

# Technology Strategy 2

## Management of Technology

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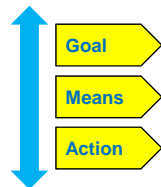
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## 01. Strategic Technology Management

- Scope of Technology Strategy

### Scope of Technology Strategy



- Strategy Formulation
- Strategy Implementation



## 01. Strategic Technology Management

- Core Concepts of Strategic Technology Management

### Core Concepts of Strategic MOT



# 01. Strategic Technology Management

• Core Concepts of Strategic Technology Management

주요 주제	세부 이슈 (예시)	구체적인 대안 (예시)
경영전략과 기술전략의 연계	<ul style="list-style-type: none"> <li>비전/기술전략의 명확화</li> <li>기술기획/연구기획 강화</li> <li>부서간 의사소통/협조 촉진</li> <li>연구기능 역할 정립 및 전략화</li> </ul>	<ul style="list-style-type: none"> <li>기술전략회의의 신설, CTO 역할 강화</li> <li>연구기획기능 강화 (Technology Roadmap)</li> <li>R&amp;D 포트폴리오 (Portfolio) 관리</li> <li>기업 내 연구기능간 역할 조정</li> </ul>
자체 R&D 능력 축적 및 외부기술의 효과적인 활용	<ul style="list-style-type: none"> <li>연구소 핵심역량의 축적</li> <li>외부기술정보 탐색 강화</li> <li>Open Innovation, Outsourcing</li> <li>산학협동 활성화</li> </ul>	<ul style="list-style-type: none"> <li>핵심기술역량 파악/관리, 핵심기술 육성</li> <li>Open Innovation, 산학협동 확대</li> <li>R&amp;D 국제화, 해외연구소 활용</li> <li>외주개발과제의 관리</li> </ul>
창의적인 연구여건의 조성	<ul style="list-style-type: none"> <li>창의적 연구문화의 창출</li> <li>자율적 조직운영 / 위임</li> <li>연구원 경력관리 강화</li> </ul>	<ul style="list-style-type: none"> <li>실패허용문화 조성</li> <li>과제유형별 과제평가기준의 차별화</li> <li>연구원 역할모형 정립</li> <li>창의성 촉진 프로그램 개발</li> </ul>
구체적인 실행시스템의 구축	<ul style="list-style-type: none"> <li>R&amp;D 성과평가시스템 구축</li> <li>연구원 인센티브 시스템 구축</li> <li>R&amp;D 정보관리시스템 보유</li> </ul>	<ul style="list-style-type: none"> <li>연구성과/연구원 평가 기준의 유연성/차별화</li> <li>성과평가 및 보상체계의 설계</li> <li>사내/외 정보시스템 및 정보흐름 관리</li> <li>Six Sigma 시스템 도입</li> </ul>
불연속적/획기적 혁신의 관리	<ul style="list-style-type: none"> <li>IT, BT 등 첨단기술의 관리</li> <li>불확실성에 대응한 투자 방식</li> <li>유연한 조직설계</li> <li>새로운 기회창출 및 시장개발</li> </ul>	<ul style="list-style-type: none"> <li>제4세대 R&amp;D 방식 도입</li> <li>High-Tech Marketing 구축</li> <li>고객, 파트너와의 상호 학습, 사용자/고객혁신</li> <li>첨단산업별로 특화된 기술경영</li> </ul>

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# 01. Strategic Technology Management

• Core Concepts of Strategic Technology Management

Core Concepts of Strategic MOT

1) Connecting Management Strategy with Technology Strategy

- Necessities of connecting management strategy with technology or R&D strategy
  - The importance of technology is getting higher to acquire competitive power.
  - Technology strategy becomes the first factor of management strategy. (In the old days, it was the last factor.)



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### 1) Connecting Management Strategy with Technology Strategy

- Problems in connecting management strategy with technology strategy
  - It is difficult to choose technologies and distribute resources effectively.
  - It is difficult to link activities of technology development with enterprise performance.



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### 1) Connecting Management Strategy with Technology Strategy

