Industry-University Cooperation in Taiwan

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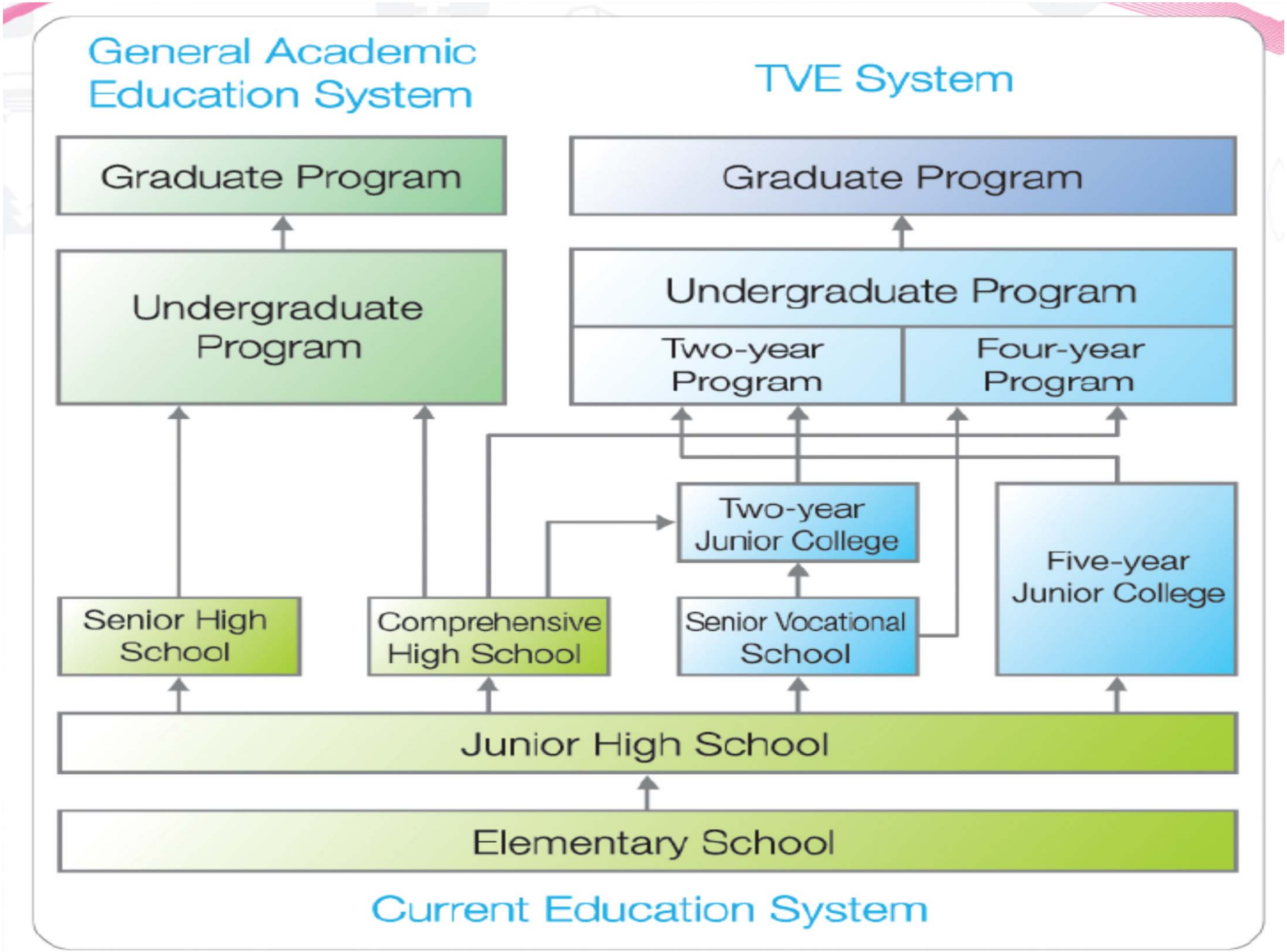
Outlines

