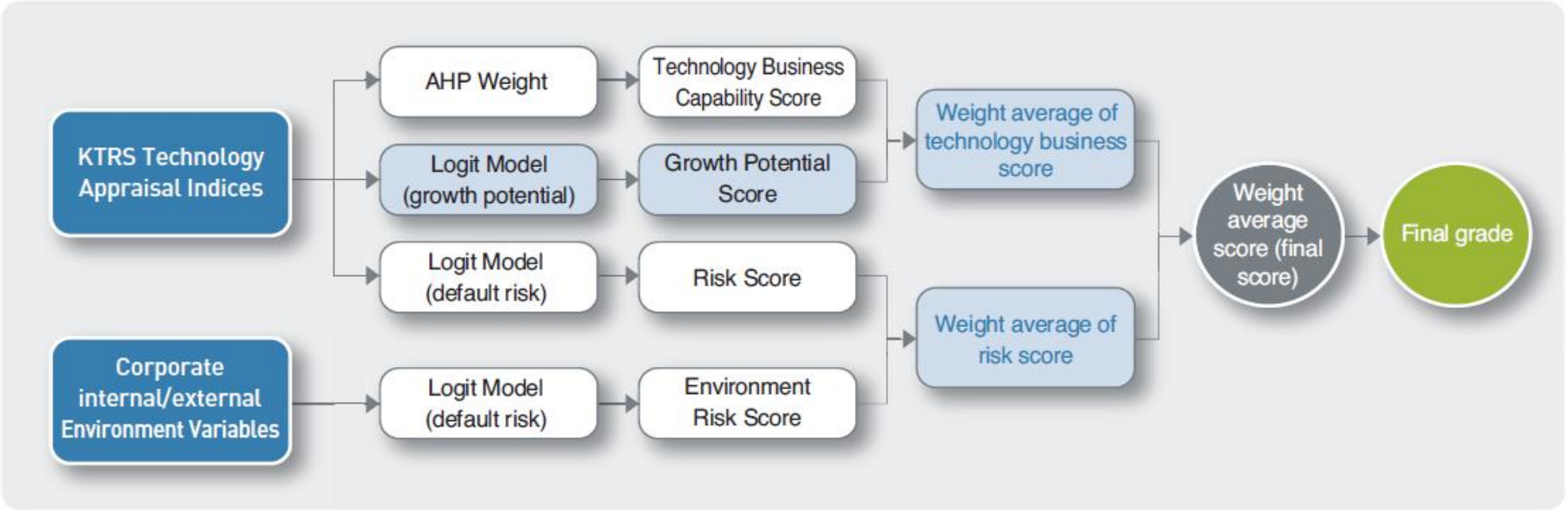
Credit Rating System

- Forecast Corporation's Insolvency
- Focus on Company's Past history
  ex) Financial records
  Business Feasibility
- Financial Measures are dominant

KTRS

- Forecast Technology Commercialization Prospect and Corporation's Insolvency
- Focus on Company's Future Potential
  ex) Technology Excellence, Business Feasibility
- Non-Financial Measures are dominant

