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[SDGs 17] Partnership for the Goals

[17.2.4] Does your university as a body, through international collaboration and research, review comparative approaches and develop international best practice on tackling the SDGs?

Yes, NCUT, through its international collaborations and research initiatives, actively contributes to reviewing comparative approaches and developing international best practices for addressing the SDGs. Below is a structured explanation suitable for inclusion in THE Impact Rankings (SDG 17 or cross-cutting SDG areas):

NCUT's Role in Reviewing Comparative Approaches and Developing International Best Practices for the SDGs

NCUT demonstrates a strong commitment to global sustainability by engaging in international research collaboration and knowledge exchange that promote comparative learning and the development of international best practices aligned with the Sustainable Development Goals (SDGs)

1. International Research Partnerships

NCUT has established formal academic partnerships with institutions such as:

- The Czech College of Polytechnics Jihlava (VSPJ), enabling comparative studies on higher education sustainability practices and green energy strategies.
- Through this collaboration, NCUT exchanges insights on curriculum design, laboratory cooperation, and policy-driven sustainability education, helping identify effective models for integrating SDG principles into higher education.

2. International Conferences and Forums

NCUT regularly hosts and participates in international conferences that bring together global experts to share, compare, and refine approaches to sustainable development. Notably:

- The 19th National Hydrogen and Fuel Cell Conference, co-organized with international experts from Scotland and Indonesia, explored comparative hydrogen energy applications, carbon neutrality strategies, and green energy policy innovations.
- These dialogues allow NCUT and its partners to evaluate the effectiveness of different policy models, technological solutions, and talent cultivation frameworks.

3. Participation in Global SDG Benchmarking Platforms

By contributing structured data to:



- UI GreenMetric and
- THE Impact Rankings,

NCUT aligns its practices with global performance standards and learns from peer institutions worldwide. This process encourages continuous improvement based on international benchmarks and comparative sustainability metrics.

4. Practical Implementation of Shared Knowledge

NCUT not only engages in comparative studies but also implements best practices learned through global collaboration. For example:

- Its Sustainable Development Center adopts global ESG reporting standards and carbon inventory methods to assist over 50 domestic enterprises, reflecting an application of international norms in a local context.
- These practices are adapted and refined based on both Taiwanese regulations and global expectations, exemplifying adaptive knowledge transfer.

5. IS3C – International Symposium on Intelligent Sustainable Systems and Climate Change

- Collaborating with universities and research institutes from Japan, Thailand, and the Philippines.
- Focus: AI for sustainability, smart energy, and climate adaptation.

6. Hydrogen and Fuel Cell Research Program

- Collaboration with Japan Hydrogen Association and ASEAN energy technology partners.
- Promotes hydrogen energy technologies and low-carbon solutions.

7. Sustainable Engineering Joint Research with Thai and Philippine Universities

- Includes joint research projects, student exchanges, and faculty workshops on sustainable manufacturing and ESG practices.

8. Carbon Reduction and Green Campus Initiative

- International partnerships with Japanese and European universities to implement best practices in campus carbon neutrality and smart building technologies.

9. Green Internship and Study Abroad Programs

- Exchange programs focused on renewable energy, circular economy, and environmental innovation with partner universities in Europe and Southeast Asia.

Through international research alliances, participation in global conferences, and contributions to global benchmarking platforms, NCUT actively reviews and compares international approaches to sustainability. By incorporating these insights into local implementation and training programs, the university helps shape and apply international best practices in achieving the SDGs.

(B) Local Revitalization in Malaysia

The Department of Business Administration, through Townway Cultural and Creative Co., Ltd., has established the "Sehari Sunlight Base" in the New Village of Pasir Pinji, Ipoh, to assist Malaysia's P LAB Local Revitalization Laboratory Co. in promoting local revitalization affairs.

The department is optimizing P Lab's existing tour guides for Old Town Ipoh and the trilogy series, translating the DNA of the New Village of Pasir Pinji, Ipoh, and bringing the long-neglected "Dragon and Lion Culture" (lion dance troupes, dragon and lion workshops, etc.) back to life through exhibitions, workshops and experiential activities to allow both residents and visitors to rediscover the charm of Ipoh.

To help interns quickly adapt to Malaysia's diverse lifestyle, students were guided through Little India in the Old Town to experience Indian banana leaf meals. Within a few days, students were using local apps like Grab to integrate into the local lifestyle, ordering Malaysian food from nearby stalls, and shopping for ingredients in local stores.

