



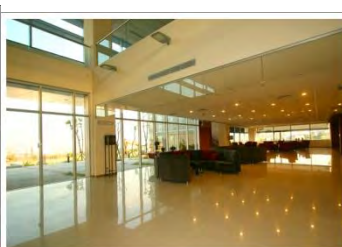
Collaboration of Enterprise and University – Challenge, Strategy, and Future

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Outline

- **Challenges to University/Student**
- **Challenges to Enterprise/Industry**
- **Why should university and enterprise cooperate?**
- **Strategies from cases**
- **Future Action – what should we do?**



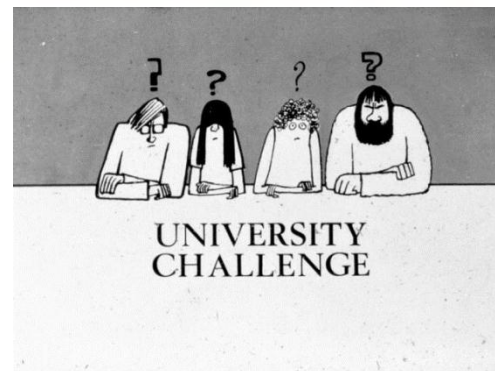
Challenge to University

Impact of low birthrate

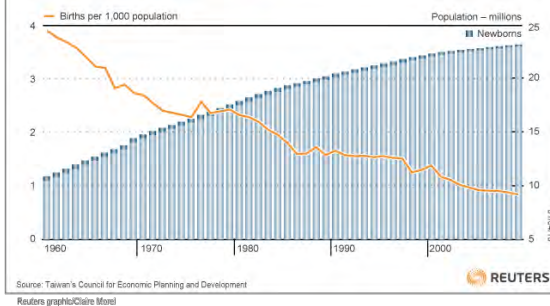
Imbalance of exporting professional manpower

Gap of academics and practices

Insufficiency of international view



Taiwan's baby blues





Challenge to Enterprise/Industry

Product demand change due to low birthrate and new concept

Shortage of R&D specialized experts

Short life-cycle of product/technology

Development of internet/smart technology

Global free trading and environmental policy restriction





Challenges to Students



Automation





Discrepancy between Enterprise/University

- ❑ **Is academia ahead of industry practice?**
 - Perhaps, but not the entire story
 - Why are we so much ahead of industry on some specific topics but not others?
- ❑ **My view:** practitioners **and** academics are solving **“different problems”**





Motivations of University for Enterprise Partnership

- Obtain **financial support** for its missions
- Broaden **experience** of students and faculty
- Identify significant and interesting **research problems**
- Enhance **regional economic development**
- Increase **employment opportunities**





