



國立成功大學

National Cheng Kung University

How NCKU Uses Ranking as a Benchmarking Tool to Promote its Internal Quality and International Visibility: A Case Study

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Outline of Presentation

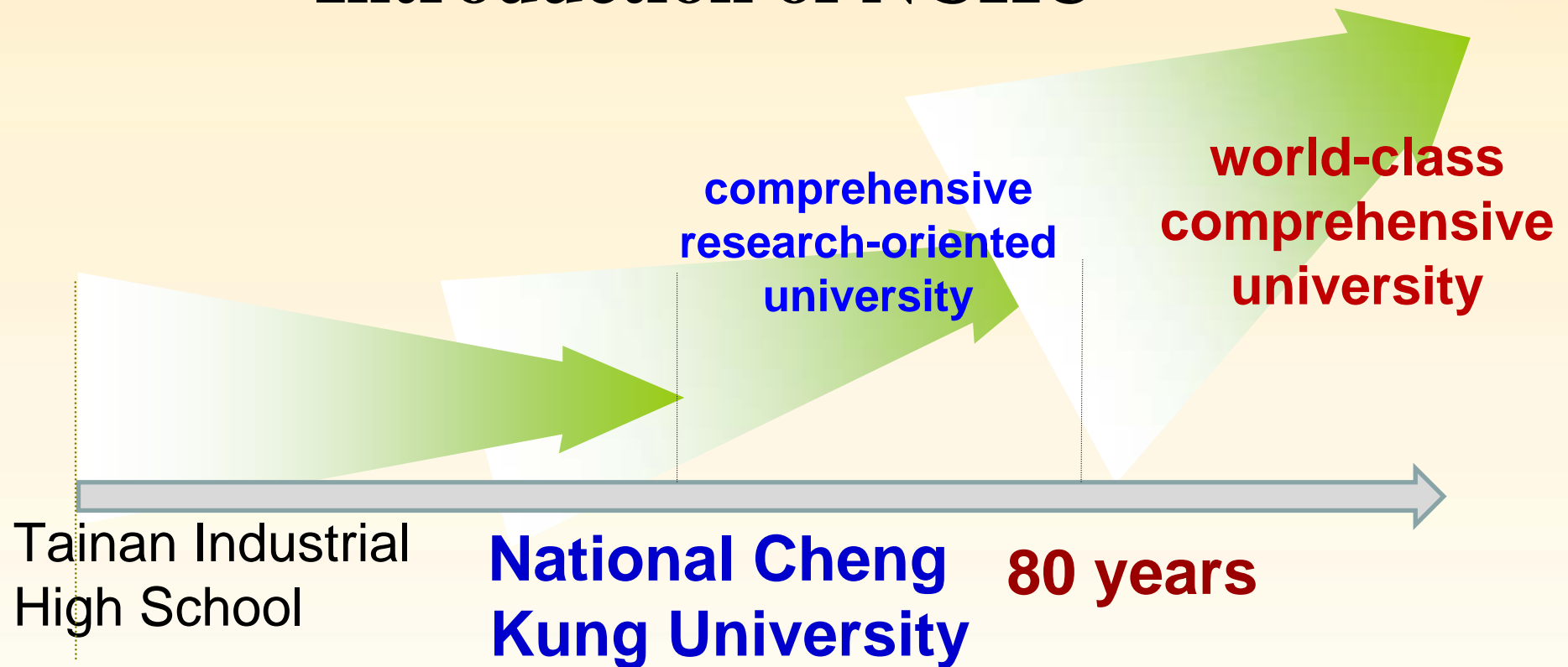
- Background**
- The Achievement of NCKU**
- Strategies**
- Conclusion**

Background

Benchmarking

- **A self-improved tool and process in improving educational quality.**
- **As a continuous process to compare and measure critical information of an institution with peers in the world, it then will assist in strategic and action planning for improving one's performance.** (American Productivity and Quality Center, 1993)

Introduction of NCKU



Motto: Discover the truth, devote to knowledge

Core value: holistic education

Introduction of NCKU

+ Liberal Arts

+ Engineering

+ Sciences

+ Engineering &
Computer Science

+ Planning &
Design

9 colleges



- ◆ 42 Bachelor's programs
- ◆ 74 master's degree programs
- ◆ 53 Doctoral programs

+ Management

+ Bioscience &
Biotechnology

+ Medicine

+ Social Sciences

NCKU Hospital

World University Rankings

	Indices
Higher Education Evaluation and Accreditation Council of Taiwan (HEEACT)	<ul style="list-style-type: none">✓ Research productivity<ul style="list-style-type: none">— Number of articles of the last 11 years (10%)— Number of articles of the current year(10%)✓ Research impact<ul style="list-style-type: none">— Number of citations of the last 11 years(10%)— Number of citations of the last 2 years(10%)— Average number of citations of the last 11 years (10%)✓ Research excellence<ul style="list-style-type: none">— h-index of the last 2 years(20%)— Number of Highly Cited Papers(15%)— Number of articles of the current year in high-impact journals(15%)