We hope that these young students can apply what they have learned during their internships, and transform their expertise into energy that benefits the local area. Through the guidance and companionship of teachers from various fields in Malaysia, students can develop different perspectives and greater tolerance in this multicultural equatorial country, providing profound and practical insights for their future lives and careers.



▲ Business Administration Students Interning in Malaysia

(C) Love in Chiang Rai – Overseas Volunteer Service Camp

NCUT's Service Group has been organizing the "Love in Chiang Rai – Overseas Volunteer Service Camp (Dezhong Elementary School, Chiang Rai, Thailand)" for 10 years. We offer children at Dezhong Primary School not only academic knowledge but also the opportunity to learn Chinese, spreading love to Northern Thailand. Even if future opportunities to serve in this area are limited, children can continue to learn Chinese, making it a valuable skill for their future. We hope that as they grow, they can pass on this love to other places in need.



▲ Caring for Underprivileged Families in the Community



▲ Chinese Language Teaching

C. International Carbon Inventory

(A) The Farthest Location for Consulting SMEs – Vietnam

Partner Company: Very Impressive Product (VIP) Co., Ltd._VINBIZLINK Co., Ltd. No. 2 Factory (Vietnam)

Company Address: No. 108, An Phuoc Community, Long Thanh District, Dong Nai Province, Vietnam

Company Profile: Established in 1982, VIP specializes in manufacturing carbon fiber composite products. The company provides design and development services for carbon fiber products to globally renowned sports brands. As a key partner of many international brands, VIP primarily serves markets in Europe, the United States, and Japan.

Carbon Inventory Work: Adopting the principles of sustainable management, VIP addresses global climate change and aligns with international environmental protection trends. Faculty members from NCUT's Department of Chemical Engineering and Materials Engineering and the Department of Cultural and Creative Industries collaborated to conduct a greenhouse gas inventory for the company's Vietnam factory. The project involved educating and training company personnel, initiating carbon reduction strategies, and facilitating third-party simulation verification. These efforts aim to provide a comprehensive one-stop service for corporate ESG (Environmental, Social, and Governance) sustainable development.



▲ Very Impressive Product (VIP) Co., Ltd._VINBIZLINK Co., Ltd. No. 2 Factory (Vietnam)

(C) EUROINVENT 2024 in Romania

NCUT achieved remarkable success at the 2024 European Exhibition of Creativity and Innovation (EUROINVENT), demonstrating exceptional innovation capabilities and technical strength across multiple fields. These achievements also highlight the strong collaboration between academia and industry. We presented six outstanding projects and won three gold and three silver medals, as shown in Table 59.

NCUT's leading position in technological research and innovative applications is demonstrated not only by numerous international awards but also by its continuous investment in various fields. The open and innovative research environment at NCUT consistently fosters globally influential technological innovations, creating infinite possibilities for future industrial applications and social development.



▲ NCUT Won Three Gold and Three Silver Medals at 2024 EUROINVENT in Romania

Table 59: NCUT's Awards at EUROINVENT 2024

Award	Team Professor	Title	Description
Gold Medal	Chen, Shao-Hsien	Spindle Thermal Deformation Measuring Equipment for Machine Tools	Successfully improves spindle compensation performance through the integration of temperature and displacement sensors with fuzzy logic inference, significantly enhancing cutting accuracy.
Gold Medal	Chen, Tsung-Chia	Confidential Document Recycling Method	Innovatively uses water-soaking technology to destroy confidential documents while recycling paper pulp, meeting environmental and confidentiality needs quickly and safely.
Gold Medal	Chang, Chuan-Wang	A Driver Dangerous Behavior Detection System and Method Based on Object Spatiotemporal Relationships	Effectively reduces traffic accidents by instantly identifying and warning drivers of dangerous behaviors.
Silver Medal	Li, Kuo-Yi	Range Hood Provided with Air Wall Channel	Effectively controls oil fumes using air wall technology, reduces energy consumption and noise, and enhances environmental cleanliness.
Silver Medal	Yaur, Wei-Hurang	Smart Care Devices	Utilizes Raspberry Pi and sensor technology to provide real-time blood oxygen monitoring and temperature control services, offering health management solutions for users of all ages.
Silver Medal	Hsieh, Ming-Chu	Plastic Recycling Mechanism for 3D Printers	Innovatively uses heating and special material technology to convert waste plastic into reusable 3D printing material, promoting environmental protection and resource recycling.



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Our School Signs MOU with Universitas Nusantara PGRI Kediri



President Chen Wenyuan (left) and President Lin Qingxiang (right) of Universitas Nusantara PGRI Kediri sign the MOU on behalf of their respective institutions.