Motivations of Enterprise for University Partnership

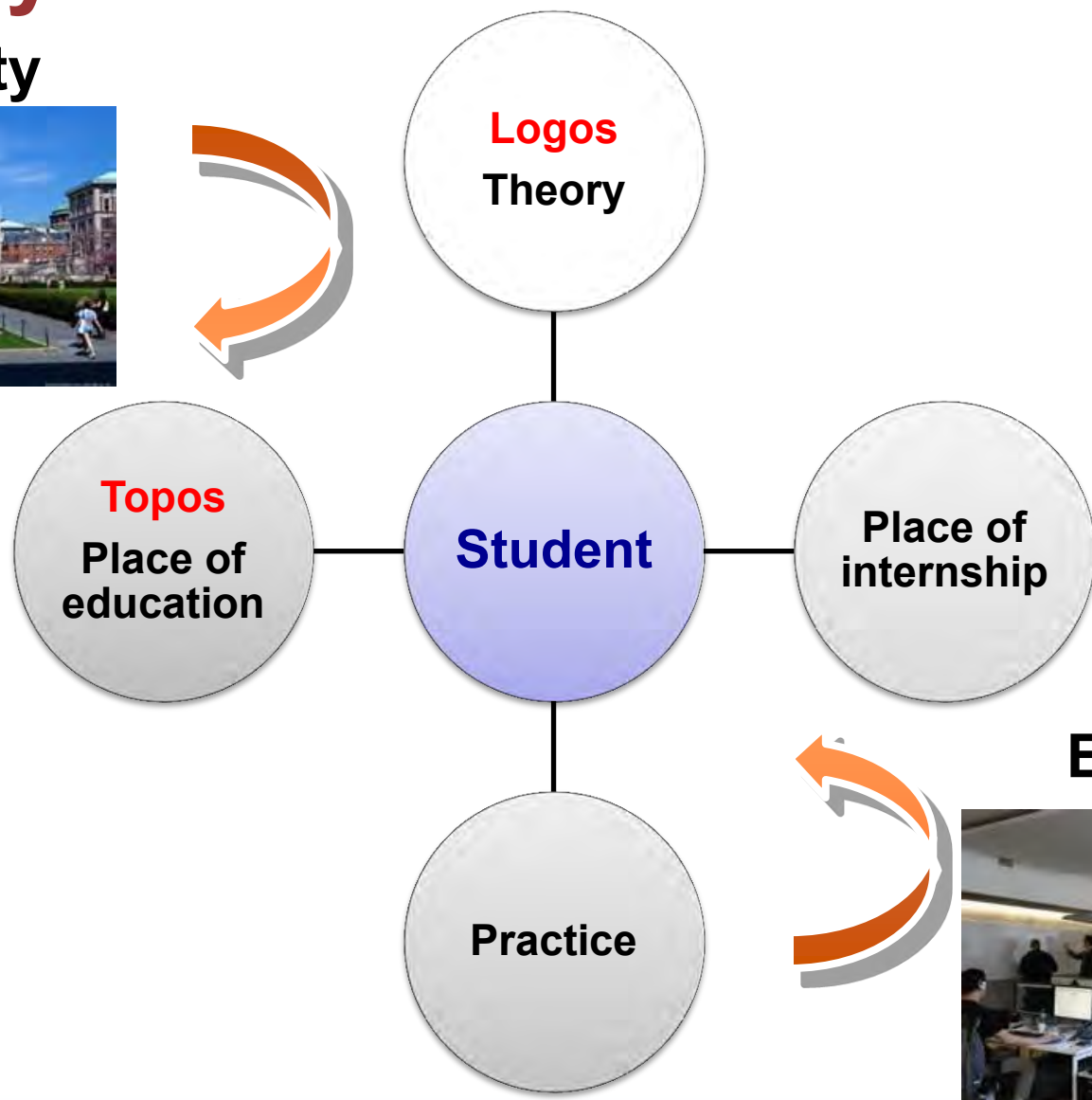
- Access research infrastructure
- Access **expertise**
- Aid **renewal** of company's technology
- Gain access to **potential employees**
- Increase **pre-competitive** research
- Be plugged in the **open science network**



