



## ..... Open innovation in SMEs .....

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-Sungjoo Lee-

University of Cambridge

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# Introduction



## ❖ Open innovation

- Concept
  - Spanning firm boundary
  - Managing the external process of innovation
- Research focus (Chesbrough, 2003)
  - Company-level, large firms, technology-based..
  - IBM, Intel, Lucent, Xerox...
- Limitation (West et al., 2006)
  - Little focus on SMEs, the important drivers for innovation

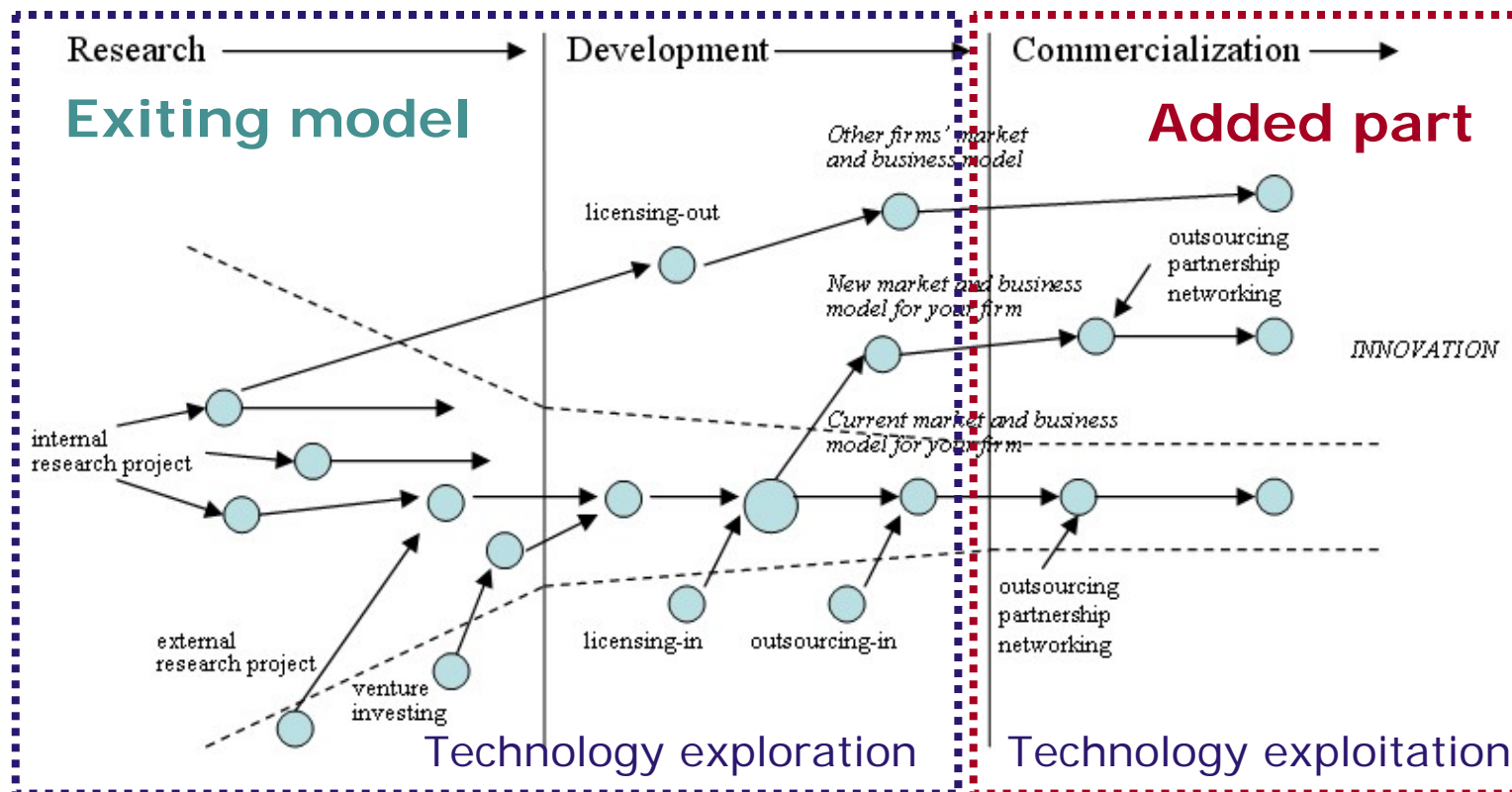
## ❖ Purpose

- Open innovation strategies in SMEs
- Case on Korean SMEs with KICMS (Korean Integrated Contract Manufacturing Service) association