World University Rankings

	Indices
Times Higher Education (THE)	<ul style="list-style-type: none">✓ Teaching — the learning environment (30%)✓ Research — volume, income and reputation(30%)✓ Citations — research influence (30%)✓ Industry income — innovation (2.5%)✓ International outlook — staff, students and research (7.5%)
Quacquarel li Symonds (QS)	<ul style="list-style-type: none">✓ Academic reputation (40%)✓ Employer reputation (10%)✓ Citations per faculty (20%)✓ Faculty student ration (20%)✓ Proportion of international students (5%)✓ Proportion of international faculty (5%)

World University Rankings

	Indices
Academic Ranking of World Universities (ARWU)	<ul style="list-style-type: none">✓ Quality of Education<ul style="list-style-type: none">— Alumni of an institution winning Nobel Prizes and Fields Medals (10%)✓ Quality of Faculty<ul style="list-style-type: none">— Staff of an institution winning Nobel Prizes and Fields Medals (20%)— Highly cited researchers in 21 broad subject categories (20%)✓ Research Output<ul style="list-style-type: none">— Papers published in Nature and Science (20%)— Papers indexed in Science Citation Index-expanded and Social Science Citation Index (20%)✓ Per Capita Performance<ul style="list-style-type: none">— Per capita academic performance of an institution (10%)

Categories

- **Teaching**
- **Research**
- **Internationalization**
- **University-industrial cooperation**

The Achievement of NCKU

The Achievement of NCKU



No.1

The Most Favorable by Industry



No.1

**In Academic-Industry Collaboration
Nationwide**

Cradle of University presidents

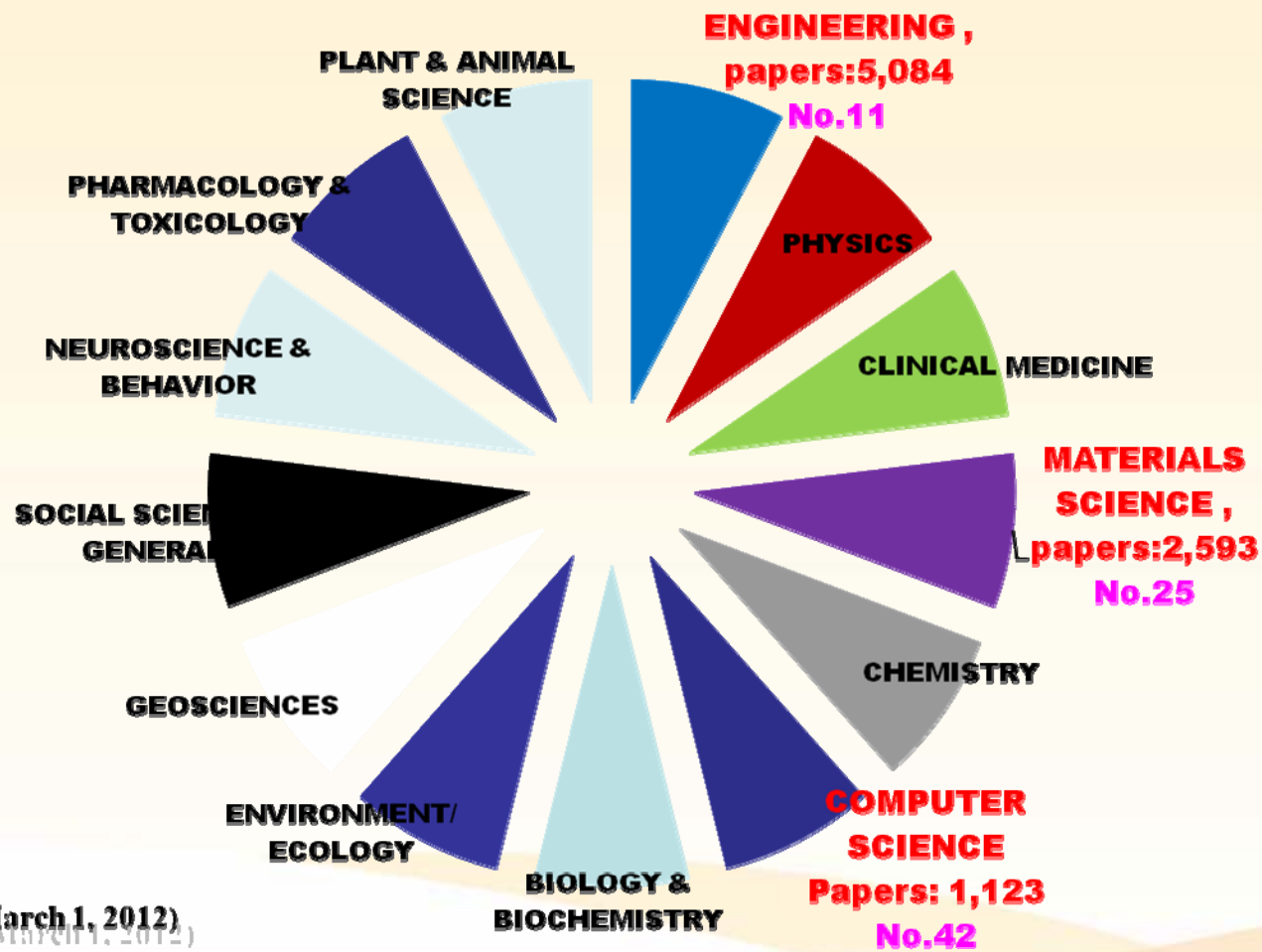
— more than 100 graduates as university presidents