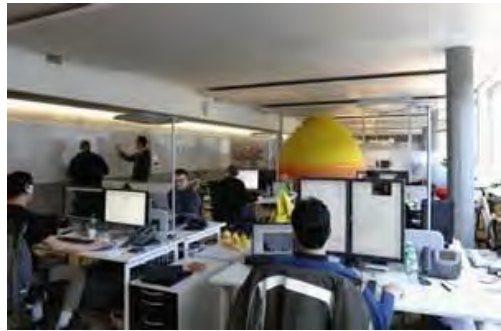


Strategy - Model of Students' Education

University

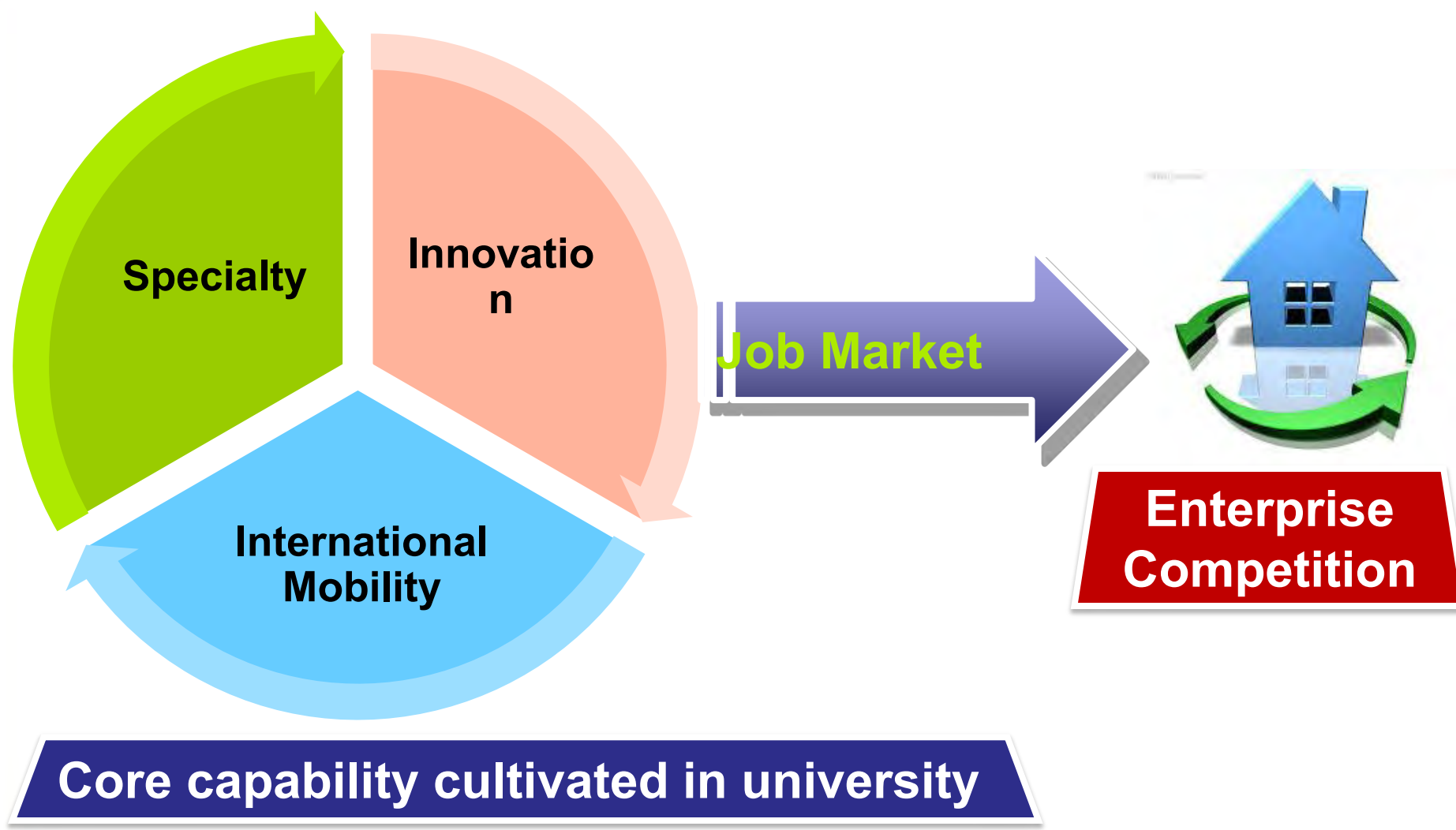


Enterprise





Strategy – Professional Training





Strategies – Stanford University (USA)

- Interaction with industry
- Research funding and creativity
- **Silicon Valley** as a nearby planting ground for ideas
- Role of **students as inventors**, as **disseminators**, and as part of the workforce
- Encouraging **entrepreneurship** ...





