



KOREAN INTELLECTUAL PROPERTY OFFICE

IP Commercialization in Korea

- From R&D to Commercialization -

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Reality of Moving R&D to Commercialization in KOREA

Circumstances in & out of KOREA

- Dramatic Increase of the Importance of Intangible Assets
 - Knowledge, Brand & Patents etc.
 - The percentage of intangible assets in Enterprises : 5% (1978) → 79% (1998) → 90% (2008)
 - 3M : 70%, SAMSUNG ELECTRONICS : 41%
- Deepening Technology Protectionism in Advanced Countries
 - Steady increase of technology royalty
 - 1.2 Billion USD (1991) → 3.3 Billion USD (2003)
- Unsatisfactory Results of Technology Transfer & Commercialization
 - Steady increase in R&D investment : 17 Billion USD (8th)
 - Commercialization Rate of Domestic Patents : 38.9%
 - Rate of Technology Transfer of University & Research Institute : 24.2% (2007) (US : 35.9%, Europe : 46.7%)

Difficulties in Commercializing Patent

- Value of Patents
 - Economic potential
 - Realization of the economic value through commercialization

- Commercialization of Patents
 - Utilizing its own patents
 - Buying or Licensing others' patents

- Obstacles in Commercialization
 - Shortage of funds for commercialization (34.5%)
 - Marketing & Sales (19%)
 - Counterfeit (12.5%)
 - Others (19.4%)



Importance of University & Research Institutes in IP Fields

Competence of Universities & Research

✓ Cost spent on R&D & Human Resource with Doctoral Degree (2006)

	University	Research Institute	Enterprise	Total
R&D Cost (percentage)	2,722B KRW (9.9%)	3,497B KRW (12.8%)	21,127B KRW (77.3%)	27,346B KRW (100%)
Human Resource with Doctoral Degree (percentage)	40,256 (67.1%)	8,083 (13.5%)	11,674 (19.4%)	60,013 (100%)

Patent Application from Universities & Research Institutes

✓ Patent Application & Percentage (2002~2005)

	2002	2003	2004	2005
University	957 (1.3%)	1,692 (1.9%)	1,962 (1.9%)	2,905 (2.4%)
Research Institute	2,656 (3.6%)	3,185 (3.6%)	3,479 (3.4%)	4,453 (3.7%)
Enterprise	51,743 (70.5%)	63,917 (71.9%)	76,970 (74.4%)	90,671 (74.4%)

Technology Transfer of Universities & Research Institutes

	2006			Accumulation until 2006		
	New Tech'	Tech' Transfer	Transfer Rate	Retaining Tech'	Tech' Transfer	Transfer Rate
Research Institute	4,395	1,358	30.9%	25,987	6,825	26.3%
University	4,156	715	17.2%	16,051	2,189	13.6%
Total	8,551	2,073	24.2%	42,038	9,014	21.4%

- R&D Productivity
 - Income from Technology Transfer / Spent Cost for R&D
 - 0.3% (Univ') 2.3% (Research Inst')
 - 4.8% (US Univ') 8.2% (US Research Inst')

From R&D to IPRs

Integrated Patent Information Consulting

- Jointly Operated with Regional Government
 - Matching Fund = National Gov' (50) + Regional Gov' (50)
 - Responsibility of regional Gov' as well as Effectiveness
- Preventing Unnecessary Overlapping Investment in R&D
 - - Diagnosing the interference with prior patents
 - - Enhancing the efficiency of R&D
- Providing researched & analyzed patent information before R&D
- Supporting technology transfer & commercialization after R&D
- Mainly for SME, Venture enterprise, and Region-specialized industry

Subsidizing International IP Application

- International Application for Patent, Utility Model and Design
 - Application & Registration Fees
- 3,000~6,000 USD per Application
- Enlarging the Scope from Individual & SME to University & Research Institute since 1981
 - Individuals & SMEs : Within 3 applications per applicant
 - University & Research Institute : Within 10 applications per applicant
- In 2006, 1.5 M USD for 618 applications

Facilitation of IP Creation at Universities & Research Institutes

- IP Management Model for Universities & Research Institutes
 - Diagnosing & evaluating their management capabilities
 - Distributed Universities & Research Institutes
 - 65 diagnostic indexes in three fields
- Model of Standard Contracts for Cooperation b/w Industry & Academia
 - Guidelines for contracts involving mutual research
 - Research on how indexed-patent can be used in assessing the accomplishments of professors & researchers at 40 universities & research institutes
- Standard Model of Compensation for Employee Inventions at Universities
 - Reflecting the major details of the revised “Invention Promotion Act”
 - Presentation on employee inventions