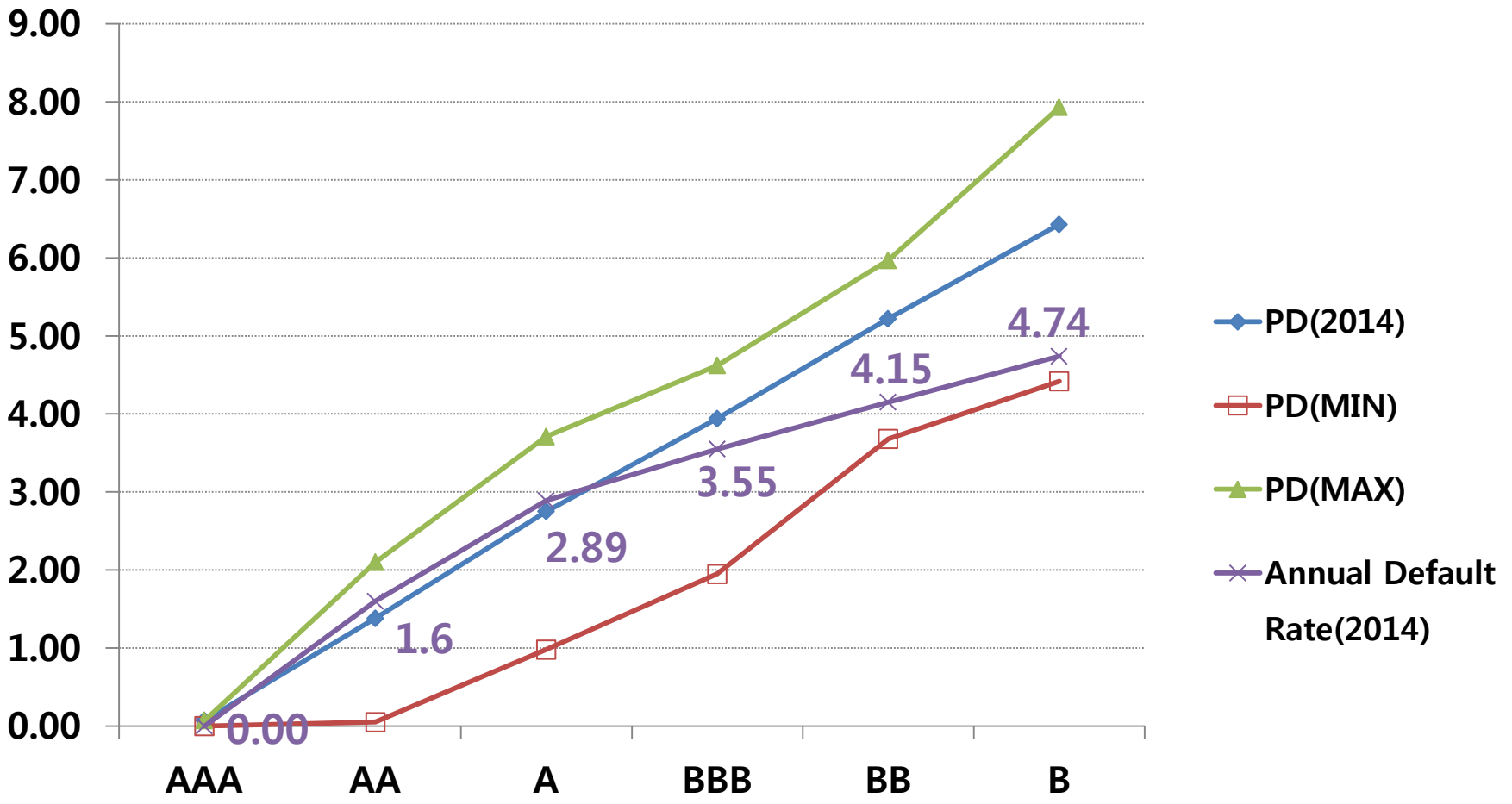
KTRS Rating Process



II. Technology Appraisal

KTRS : Predictability of Default

Probability of Default(PD) for each KTRS Rating Grade



II. Technology Appraisal

Technology Valuation Model

Purpose

- Investment In-kind
- Technology Transaction
- Financing (Debt, equity)
- lawsuit (patent infringement)
- Developing Strategic Plan
- Tax

Methods : Income approach, market approach, cost approach, R&D multiple

Preliminary analysis
(Technological competitiveness, Marketability, Business feasibility)

→ Free Cash Flow → Sum of Present Value → Value

Forecast core variables :
- Economic life of Technology
- Sales Estimates
- Estimation on expenses such as tax, depreciation

Discount rate(%)

Contribution rate(%)

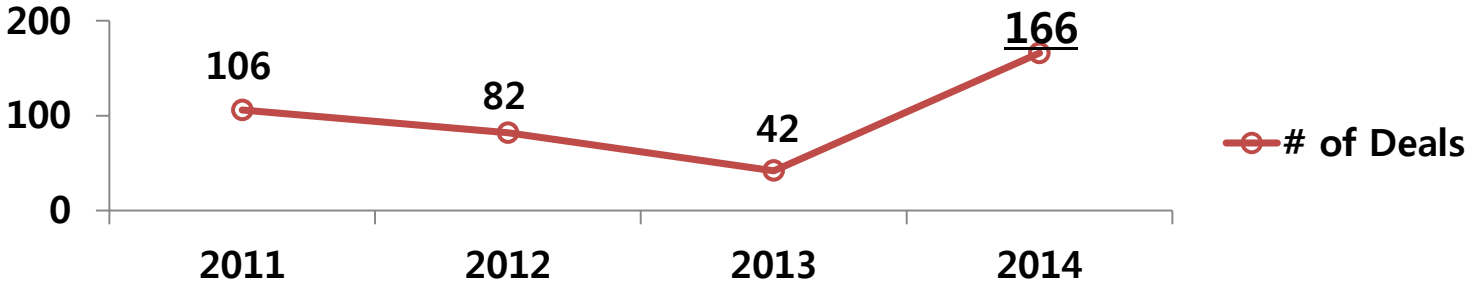
* we work in a team with CPA, IP attorney, and professor to provide more accurate and reliable valuation