Strategies – Stanford University (USA)

- **Talent pool**
 - ✓ Loyalty to the technology with a unique openness
 - ✓ Highly skilled and highly motivated
 - ✓ Social networks of people
 - ✓ Diverse (highly multicultural)
- **Support infrastructure with many suppliers & outsourcing**
- **Venture capital for both financing *and* team building**
- **Entrepreneurial spirit**
 - ✓ Role models (with confidence and paranoia)
 - ✓ OK to fail, learn from it, and then try again
 - ✓ Flat organizational structures
 - ✓ OK to talk/partner across company boundaries about common issues



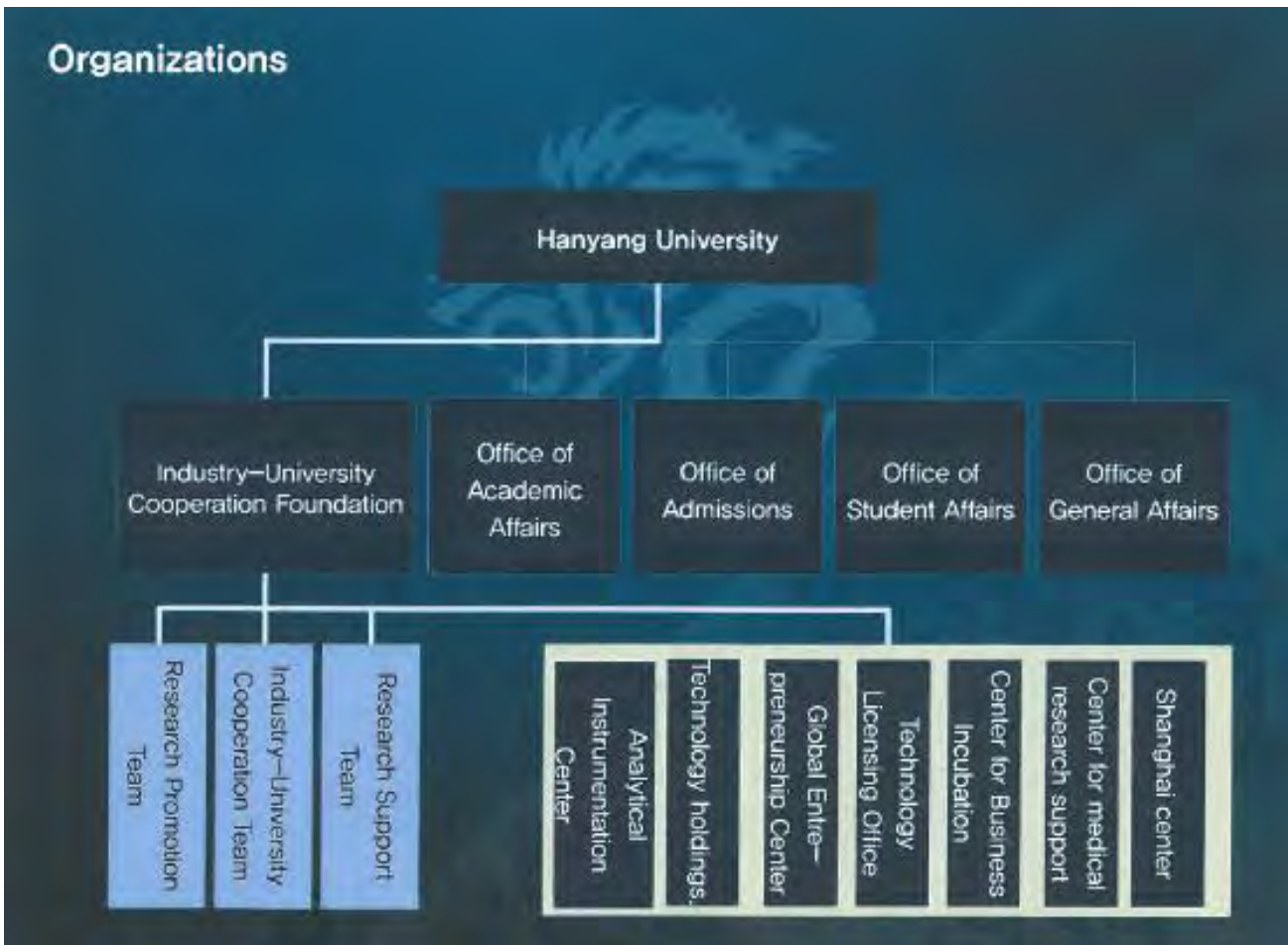
Strategies – Kinki University (JP)

