



# Net Zero Tech

International Contest @ Taiwan  
2025淨零排放科技國際競賽



國立臺灣大學  
National Taiwan University



財團法人東元科技文教基金會  
TECO Technology Foundation

# Objectives

The “**Net Zero Tech International Contest**” initiative aims to cultivate talent, enhance industry-academia collaboration, promote global exchanges in net zero technologies, and improve the dissemination of net zero knowledge. It plans to establish professional prestige and international influence through the following measures:

1. Provide substantial competition prizes to support university professors' research in net zero and negative emission technologies, encouraging young scholars to engage in research and technology development.



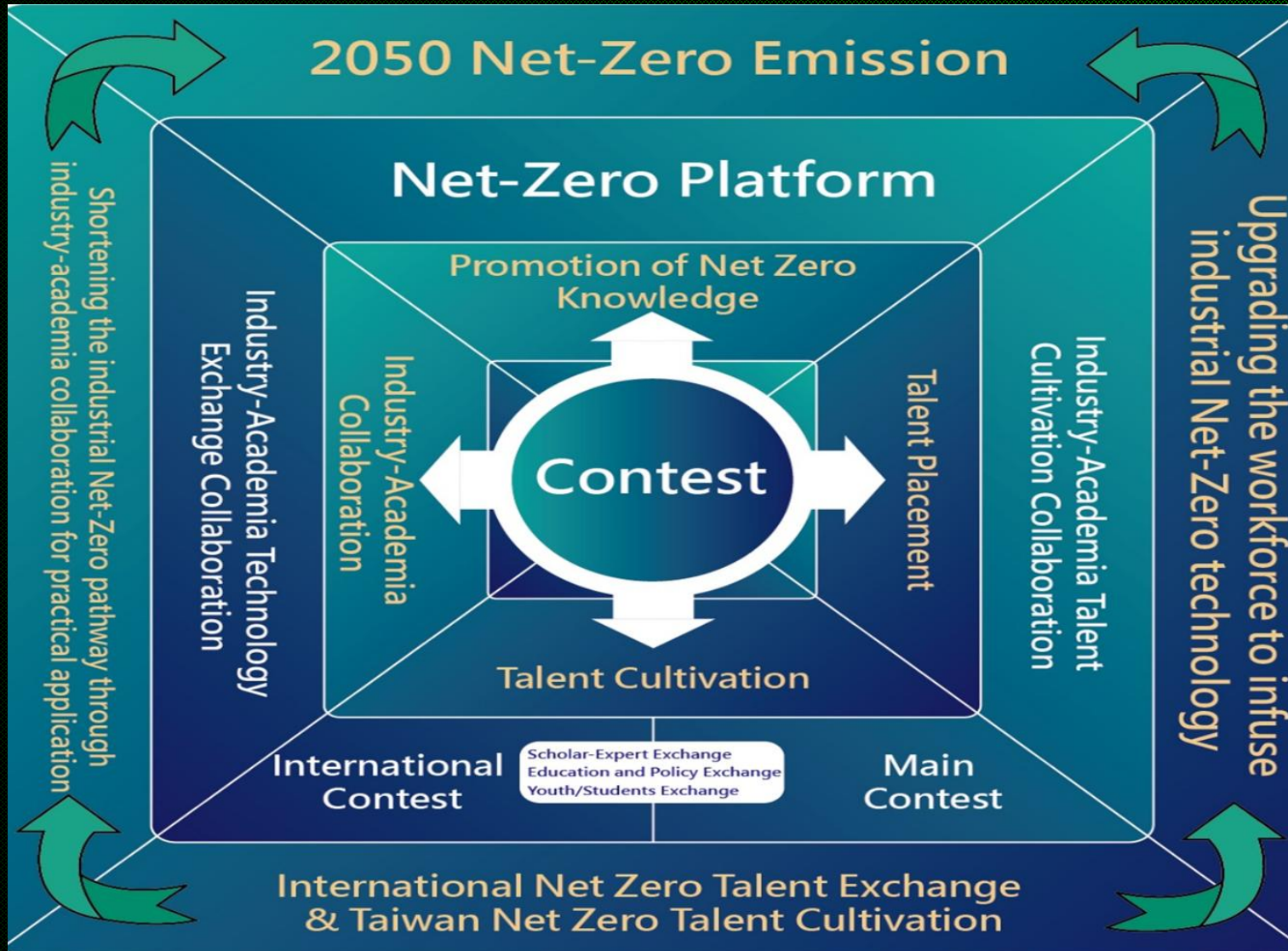
# Objectives

2. Establish a "Net Zero" platform to facilitate technical exchanges and knowledge sharing among industry, government, academia, and research sectors.
3. Disseminate net zero knowledge to foster societal consensus and encourage concrete actions in energy conservation and environmental protection.
4. Implement the four key transformation strategies—energy, industry, lifestyle, and society—to advance toward the vision of sustainable development.





# Schematic diagram of Net Zero International Contest





# Organizers

- **National Taiwan University**
- **TECO Technology Foundation**



# Co-organizers

- **Association of Pacific Rim Universities (APRU)**
- **Taiwan University Alliance for Sustainable Governance**
- **National Taiwan University System**



# Sponsors

(Inviting)

- **Paujar Charity Foundation**
- **Fubon Financial Holding Co., Ltd.**
- **Chen-Yung Foundation**
- **CPC Corporation, Taiwan**
- **TECO Electric & Machinery Co., Ltd.**
- **Shiny Chemical Industrial Co., Ltd.**
- **NTU Industry & Academia Development Association**
- **Hua Nan Bank**
- **Hotai Motor Co.,Ltd.**
- **Nan Pao Resins Chemical Co., Ltd.**
- **NTU Advanced Research Center of Green Materials Science and Technology**
- ...