- Current Education System
- Higher Education in Taiwan
- National Education Projects
- New development trends of society and industries
- Industry-University Cooperation
- Future Prospects and Challenges
- Conclusions

Taiwan

Total Area:	36,193 km^2
Population:	23.25 million
Foreign Reserves:	USD $400.77 billion Top 4 in the world
Per Capita Income:	USD $21,455
IMD's World Rankings:	6th in global competitiveness rating
WEF's World Ranking:	13th in global competitiveness rating

*IMD: Switzerland-based International Institute for Management and Development


General Academic Education System
TVE System
Graduate Program
Undergraduate Program
Graduate Program
Undergraduate Program
Two-year Program
Four-year Program
Two-year Junior College
Five-year Junior College
Senior High School
Comprehensive High School
Senior Vocational School
Junior High School
Elementary School
Current Education System

Higher Education in Taiwan

Introduction

There are limited natural resources but frequent disasters in Taiwan. The only thing we have is high quality human resources. Therefore education is the best investment in Taiwan.

Higher Education in Taiwan

- Higher education in Taiwan: from elite to universal
- Key issue for our higher education: innovation, excellence and sustainable development

Higher Education in Taiwan

Number of higher education institutions(2012)

121 universities

28 colleges

14 junior colleges

Total: 163

Number of students enrolled

Bachelor: 1,032,985

Master: 184,113

PhD: 33,686

Total: 1,250,784

Higher Education in Taiwan

Situations and Challenges for Our Graduates

Higher Education in Taiwan

Labor Demand

Demand of manpower
for entry-level jobs

Demand of manpower
for higher level

1.Development Plan for World Class Universities

Background

- **The Higher Education Macroscopic Planning Report and Committee suggestions(2002):**

  Universities should be categorized into teaching, research, professional, and community universities

- **To raise the competitiveness of HE and to build up competitive funding**

Vision

- **To develop first-class universities and top-level research centers.**
- **At least 10 top-level research centers or fields in Asia in 5 years.**
- **At least one internationally first-class university in 10 years.**

Development Plan for World Class Universities

12 Universities as the World Class University
National Taiwan University
National Cheng Kung University
National Chung Hsing University
National Sun Yat-sen University
National Tsing Hua University
National Chiao Tung University
National Central University
National Yang-ming University
National Taiwan University of Science and Technology
National Chengchi University
National Taiwan Normal University
Chang Gung University

Development Plan for World Class Universities

performance

World Ranking:

- Top 500: Taiwan has 11 universities
- Top 200: Taiwan has 4 universities
- Top 100: Taiwan has 1 university

- SCI: Taiwan ranks the 17th
- SSCI: Taiwan ranks the 14th
- EI: Taiwan ranks the 9th
- ESI: Taiwan has 17 areas within top 1%

(Totally 21 areas) Taiwan has 11 areas within top 100

2. The Plan for Developing Technological University Paradigms

Goals

- **To prioritize higher Technological and Vocational Education standard.**
- **To focus on the cultivating domestic talents with creativity training and Industrial- Academic Cooperation.**

2. The Plan for Developing Technological University Paradigms

Vision

- **Proposing the development of top-tier universities by granting educational funding.**
- **To develop comprehensive measures for personnel training and Industrial-Academic cooperation .**

National Education Projects

6 Universities as the Technological University Paradigms
National Taipei University of Technology
National Yunlin University of Science & Technology
Southern Taiwan University
National Taiwan University Of Science And Technology
National Pingtung University of Science and Technology
National Kaohsiung University of Applied Sciences
2 Industrial- Academic Cooperation Research Centers
Cheng Shiu University
Lunghwa University of Science and Technology

3. The Project of Teaching Excellence

Vision

- **Strengthening the recognition of core teaching values**
- **Raising the professional teaching**
- **Well-rounded curriculum planning**
- **Establishing a teaching assessment and elimination system**
- **Foster students' employment competitiveness**

Achievements

1. Taiwan won the Most Prizes in 7 out of 8 International Exhibition of Inventions in different countries.

2. Patents No.1

(In terms of million populations)