- ❑ One of the best private universities in Japan
- ❑ University brand in **bio and medical field**
- ❑ University brand in **Tuna fishery**
- ❑ Most competitive entrance exams in private universities
- ❑ Teamed up with **Toyota Tsusho Corp.** with large scale commercial farming for exporting to world market
- ❑ Teamed up with Osaka Gas Engineering to make **palm biofuel** in Malaysia





Strategies – Hanyang University (Kr)





Strategies – HK Polytech University

- ❑ **Innovation and Technology Development Office (ITDO)** was established for intellectual management and Technology development and collaborative research
- ❑ Use consultancy and licensing as major tools for knowledge transfer (**PolyU Technology and Consultancy Company Limited, PTeC**)
- ❑ **The institute for Entrepreneurship (IfE)** was founded for both of academic and business arenas
- ❑ Boost the network and partnership using ISTA, BCOEA, Poly-preneurs™, CEO Club)



Strategies – HK Polytech University

ITDO



Founded in 1999



BCOEA in 2002
CEO Club in 2005
Poly-Preneur™ in 2012

Partnership with
Enterprises

Knowledge Transfer

- Patent application, Technology authorization, Consultancy service, Co-research
- **285 million** HK \$ in **2013**, **350 patents** in past 13 years

Consultancy

- PTeC was founded in 1996 and provide **one-stop service**
- More than **1,000 consultancy cases** in 2013 and created **75 M** income

Entrepreneurship

- **Micro seed funding** was initiated in 2011 for students and alumni
- More than **20** entrepreneur teams were supported in 2013 (**100 K** for each)