**Chairman**

**Dr. Wen-Chang Chen**  
**(President of National Taiwan University)**



# Contest Theme

Net Zero Tech, covering the following technological domains:

1. Renewable Energy (Wind Power, Solar Power, Marine Energy, Geothermal, Hydrogen Energy, Forward-looking Energy...)
2. Advanced Energy Storage Systems, High Efficiency, Low Energy Consumption, Low Carbon Emissions
3. Negative Carbon, Carbon Capture, Storage, and Reutilization Technologies



# Contest Theme

4. **Electric Vehicles, Energy-saving Motors, Green Transportation**
5. **Waste Treatment and Purification Technologies, Resource Circulation and Zero Waste, Green Building**
6. **Energy-saving Technologies (Production, Manufacturing, Residential and Commercial Buildings, Green Building Design, Life...etc.)**





# Award Mechanism

Place	International Contest	
	Teams	Prize (USD)
Champion	1	≅30,326
First Runner-up	1	≅18,196
Second Runner-up	1	≅12,130
4th Place, 5th Place	2	≅6,065/team
6th Place, 7th Place	2	≅3,033/team
Excellence	13	≅1,516/team
Total	20	≅98,560

Cash Rate: 1 USD=32.975 NTD (Quoted Date: 2024/12/24, Bank of Taiwan)



# Contest Requirements

## International Contest

Open to undergraduate and graduate students (including Master's and Ph.D. programs) from universities worldwide, including Taiwan, along with their advisors.

- Each team should consist of at least **4** members (including an advisor).
- Participants can be from different departments or universities.
- Each person is limited to joining one team (advisors are not subject to this restriction).



# Contest Requirements (Submission)

1. **Project title, names of team members, student identification, and other personal information**
2. **Motivation and process of creation**
3. **Research objectives**
4. **Brief project introduction**
5. **Problem-solving and technical value**
6. **Technical creativity**
7. **Technical content and feasibility**
8. **Expected benefits**
9. **Project proposal and attachments submitted in PDF format**