# Open innovation in SMEs (1/3)

## ❖ Concept of open innovation in SMEs

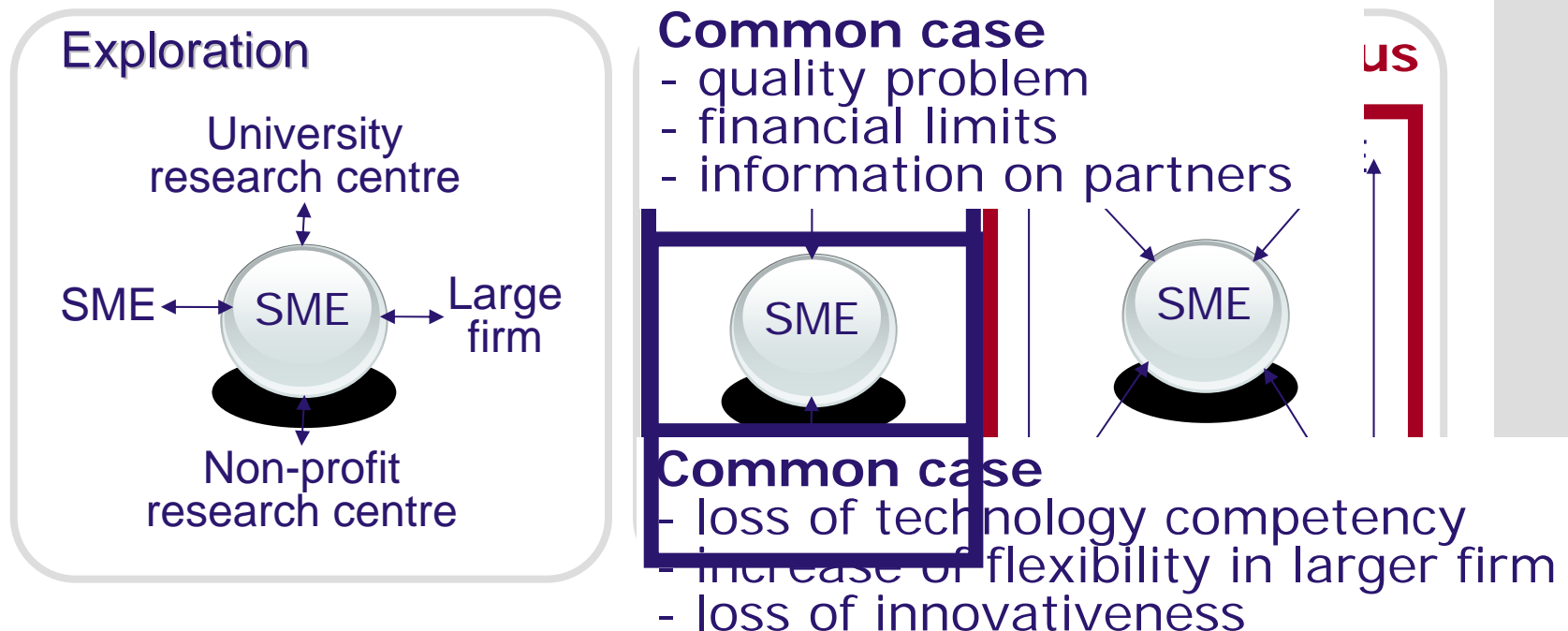
- Innovation in SMEs
  - Advantage in flexibility but disadvantage in scale
  - Difficulties in transforming invention to innovation