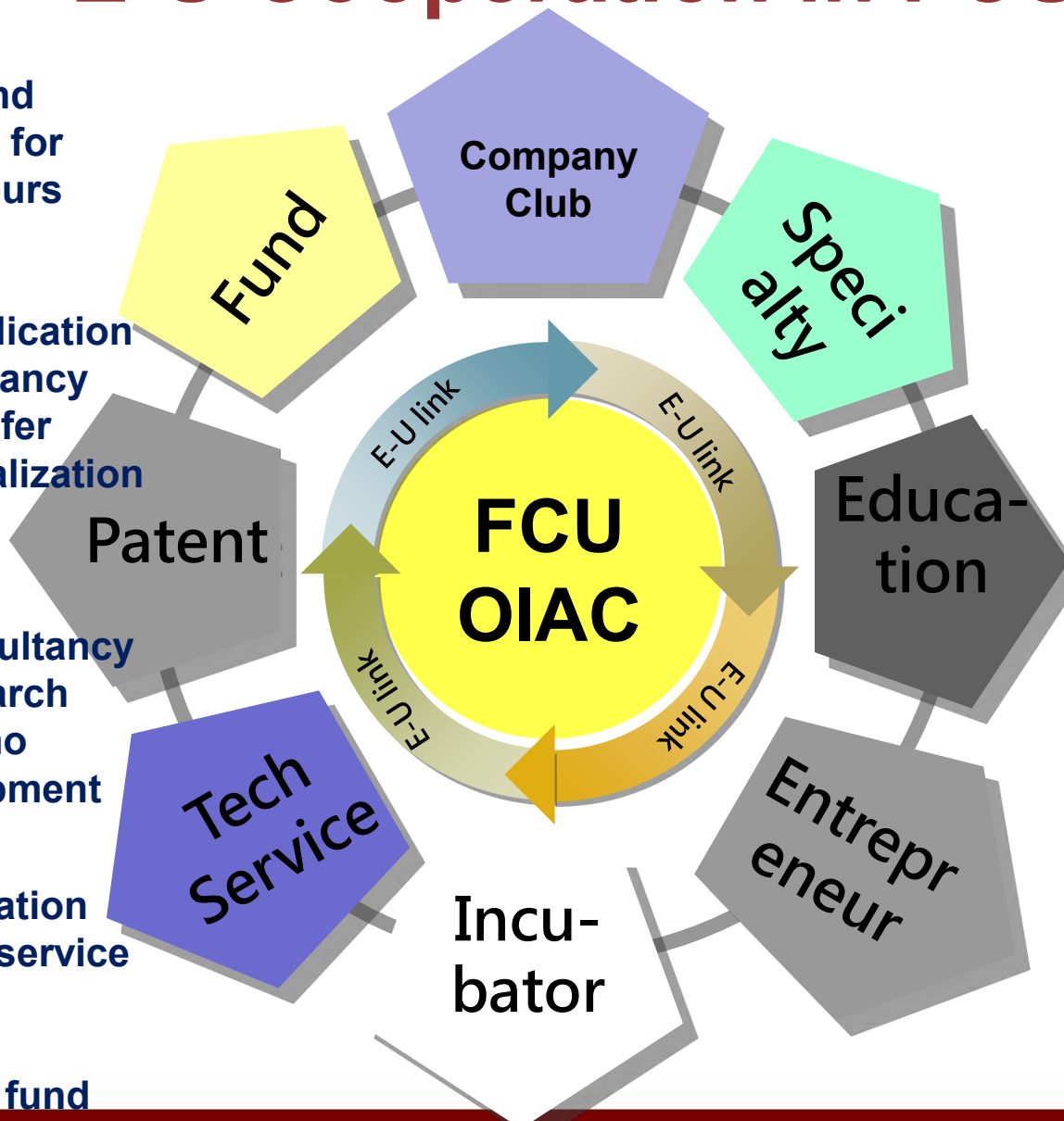
E-U Cooperation in FCU

- Venture fund
- Angel fund for Entrepreneurs

- Patent application
- I.P. consultancy
- Tech. transfer
- Commercialization

- Tech. consultancy
- Tech. research
- Test & demo
- Co-development

- E-U cooperation
- Incubation service
- Incubation accelerator
- Gov. based fund



- FCU CC system
- Dept. based CC
- International CC
- Intern program
- Special program design for E/I

- Focused fields
- Cross-domains E-U cooperation
- Local E-U service

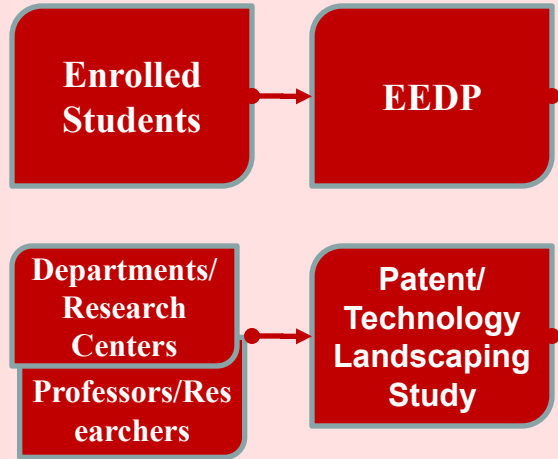
- E-U program
- E-U degree class
- Skill innovation
- Enterprise training