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New Development Trends of Society and Industries

Four phases of the development of Economic :

First phase	Second phase	Third Phase	Fourth phase
• Labor - intensive	• Capital - intensive	• Technology-intensive	• Knowledge-intensive

New development trends of society and industries ---TVE System

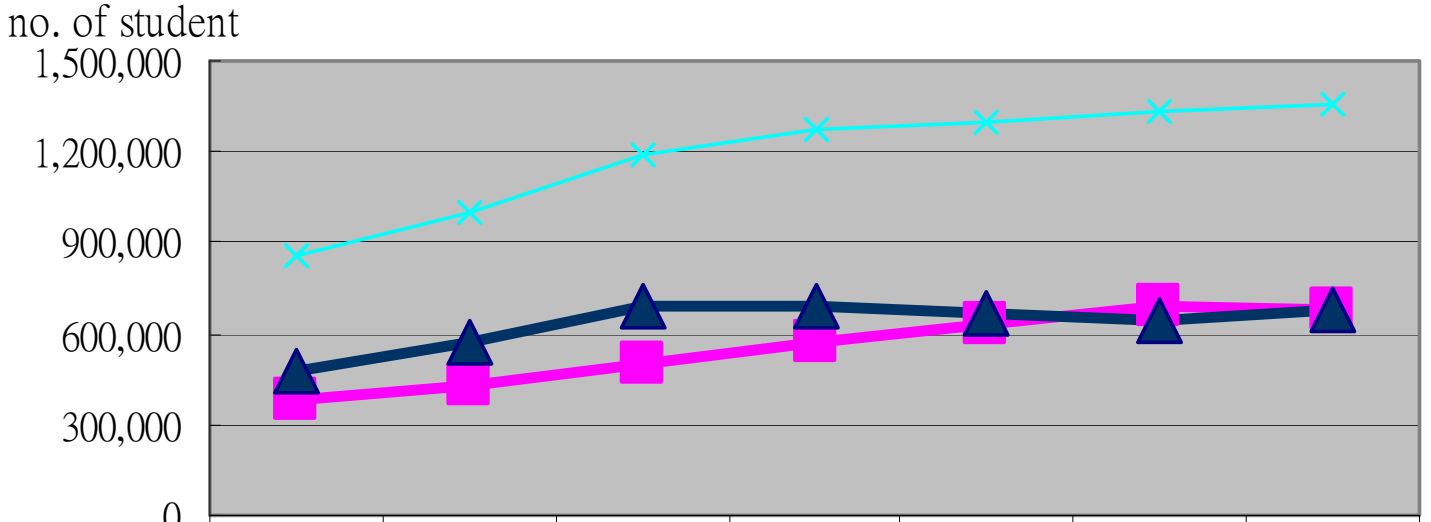
Secondary Vocational Education

1. Senior Vocational Schools
2. Comprehensive High Schools

Higher Technological Education

1. Junior Colleges
   (2-year & 5-year programs)
2. 4-year Colleges
3. Universities of Science & Technology

Growth of Students in General Universities and Technological Universities & Colleges



	1997	1999	2001	2003	2005	2010	2012
General Univ.	375,446	427,923	497,394	574,858	627,064	687,833	679,165
Tech. Univ.&College	480,740	566,360	689,831	695,336	669,494	648,759	672,919
Total	856,186	994,283	1,187,225	1,270,194	1,296,558	1,336,592	1,352,084

Growth of TVE Institutions

school year / level	1997	2001	2005	2007	2010	2012
Universities of Science & Tech.	5	12	29	37	41	50
Institutes of Technology	15	55	46	41	38	27
Junior Colleges	61	19	17	15	15	14
Vocational High Schools	204	178	161	156	156	155

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Industry-University Cooperation

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Industry-University Cooperation

