



**Asia-Pacific  
Economic Cooperation**

# **Development of Human Capital for SME Innovation Policies : Turning Technologies into Business Value**

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**APEC Small and Medium Enterprise  
Working Group**



**SME Innovation Center**

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Korea Technology and Information Promotion Agency for SMEs  
3F Excon Venture Tower, 64 Eunhaenggil  
Yeongdeuonngpo-gu, Seoul 150-969 Korea  
Tel: 82-2-3787-0400 Fax: 82-2-784-0509  
E-mail: [apec@tipa.or.kr](mailto:apec@tipa.or.kr) Website: [www.apec-smeic.or.kr](http://www.apec-smeic.or.kr)

for  
APEC Secretariat  
35 Heng Mui Keng Terrace Singapore 119616  
Tel: (65) 67756012 Fax: (65) 67756013  
Email: [info@apec.org](mailto:info@apec.org) Website: [www.apec.org](http://www.apec.org)

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## Preface

APEC SME Ministers in 2003 stressed that innovation plays a key role in facilitating the creation of high-growth firms and is directly associated with the levels of competitiveness of SMEs and micro-enterprises. In 2005, Korea suggested the Daegu Initiative on SME IAP (Innovation Action Plan) to APEC for further progress on SME innovation. Then, Ministers welcomed and agreed to review and improve their economic and policy environments for SME innovation, both individually and collectively. The Daegu Initiative also included the establishment of the APEC SME Innovation Center (SMEIC) as an entity to initiate SME innovation in the region. Now, member economies participate in the Daegu Initiative on SME IAP on a voluntary and continual basis. In 2006, APEC SMEIC conducted a comprehensive survey on SME innovation policies and the survey result shows that there exists a clear and wide gap between developed and developing member economies in terms of implementation of SME innovation policies.

In early 2007, the APEC SME Innovation Center set up a plan to disseminate successful policies and their cases of SME innovation to the APEC region. For the first step to implement the plan, the Center decided to design a textbook for a training workshop to enhance the capacity of SME innovation policy makers. Prior to designing the textbook, APEC SMEIC asked developing member economies regarding the most needed policy area to promote SME innovation. And the Center found that their answers were mostly related to technology transfer, financial support and marketing. Therefore, it is conjectured that SMEs in the APEC region seem to prefer a more tailored approach to technology development rather than technology creative ones.

Considering the answers as SME requirements, APEC SMEIC organized a taskforce team and invited experts from Korea, Chinese Taipei and Indonesia on SME innovation environment to develop the textbook. In order to have initial design discussion, it was agreed that Indonesia host a meeting in Jakarta in April, 2007. Then, Indonesia presented their requirements as developing member economy. The taskforce team also took a field trip to technology environmental infrastructure in Indonesia, such as a technology incubator, tenants and a technology development center. Overall, Indonesia's concerns are linked to cluster, technology incubator and technology collaboration together with financial support system including credit insurance. In addition, their reported concerns appear to be similar to other member economies' ones: building an innovation environment ideal for SMEs.

The taskforce team first agreed to designate the textbook's theme as "turning technology into business value" for developing member economies. Focusing on commercializing technologies, the taskforce team set the context of promoting technology development,

financing support and marketing with the goal to enhance policymakers' capacities so as to build a SME innovation environment. During the meeting in Jakarta, the taskforce team members proposed their individual initial designs in ten areas to meet the requirements of developing member economies.

The ten areas include: (1)cluster, (2)technology collaboration, (3)business incubation, (4)Research and Business Development (R&BD), (5)financing, (6)technology financing, (7)technology evaluation, (8)business counseling, (9)e-Business , (10)public procurement. The first four areas are selected for technology development promotion, while the next three areas are for financing support promotion and the last three areas are for marketing promotion. Therefore, this book is comprised of three parts: technology development promotion, financing support promotion and marketing promotion.

The first part of the textbook is composed of four areas: cluster, technology collaboration, business incubation and R&BD. All areas in the first part especially emphasize interactions of relevant actors and stakeholders in the network of technology development.

### Cluster

Cluster has emerged as a new key success factor of an economy in the era of a knowledge-based economy. The author provides readers with a real-world view into the best practices of cluster formation and cluster management. He also expects them to develop skills and gather tools to enhance the success of their cluster policy-making and management.

### Technology Collaboration

It is recognized that SMEs are often facing many kinds of difficulties when they conduct various technology activities because each activity in SMEs consumes the limited and insufficient resources. Therefore, the author proposes that technology collaboration can help forward-thinking businesses and organizations accelerate the pace of innovation and, eventually, bring competitive advantage in the marketplace by establishing a solid mechanism among SMEs, academia, and public research institutes.

### Technology Incubation

Business incubators are where individuals or businesses receive assistance to develop and commercialize new products, new technologies, or even new services. Some incubators also help existing firms enhance their chances of success. The author introduces the best practices of incubator establishment and management in the world with his keen notion and practical experiences.

## R&BD

R&BD (Research and Business Development) is the concept that R&D is combined with marketing. The author claims that a new approach is needed to successfully implement innovation and R&D in ushering a new era of competition. He describes the concept of R&BD, SBIR of the United States, BUNT of Norway, R&BD instances of Korea and the method for a small and medium enterprise to touch upon the sustainable success.