- Entrepreneur education
- Credit Program
- Competition
- Award



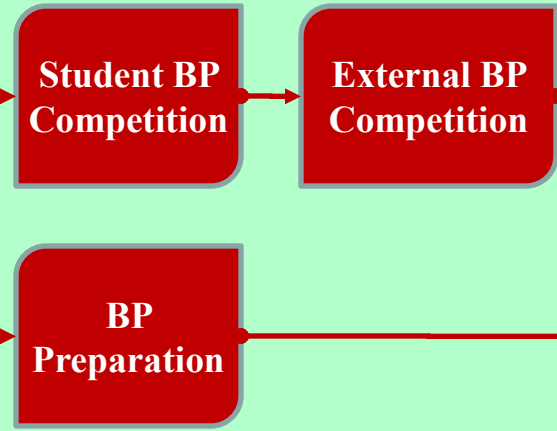
Academic Spin-off Model in FCU

Pre-founding Stage



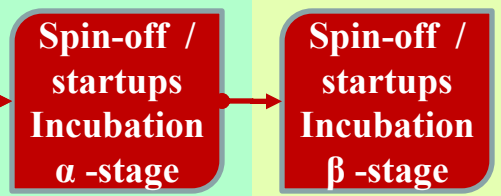
- Motivation
- Vision
- Opportunity identification
- Business idea

Spin-off Process



- Business plan / Business model
- Technology licensing
- Legal issue
- Prototype
- Market analysis
- Office space & facility
- Financing
- Acquisition of government funding

Post-founding Stage



- Management skill
- Financing
- Marketing
- Product development
- Office space & beta-stage production space
- Acquisition of government or Enterprise funding



Collaboration with Enterprise in Feng Chia University

Green and Sustainable Energy

Donation

FCU

Company Club

**Consulting/
Training**

**Manpower
Support**

Global Business

Cooperation

**Precision Machinery/
Automation**

Accounting and Finance

Advanced Materials and Fibers

Smart City and Networks

Biomedical Engineering

285 club members



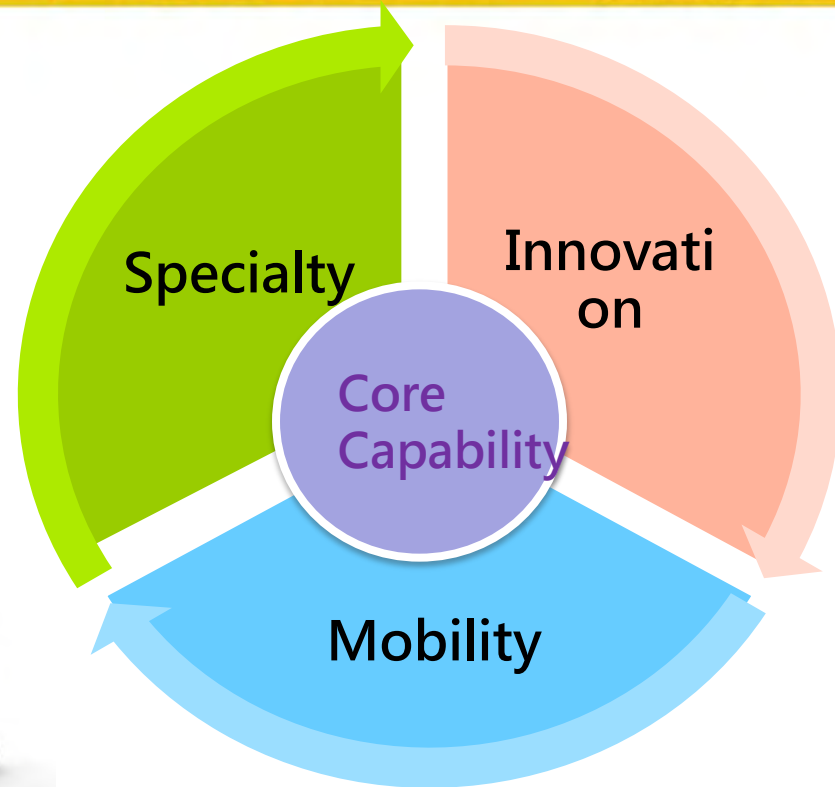
Company Club Model in FCU





Future Action

Cooperation between Taiwan and Malaysia





*To have known the best, and to have known it
for the best, is success in life*

~ John Mackay

THANK YOU !