Special Training Programs for Industry's Need

Practical Skills Programs

Vocational Schools Internship Cooperation Programs

Industry Oriented Curriculum

Industry-University Hand-in-Hand Cooperation Programs

Industry Masters Special Programs

Last Mile Program

Industry-University Cooperation

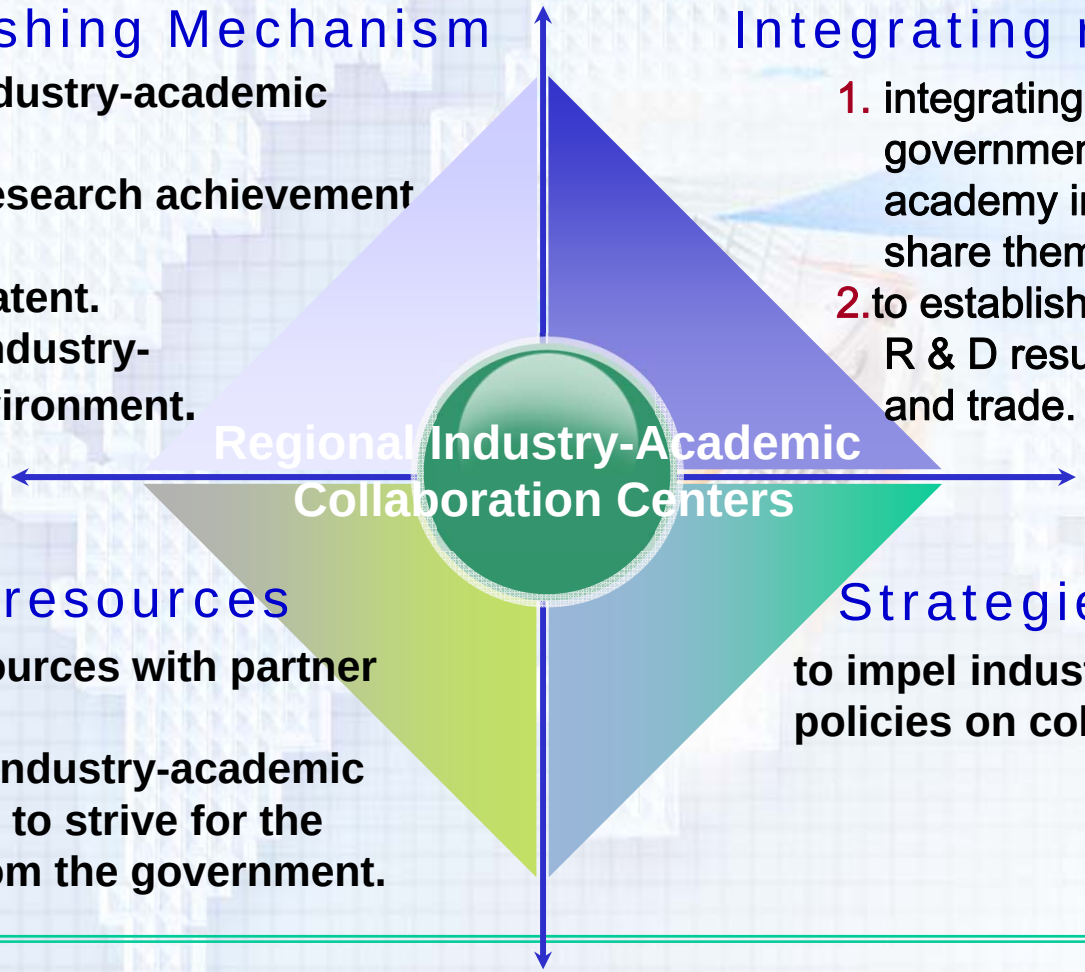
Functions & Missions

Establishing Mechanism

1. to promote industry-academic cooperation.
2. to help with research achievement transfer.
3. to apply for patent.
4. to run a pro-industry-academic environment.

Integrating resources

1. integrating resources from government, industry and academy in this region and to share them.
2. to establish the platform of R & D results' promotion and trade.



Sharing resources

1. to share resources with partner universities.
2. to establish industry-academic alliances and to strive for the resources from the government.