of valuation conducted by KOTEC : ('13) 378 ⇨ ('14) 606

III. Technology Transfer

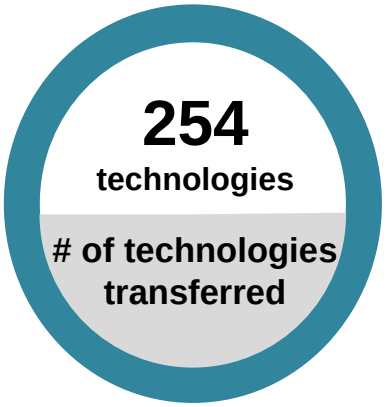
Overview

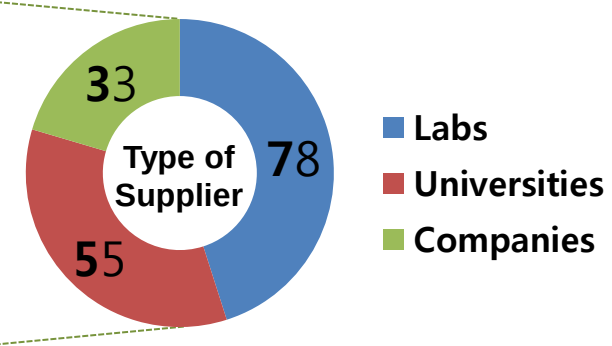
Technology Transfer Deals intermediated by KOTEC



The number of deals dramatically increased in 2014 since we created the specialized Office (Tech Bureau) and Centers(Technology Convergence Centers), and the platform for the technology transfer