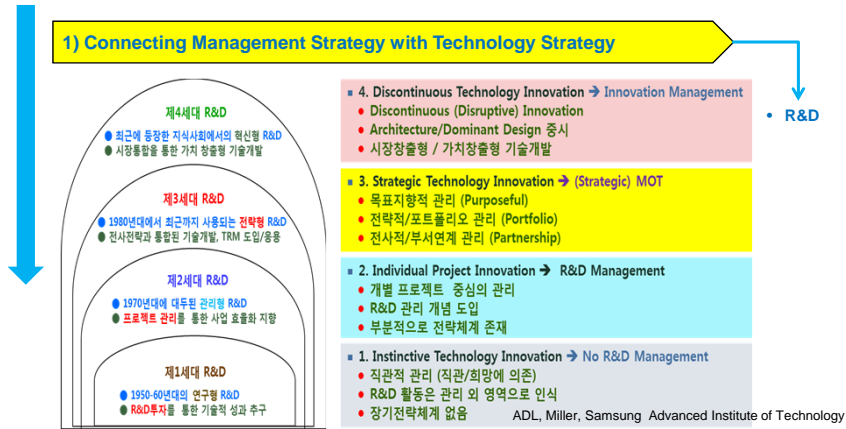
- Methods of connecting management strategy with technology strategy
  - Substantializing contents of long-term management strategy
  - Specifying technology strategy
  - Preparing institutional programs for aligning management strategy and technology strategy



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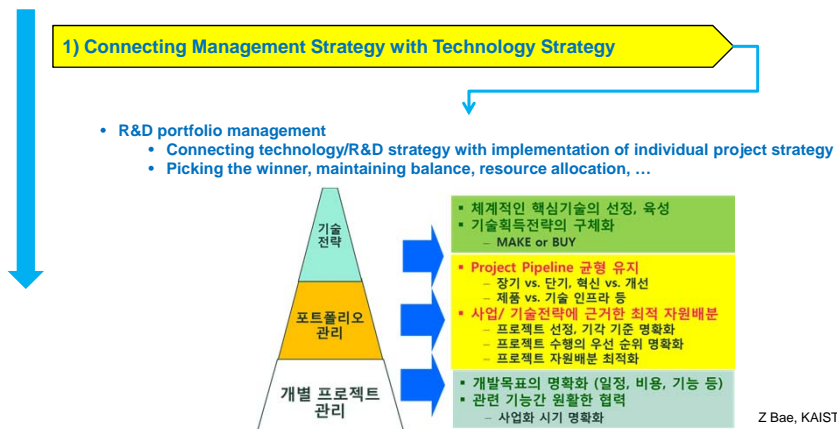
Core Concepts of Strategic MOT



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### 2) Connecting In-House Technology with Outsourcing Technology

- Exploiting various methods to acquire technologies
  - "Make (R&D)" to secure core technologies
  - "Buy (Outsourcing)" to secure peripheral technologies
  - Mixing "Make (R&D)" and "Buy (Outsourcing)".

### 기술전략의 선택

기술유형	경쟁적 위치				
	매우 강함	강함	보통	약함	매우 약함
기반기술	R&D 활동 최소화		기술구매 고려		
핵심기술	주요 R&D 활동 영역		인수 및 기술도입 고려		공동 연구 고려
미래기술					
신생기술					

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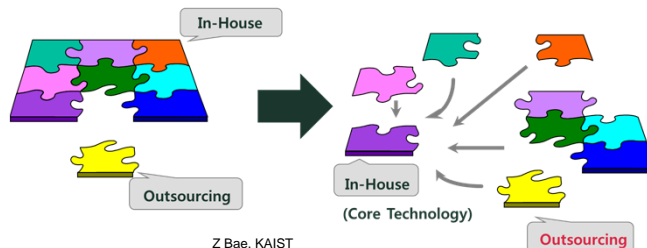
## Core Concepts of Strategic MOT

### 2) Connecting In-House Technology with Outsourcing Technology

- New paradigm to acquire technologies

Old Paradigm on Outsourcing

New Paradigm on Outsourcing



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### 3) Promoting Creative Research Conditions

- Creative culture
  - Failure-permission
  - Autonomy
  - Openness
  - Originality



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### 4) Establishing Concrete Action Mechanism for Technology Strategy

- Action process of technology strategy
  - Establishing implemented mechanism of technology strategy
  - Proposing means to evaluate/examine milestones
  - Analyzing gap with follow-up actions



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#### 4) Establishing Concrete Action Mechanism for Technology Strategy

- Considerations in designing action systems of technology strategy
  - People
  - Technology base
  - Organization
  - Environmental monitoring
  - Technology/business policies
  - Performance measurement and rewards
  - Budget



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#### 4) Establishing Concrete Action Mechanism for Technology Strategy

- Indicators to evaluate R&D performance
  - Goals of systems
    - Efficiency: Do things right! (= given output, minimize input)
    - Effectiveness: Do right things! (= given input, maximize output)
  - Distinction of evaluation
    - Result indicators: realized results during evaluation period
    - Real-time indicators: processing results in the present
    - Leading indicators: potential results in the future
  - Direction of performance
    - Direct effect: direct causal-relationship
    - Indirect effect: diffusion, connection, accumulation, derivative
  - Goals of R&D systems
    - Inputs, throughputs, outputs, outcomes
  - Qualitative or Quantitative