Strategies

to impel industry- university policies on collaboration

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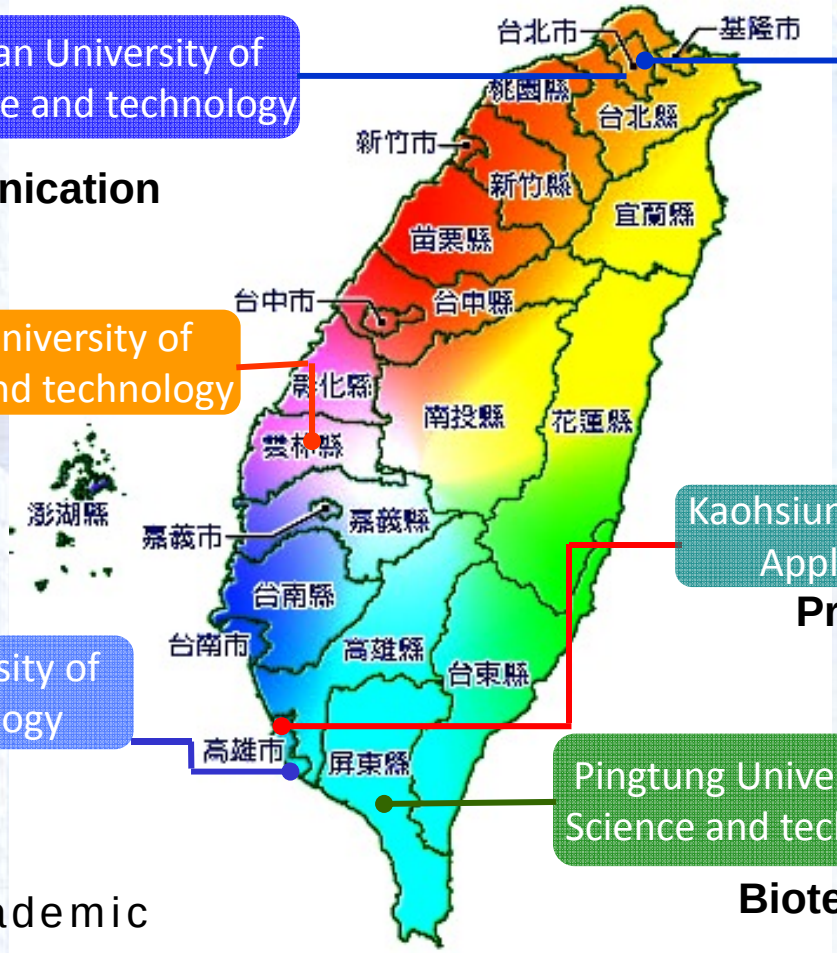
Industry-University Cooperation