Facilitation of IP Creation at Universities & Research Institutes (cont'd)

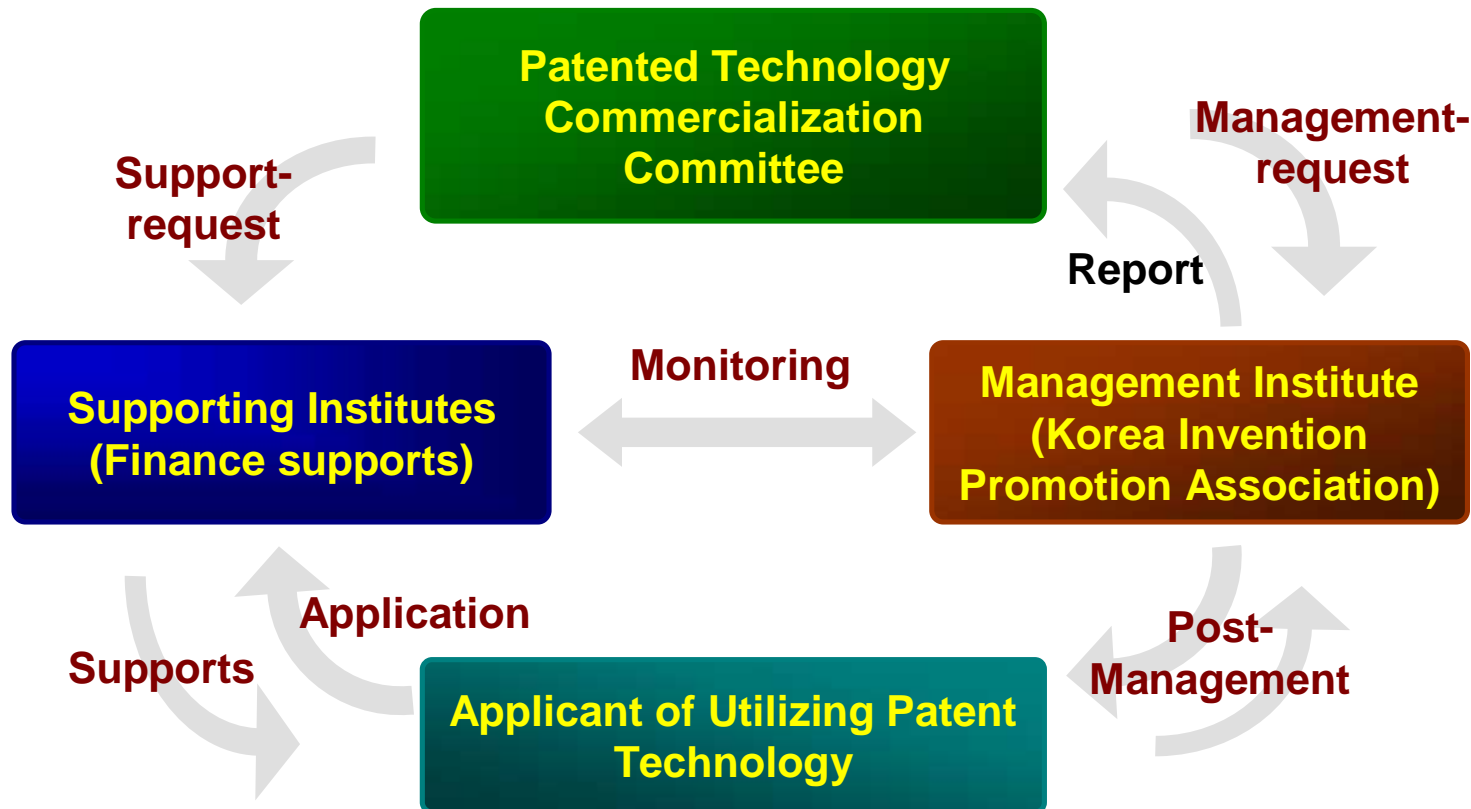
- Supporting Universities & Research Institutes in the Acquisition of Core Patents
 - Facilitating the production of patent map in specialized technical fields for the particular organization
 - Expanding to 20 research labs including Seoul Nat'l Univ' & KAIST
- Educational Courses on Patent Information
 - 4 Graduate courses : KAIST, Seoul Nat'l Univ' etc.
 - 37 Undergraduate courses : Korea Univ', Yonsei Univ' etc.
- National R&D Forum on IP
 - Searching for outstanding IP models at univ' & research institutes
 - Sharing of IP management experience