# Open innovation in SMEs (2/3)

## ❖ Collaboration model for open innovation

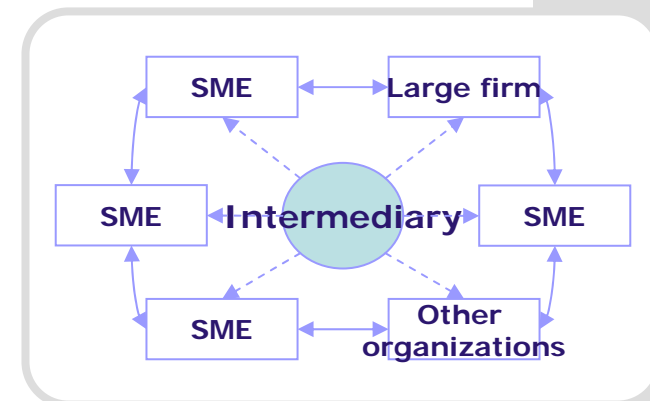
- Possible collaboration modes
  - Customer-provider: funding, licensing, outsourcing...
  - Strategic alliance: partnership, joint ventures...
  - Inter-firm relations: network...



# Open innovation in SMEs (3/3)

## ❖ Intermediary to facilitate open innovation

- Network advantage
  - Access to knowledge, resources, markets, technologies...
  - Co-development of product and service
  - Learning effect for future innovation
- Partner selection issues
  - Selection criteria: mutual benefit, complimentary asset...
  - Difficulties in searching and deciding who to work with
- Role of intermediary
  - To maintain a relevant database
  - To help network construction
  - To support network management
  - To form collaborative culture