6 Regional Industry-Academic Collaboration Centers



Taiwan University of Science and technology

Communication

Taipei University of Science and technology

Mechatronics

Yunlin University of Science and technology

Cultural creativity & Digital Content

Kaohsiung University of Applied Science

Precision Machinery

Kaohsiung First University of Science and technology

Ecology & Leisure

Pingtung University of Science and technology

Biotechnology & Agriculture

Regional Industry-Academic Collaboration Centers

Preparatory stage(2002~2005) | Growth Stage（2005~2007） | Blooming Stage（2008~）

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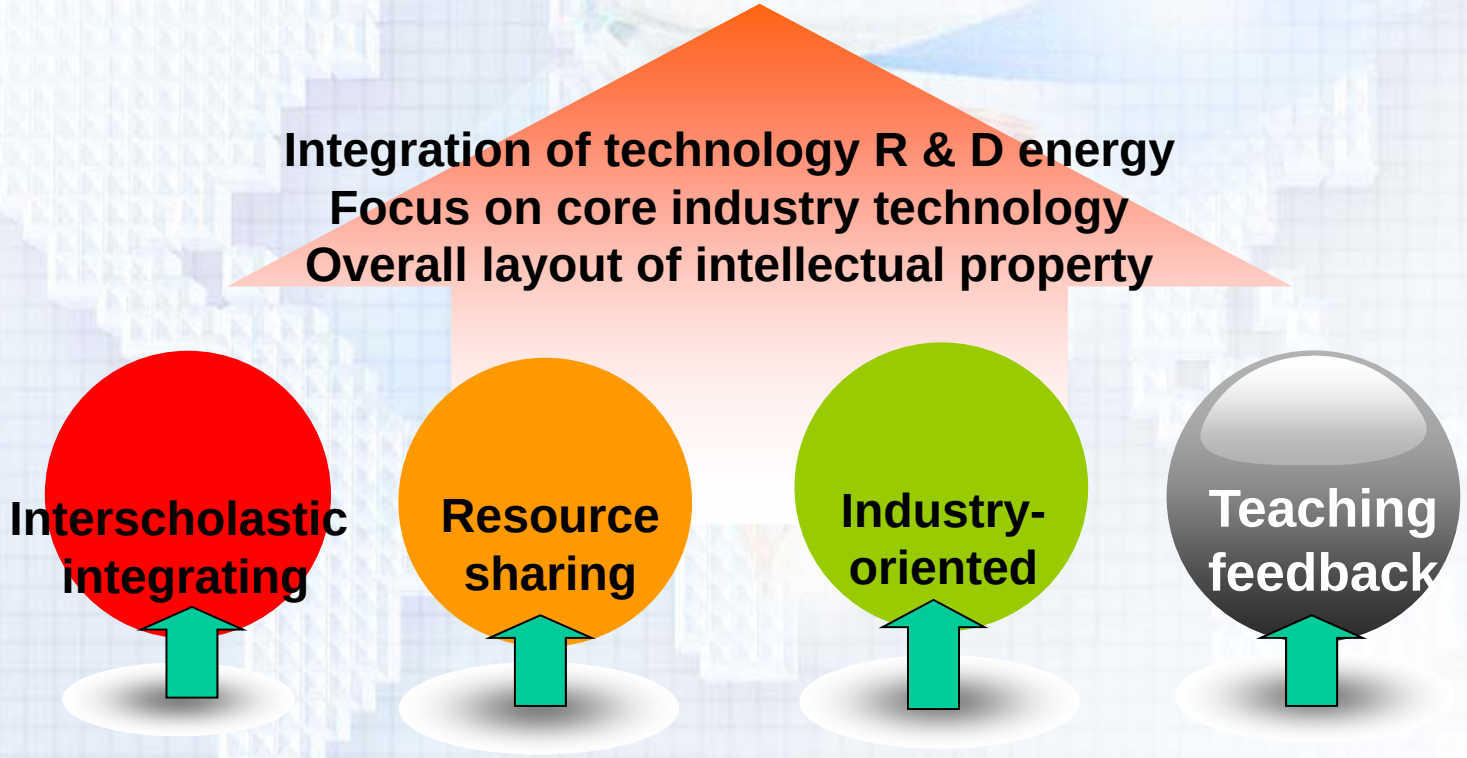
Industry-University Cooperation