From IPRs to Commercialization

Patented Technology Commercialization Committee

- Comprising 19 Institutes (Public 9, Private 9)
- Support for Commercialization : 310 M USD (2007)



Appraisal of Patented Technology

- Subsidizing Manufacture of Trial Product of Good Invention & Design
 - Possibility of commercialization & Technological Excellence
 - Within 50,000 USD per Invention per person
 - 165 Inventions & 3.2 M USD (2006)
- Subsidizing Appraisal Fees of Patented Technology
 - Except private enterprises
 - Within 30,000 USD & 80% of the fee
 - Application → Preliminary Decision → Evaluation → Final Decision
→ Payment
 - 1,483 cases out of 2,283 applications & 5.6 M USD (2006)

**Appraisal of
Patent
Technology**

**Business
Funds for
Excellent
Patent**

**Appraisal of
Patent for
Research
Institutes**

Transaction of Patented Technology

- Patented Technology Mart
 - Manufacturing moving pictures simulating the feature of the technology & Writing objective estimate of the technology
 - Consulting on transaction and licensing
 - 168 transactions : Assignment (32) & Licensing (136) (2006)
- IP-MART
 - Online Patented Technology Mart
 - Direct transaction b/w suppliers & consumers
 - Information DB on Technology Transaction : 33,000 cases
- Early Buyer Recommendation Scheme
 - Recommending Gov' agencies to buy good patented products
- Korea Invention & Patent Festival
- Exhibition for the Hundred Most Outstanding Patented Products



Lessons from Best Practices of Shifting from R&D to Commercialization

Brand Construction Utilizing Exhibition

Institute C (anion generating air cleaner)

- Four-year Research & Only one utility model registration
- Brand Construction Utilizing Invention Exhibition
 - Geneva International Invention Exhibition
 - Korea Patent Technology Exhibition
 - International Invention Exhibition (Germany, Switzerland and US)
 - Eight consecutive gold prizes in environment & medical division)
- Unique Commercialization Strategy
 - Eliminating unnecessary margin
 - Telecommunication sales
- Effective Advertising & Unique Strategy



Transaction of Patented Technology

Institute W (water saving appliances)

- Active IP Acquisition
 - 56 Patents (1 International), 30 Designs, 25 Trademarks (6 International)
- Catching Government Policy on time
 - Policy of obligation of water saving appliances
 - Getting funds from government
 - Supplying products to government agencies (government procurement products)
- Technology Power & Timely Understanding of Gov' Policy



Concentration on Single Product

Institute H (closable food container)

- Considering the characteristics of Korean Foods
 - Strong flavor & much water
- Domestic & International Patents
 - R&D for 3 years
 - Patent Application designating 45 countries
- Understanding Trends of Technology Utilizing Patent Map
- Getting Recognition on Quality in diverse ways
- Active Participation in Exhibition & Opening various events
 - Giving housewives the chances of using in person



Some Lessons from the Best Practices

- Notice the Importance of IPR
 - Quantity of IPR does not guarantee good commercialization.
- Utilize a variety of Advertising Channel
- Understand and Utilize Government Policy
- Develop Niche Product
 - Need not to be something great
- Upgrade patented goods consistently
- Diversify the Marketing Channel
- Grasp customers' needs



Recommended Strategy for Successful IP Policy

In the Beginning Stage

- Incorporate Good Foreign IP System & Transform into Its Domestic Version
 - e.g. First Patent Law (1946), Chemical Compound Patent (1987)
- Enhance IP Awareness in Public
 - e.g. Invention Protection Act (1958), IIPTI (1987)
- Collect lots of Foreign Patent Information
 - Utilizing the information as a basis of IP creation and commercialization

In the Intermediate Stage

- Strengthen IP Automation Infrastructure
 - e.g. Internet-based e-Filing System (1999)
- Encourage IP Commercialization
 - e.g. Patented Technology Commercialization Committee,
Subsidizing manufacture & appraisal of patented technology,
Supporting transaction of patented technology
- Design around Dominant Foreign Patents
 - Almost all the inventions originate from the previous inventions.

In the Advanced Stage

- Encourage International Applications
 - Coping with international patent disputes
 - e.g. Subsidizing International Patent Application (1982), PCT ISA/IPEA (2002)
- Enhance IP Management
 - e.g. Patent Map (2004), Regional IP Consulting Center (2004)
- Select & Focus its Own Competent Industrial fields with IP
 - e.g. IT Industry (2000s)



Thank You!

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