# The KICMS model



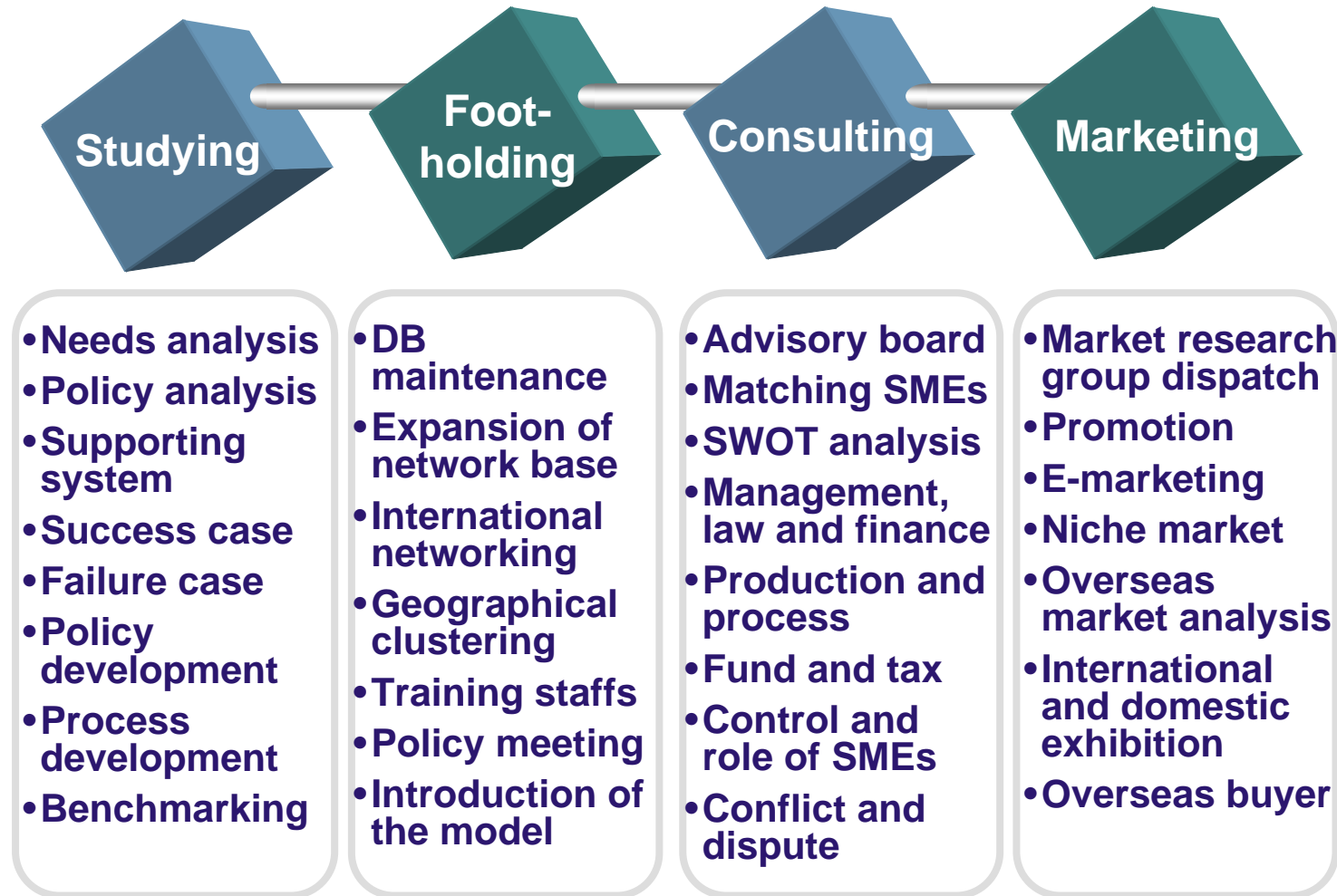
## ❖ KICMS for SMEs

- ICMS (Integrated Manufacturing Service) model
  - A collaborative business model
    - Horizontally specialized structure of SMEs
    - Based on mutual trust contracts
  - Open innovation concept for SMEs
- KICMS (Korean ICMS) association
  - Foundation: 2004 with the support of government
  - Aim: to spread the ICMS model
    - To maximize innovation in SMEs
    - To achieve synergy in business
  - Member: 4,415 organizations in 2007
- CF2 (Cross Functional Consortium Family)
  - A collaboration network consisting of SMEs