The second part is composed of three areas: financing, technology financing and technology evaluation. For effective government's intervention in financing, particularly for technology financing, some discrete measures and procedure are inevitable along the growth stages of and available resources inside SMEs with limited government budget.

## Financing

SMEs suffer from financial constraints due to information asymmetry problems, lack of collaterals and difficulties to collateralize technology and IPRs. Governments have every reason to intervene in providing direct and indirect financial supports in the form of loans or capitals. The author presents theoretical backgrounds and practical case studies as essential parts of implementing government financing policies for SMEs.

## Technology Financing

One of the major hurdles in technology commercialization by SMEs is related to financing, especially because SMEs have experienced great difficulty in attracting capital due to business risk. The author presents a technology financing's role to promote technology commercialization. He proposes definition and classification of SMEs based upon growth stage and resources such as technology, human resources, financing and marketing to rationalize the estimation of required financing size and type.

## Technology Evaluation

Technology evaluation as a business feasibility measurement consists of measurements not only for technology status, but also for market status where the designated technology would be applied. In addition, corporate credit including the integrity of financial transactions would be very important in terms of mid- or long-term growth of corporate. The author introduces concepts and issues of technology evaluation as a key factor for the implementation of technology financing and proposes viable policies and following systems for the future.

The third part is composed of three areas: business counseling, e-Business and public

procurement. To make is one thing; to sell is another. This part deals with marketing promotion by integrating stakeholders to the success of marketing during the business counseling in a more efficient way using e-Business. It also discusses the government procurement policies for promoting the commercialization of SMEs technologies.

### Business Counseling

Micro and small enterprises need business counseling. And that is the concept of consulting with training and management education. The concept is more closely related to mentoring. The author discusses business counseling concepts, the effect of supporting SMEs by providing business counseling and a coupon consulting system in Korea for the small and medium enterprises along with many actual case studies.

### e-Business

e-business companies can easily enhance their competitiveness and thus SMEs can hardly be competitive or even survived if they do not incorporate “e-Business.” The author is concerned about how to develop e-business policy for SME policy makers. She includes a series of procedures to plan, execute, control and assess the e-business Policy Making for SMEs.

### Public Procurement

Government Procurement can be utilized as a vehicle for innovation for SMEs’ capability build-up and business growth. The author describes general schemes of demand-side SMEs’ innovation policies, strategic procurement policies in advanced economies and recent development in policy agendas, and specific case studies from Korean SMBA experiences.

In overall, the APEC SME Innovation Center has finally published a textbook for training policymakers about SME innovation. The textbook is expected to serve as a useful guidebook for policymakers to establish policies appropriate for their own SME innovation environment. It will be also used as a reference book in a workshop for training and educating policymakers in SME innovation.

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Joo-Yong Kim, Director  
APEC SME Innovation Center

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## Contributors

### **Authors**

Dr. Deukgyu Bok

Samsung Economic Research Institute (SERI), Korea

[seribok@seri.org](mailto:seribok@seri.org)

Dr. Kyeong Seok Han

Soongsil University, Korea

[kshan@ssu.ac.kr](mailto:kshan@ssu.ac.kr)

Ms. Meili Hsiao

IDEAS (Innovative DigiTech-Enabled Applications & Services) Institute, Chinese Taipei

[meili@iii.org.tw](mailto:meili@iii.org.tw)

Dr. Sanghoon Kim

EBSI(Environment and Bio Science Institute), Co., Ltd, Korea

[sanghoon\\_kim@hotmail.com](mailto:sanghoon_kim@hotmail.com)

Dr. Woo Sung Lee

Science and Technology Policy Institute (STEPI), Korea

[leews@stepi.re.kr](mailto:leews@stepi.re.kr)

Mr. Rern-jier Sheu

ITRI College, ITRI (Industrial Technology Research Institute), Chinese Taipei

[JackSheu@itri.org.tw](mailto:JackSheu@itri.org.tw)

### **Requirement Providers**

Mr. I Wayan Dipta

The Office of State Minister for Cooperatives and SMEs, Indonesia

[wayan\\_dipta@yahoo.com](mailto:wayan_dipta@yahoo.com)

Dr. Utama H. Padmadinata

Agency for the Assessment and Application of Technology (BPPT), Indonesia

[utamahp@ceo.bppt.go.id](mailto:utamahp@ceo.bppt.go.id)

**Edited by APEC SME Innovation Center**

Dr. Joo-Yong Kim

TIPA, Korea

[jooykim@tipa.or.kr](mailto:jooykim@tipa.or.kr)

Mr. Dong-Kyu Ryu

TIPA, Korea

[rdk1177@tipa.or.kr](mailto:rdk1177@tipa.or.kr)

Ms. Kyung-In Lim

TIPA, Korea

[iki654@tipa.or.kr](mailto:iki654@tipa.or.kr)

Ms. Soo-Hyun Kim

TIPA, Korea

[shkim324@tipa.or.kr](mailto:shkim324@tipa.or.kr)