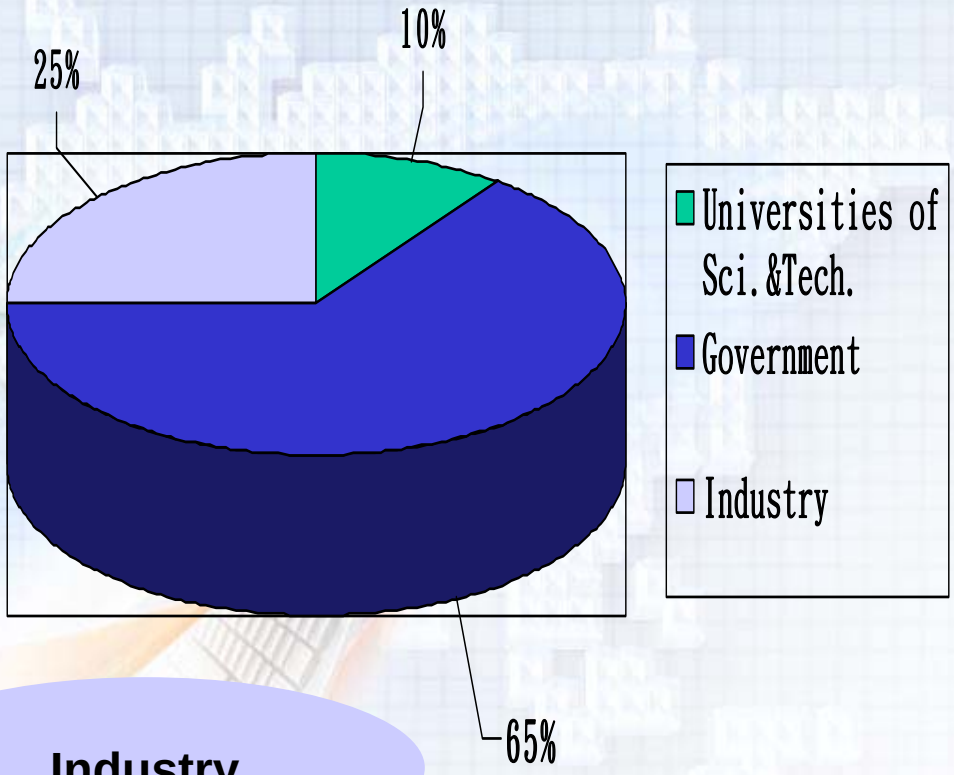
12 Joint Technology Development Centers

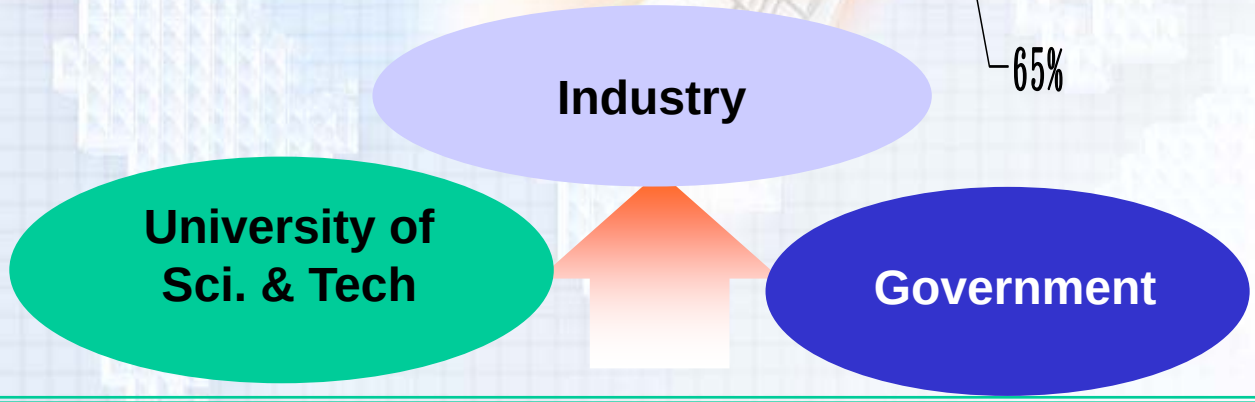


Industry-University Cooperation

Industry Park Industry-University Cooperation Projects

Percentage(%) of Project Expenditure





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Future Prospects and Challenges

- **Higher Education in Taiwan vs.Globalization**

  Cultivating professionals that are internationally competitive for the era of knowledge-based economy

- **Future trends for Higher Education in Taiwan**

  Low birth rate decreasing student resources

Conclusions

- Taiwan has nurtured a high-quality working class of engineers and technicians in the past 60 years.
- Universities will keep up with the industry in practical matters.

Conclusions

- Quality professionals will be nurtured, and our competitiveness will be enhanced.
- After reforming for over a decade, we are ready to produce highly skilled and creative technicians, professionals in different areas and high-tech industries to meet global challenges.

Thank you!

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