# The KICMS model



## ❖ Role of KICMS for SMEs

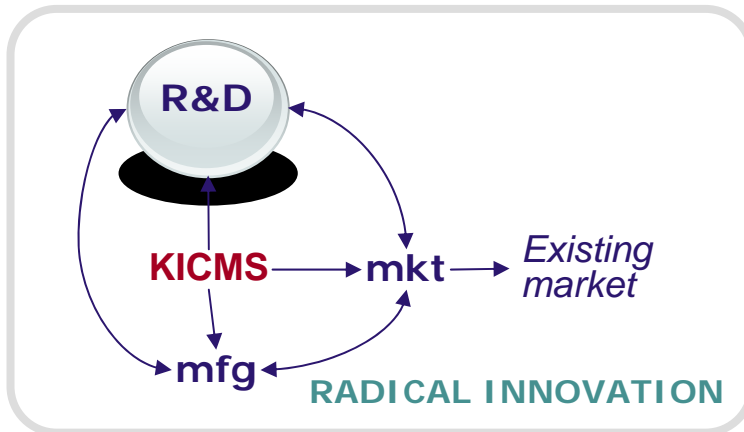


# The KICMS model

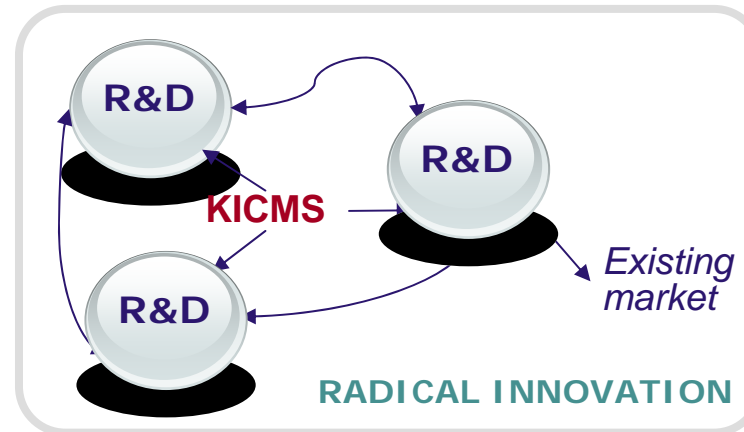


## ❖ Collaboration network

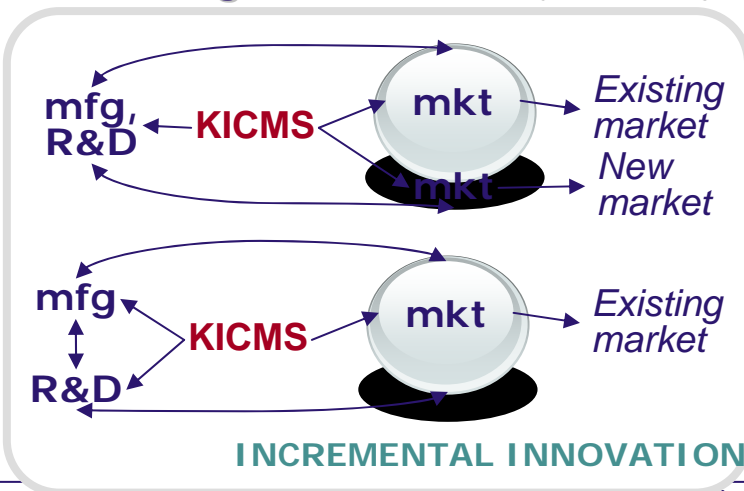
R&D-focused CF2 (15 cases)



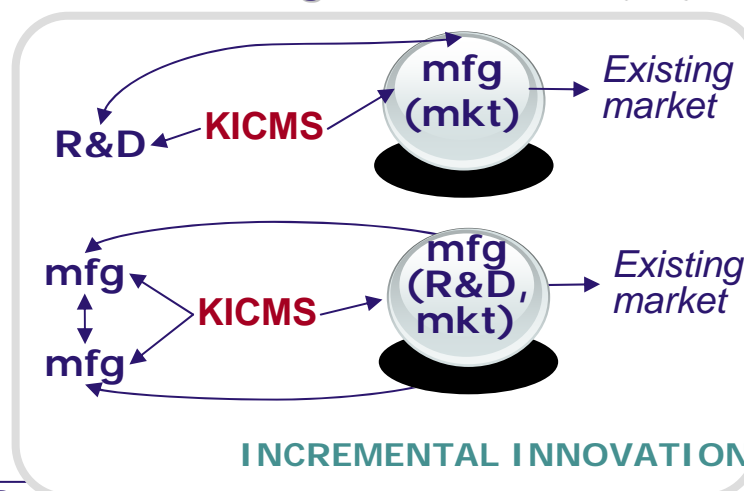
Venturing-focused CF2 (3 cases)



Marketing-focused CF2 (3 cases)



Manufacturing-focused CF2 (30)