World University Ranking of NCKU

Ranking system	2011	2012
ARWU	285	-
Webometrics Ranking of World Universities	80(January) 67(July)	63(January) (3rd in the Asian region)
QS (Asia ranking)	32	-
HEEACT (engineering field)	19 (No.1 in Taiwan)	-

Performance in Essential Science Indicators (ESI)



13 fields
Total papers:
21, 307

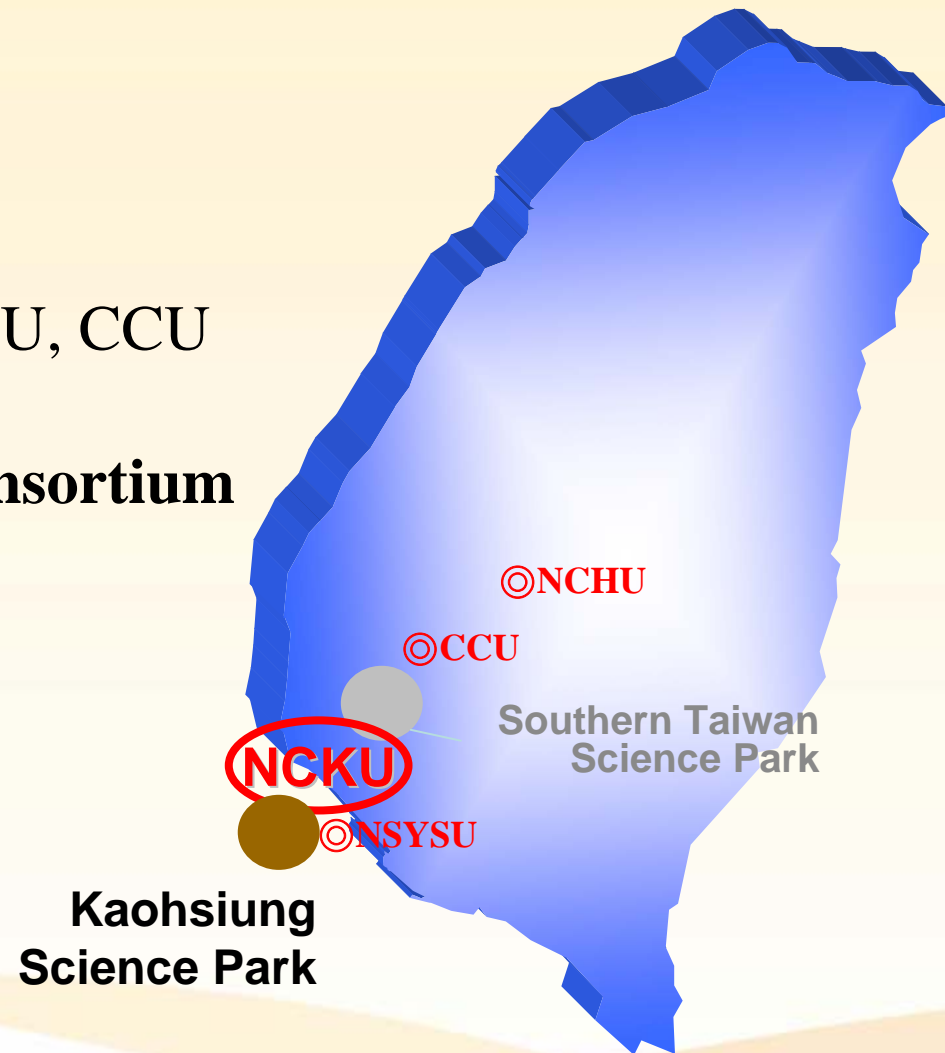
ESI database(March 1, 2012)