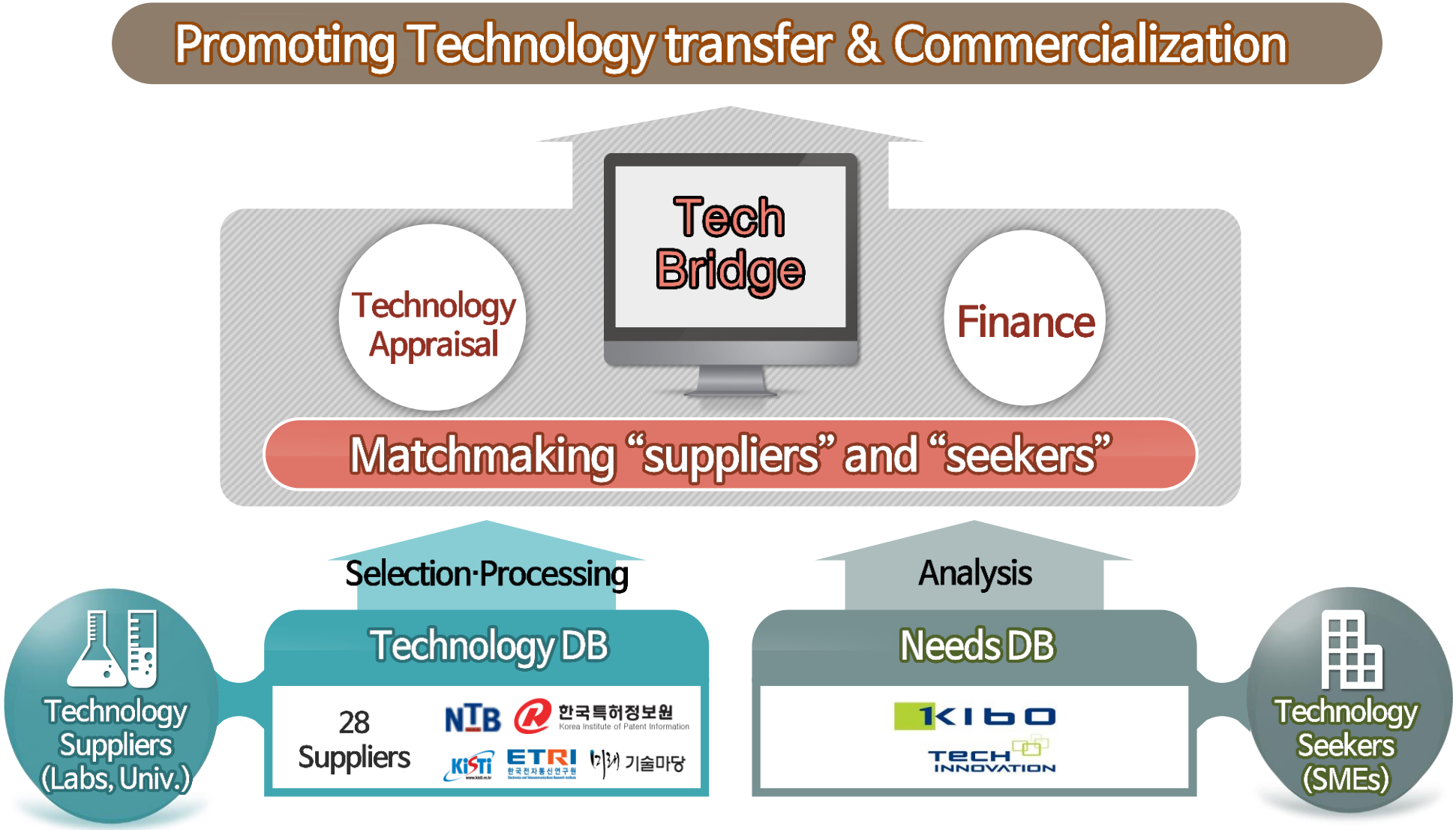
KOTEC Tech Transfer Figures 2014





III. Technology Transfer

Tech-Bridge



III. Technology Transfer

Tech-Bridge : What is different?

Tech-Bridge

01 Needs DB

02 One-stop service

03 KTMS : online matchmaking system

* KTMS (KOTEC Technology Matching System)

04 Technology Convergence Centers

III. Technology Transfer

Technology Transfer Process

Technology Transfer Process

Needs Identification
- Needs Survey & Verification
- Needs DB

Matchmaking
- KTMS* (online)
- Technology Convergence Centers (off-line)

Technology Transfer
- Negotiation (technology meeting)
- Contract

Commercialization
- Additional Development
- Production

Process to build our Needs DB

52 Technology Appraisal Centers → 2 Technology Convergence Centers

Preliminary identification → Assessment → Review

- In 2014, 1,299 Needs identified
- Up to 2018, 10,000 Needs will be identified

01 Most of tech-based SMEs is KOTEC's Client

02 Nation-wide branch network : Clients visit our branch at least once a year

03 Technology Convergence Centers

04 From Finance To Intermediary services

III. Technology Transfer

Application of Technology Appraisal

Needs identification ~ Matchmaking

Needs Identification
- Needs Survey & Verification
- Needs DB

Matchmaking
- KTMS* (online)
- Technology Convergence Centers (off-line)

Technology Transfer
- Negotiation (technology meeting)
- Contract

Commercialization
- Additional Development
- Production

Information Providing

"effectively advertise their technologies"

Technology Suppliers — Technology Appraisal Report — Technology Seekers

"easily find out whether the technology satisfies their needs"

Commercialization Feasibility

Technology Supplier (ex:Labs) → "uncommercialized technologies"

Commercialization Feasibility Appraisal

"Helps select technologies with a high potential for commercialization"

KIBO TECH INNOVATION

Increase the chances of successful matchmaking & technology transfer

III. Technology Transfer

Technology Transfer Process

Transfer ~ Commercialization

Needs Identification
- Needs Survey & Verification
- Needs DB

Matchmaking
- KTMS* (online)
- Technology Convergence Centers (off-line)

Technology Transfer
- Negotiation (technology meeting)
- Contract

Commercialization
- Additional Development
- Production

Valuation

Technology Suppliers → Technology → Technology Seekers

"Fair value" (benchmark price)

KIBO TECH INNOVATION

Applications

KIBO 기술보증기금

R&BD plan development

KIBO TECH INNOVATION → Technology Purchaser

- Technology Development roadmap
- Mentoring, Planning for R&D
- Commercialization Strategy

Financing

KIBO TECH INNOVATION

① Valuation → Technology

② Finance royalty, fees to be paid as well as additional R&D, production → Technology Purchaser

KIBO TECH INNOVATION

① Valuation to assess its collateral value → Technology

② Valuation Report

Commercial Banks

③ Loan secured by the Technology → Technology Purchaser

Summary

Technology Appraisal plays a pivotal role in Technology Transfer

- Technology Appraisal information enhances understanding of the technology to be transferred

: which can lead to successful matchmaking between seekers and providers

- Facilitates technology transaction by "providing fair value of the technology" for buyers and suppliers

: which is very important to create mutually beneficial technology transaction

- Promote the access to Financing by addressing "information asymmetry" and "reducing risk" of financers

: increases the possibilities of successful commercialization

IV. Future Plan

Globalization

01 Continue to share our knowledge and expertise in technology appraisal and technology transfer

➡ Technology Appraisal System, Technology guarantee

02 Strengthen cooperation with WIPO-GREEN

➡ DB Sharing, Joint matchmaking event, Financing W/G

➡ Looking forward to collaborating with other WIPO-GREEN partners