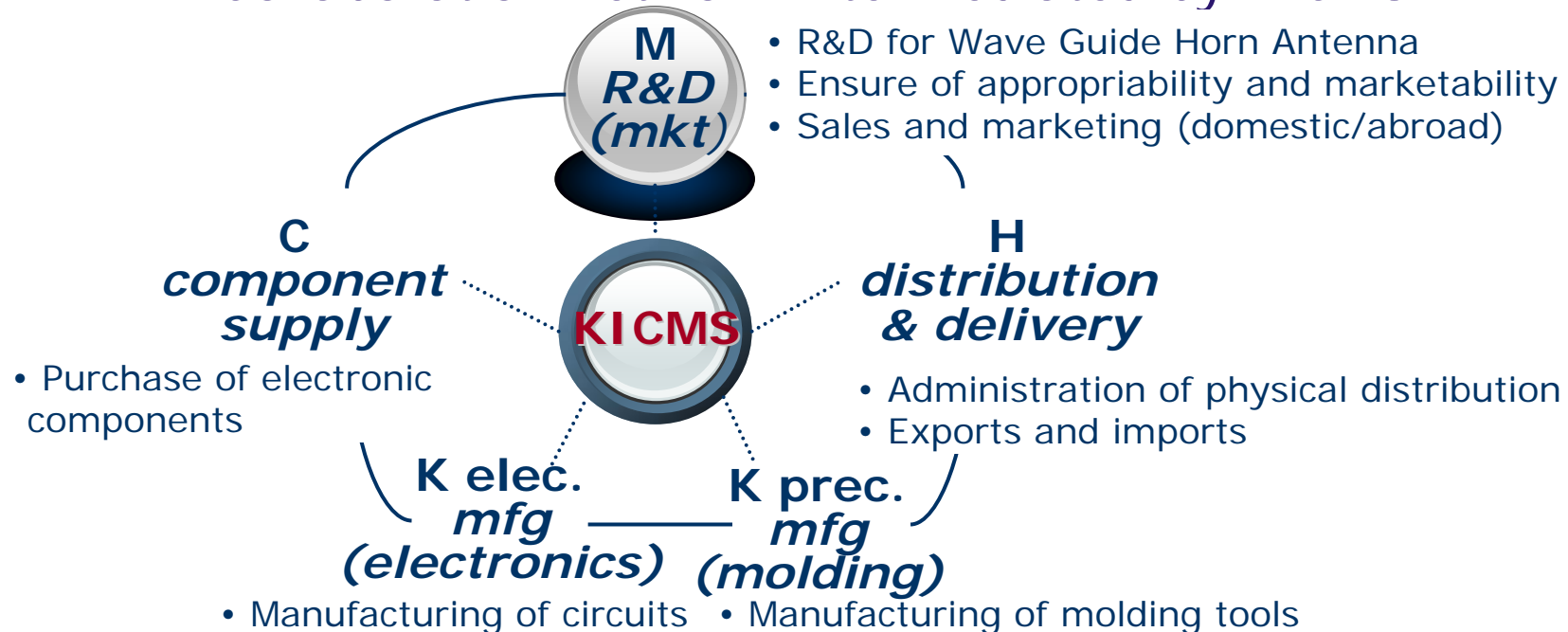


# The KICMS model



## ❖ Success case of collaboration

- Invention of WGH (Wave Guide Horn) antenna
  - World 1<sup>st</sup> WGH antenna development in Firm M
    - Advanced WGH technology & Production technology
    - Difficulty in cost, quality and time to commercialize
  - Collaboration network intermediated by KICMS



# The KICMS model



## ❖ Success case of collaboration

- Commercialization of WGH (Wave Guide Horn) antenna
  - Collaboration process
    - February, 2004: organize CF2-M organization
    - April, 2004: start product planning
    - September, 2004: complete prototyping
  - Expected benefits
    - Firm M: develop a production system within eight months
    - Others: increase in sales and possibility of innovation
  - Collaboration results (in case of M)
    - Increase of 437% in total sales
    - Decrease of 14% in cost
    - Increase of 15% in working ratio on average

# The KICMS model



## ❖ Managerial implication

SMEs

- **Trust in corporative relationship**
  - Trust created by an intermediary
  - Efforts to build trust among participants

KICMS

- **Design of various business models**
  - Wide connection to SMEs
  - Systematic process for partnering

Policy

- **Institutional support for SMEs**
  - Financial resources at the government level
  - Evaluation criteria based on the item

# Conclusion



## ❖ Summary

- To identify potential of open innovation in SMEs
  - Emphasize on commercialization stage
  - Suggest the importance of collaboration among SMEs
- To develop a collaboration model to facilitate the potential
  - Describe the role of an intermediary in the model
  - Introduce the case of KICMS in Korea

## ❖ Limitation and further research

- Restricted focus on the network model
- Conceptually described role of the intermediary
  - Needs of SMEs, detailed activities of the intermediary...
- Only one case of CF2
  - Effect of KICMS on the networking of SMEs as a whole



**Thank You!**

sl493@cam.ac.uk