Globalization

	2006 academic year	2010 academic year
International students	272	1,264
Foreign language curriculum	410	420
Number of international scholars visiting NCKU	644	1,169
International cooperation projects	44	65

Networking with Partners in Southern Taiwan

- Taiwan T4 Alliance:
NCKU, NSYSU, NCHU, CCU
- Academia-Industry Consortium
For Southern Taiwan
Science Park



Strategies



Strategies

**University Quality Advancement Task Force
(UQATF), 2010**

Benchmarking

**Teaching
quality**

**Research
excellence**

**Academic
reputation**

**Employer
recognition**

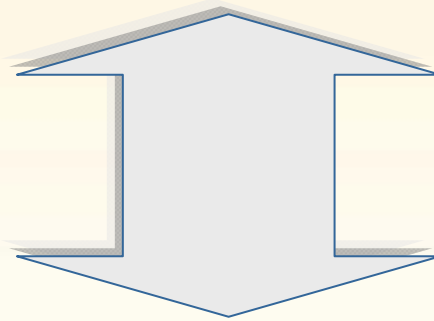
**Infrastructural
building**

ranking information

resource allocation

Teaching Environment and Quality

Faculty/student ratio



Large University

Strategies

- **Financial resources**
- **Recruiting / nurturing new scholars**

Research Indices

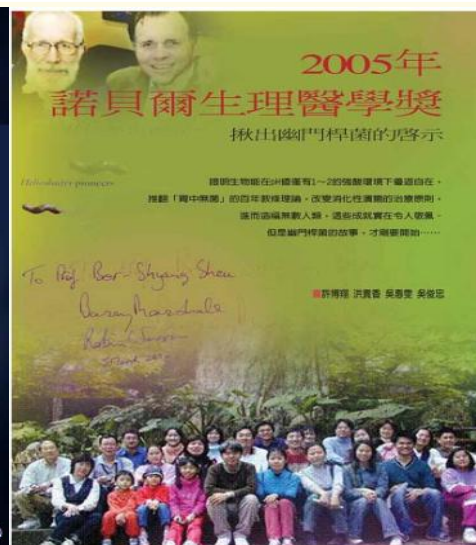
- **Number of peer-reviewed articles**
- **Number of faculty receiving international awards**
- **Number of highly-cited Researchers**

Strategies

- **Recruit young talents as faculty members/
Distinguished scholars as visiting chair professors**
- **Incentive policies to encourage quality and
quantity of faculty research performance**
- **Interdisciplinary/International research teams**
- **Encourage research that contribute to the society /
public affairs.**
- **Nurturing young scholar's research potential and
innovative ideas.**

Research

Nobel Prize winners as visitor	Nobel Prize
崔琦院士	The Nobel Prize in Physics 1998
Prof. Aaron Ciechanover	The Nobel Prize in Chemistry 2004
Prof. Robert Grubbs	The Nobel Prize in Chemistry 2005
Prof. Oliver Smithies	The Nobel Prize in Medicine 2007
Prof. Robin Warren	The Nobel Prize in Medicine 2005
Prof. Claude Cohen-tannoudji	The Nobel Prize in Physics 1997



Internationalization

Number of international faculties and degree-seeking students

Challenge

Location

Strategies

- **Reward mechanism: provide scholarships and assistantships to international students, overseas Chinese students, dual degree students, exchange students, and short-term overseas researchers**
- **Encourage students to participate in organizing international events and reward those who contribute individually or collectively to the promotion of internationalization. Encourage the exchanges between local and international students.**
- **Assist international students: teaching assistant tutoring system, volunteer receptionist service, host family arrangement, special Chinese courses, and English curriculum.**

Engage in International Organizations and Reinforce International Cooperation

256 international cooperation agreements. 30 Countries.

Number of cooperation institutions: 141

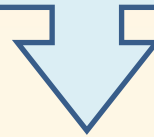


Dual degree programs	12
Exchange student program	81
Exchange scholar programs	12

University level	141
College level	74
Department level	41

Innovation and University-industry Collaboration

- **Innovation**
- **University-industry Collaboration**



NCKU Technology Transfer & Business Incubation Center

- **Enhance the operation of Intellectual property rights**
- **recruit professionals to form a team for technology transfer**

Performance of Technology Transfer



Conclusion

- **Benchmarking has effectively assisted NCKU's advancement in the past several years.**
- **NCKU has devoted our resources to analyze and seek the implications behind the ranking results, not merely for the world university ranking but for improvement in the quality and visibility of the University.**
- **NCKU has learned from the peers with richer experiences and more success to construct our own plan with our unique attributes and assets.**