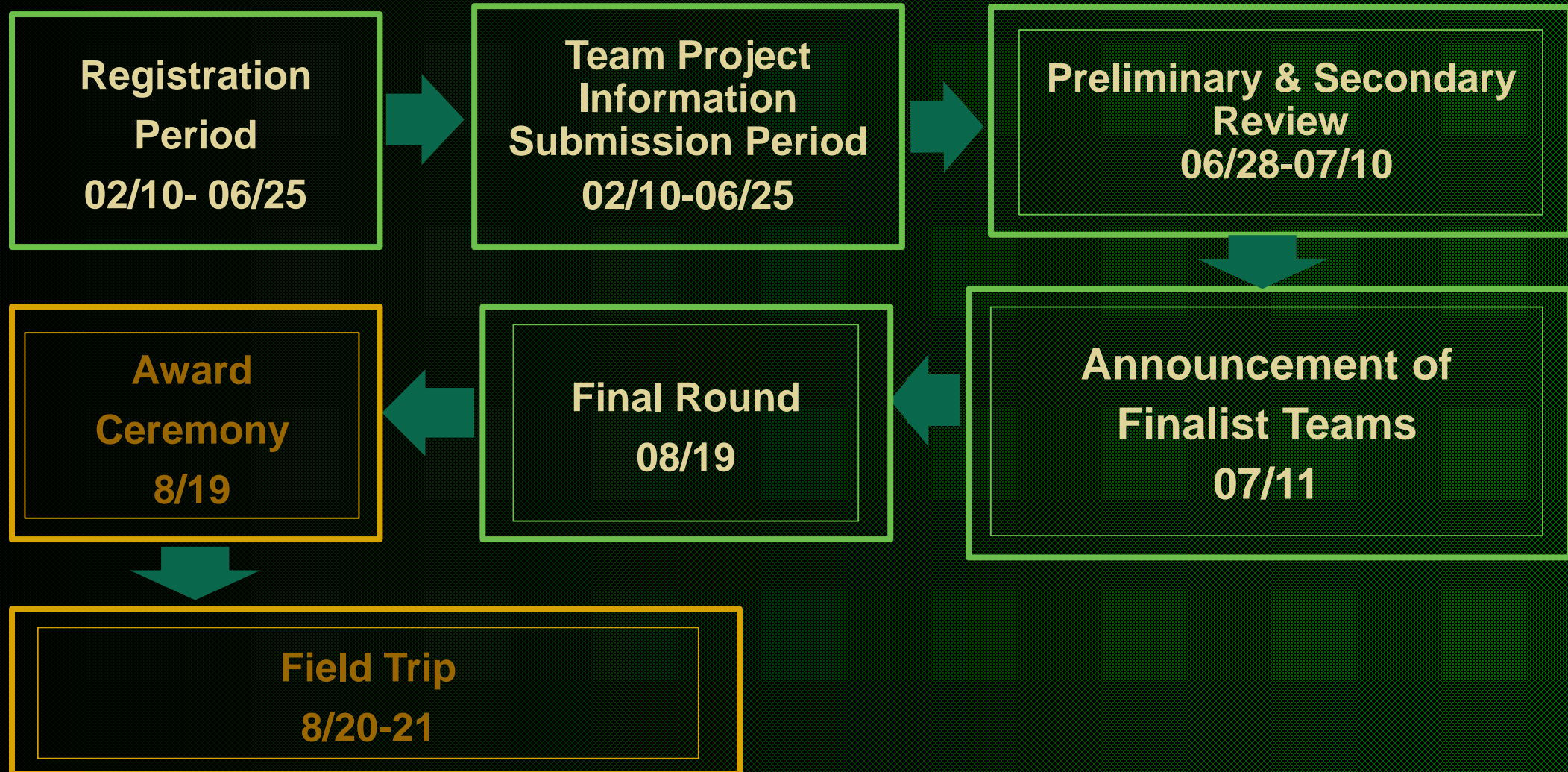


# Evaluation Method

1. **Problem-solving and Technical Value: 40%**
2. **Creativity: 25%**
3. **Technical Content and Feasibility: 25%**
4. **Completeness of the Project: 10%**



# Important Dates



# Agenda of Final Round

<b>07:40-08:20</b>	<b>Registration</b>
<b>08:50-09:10</b>	<b>Announcement</b>
<b>09:10-15:00</b>	<b>Presentation &amp; Demonstration</b>
<b>14:50-15:30</b>	<b>Interaction</b>
<b>15:10-15:40</b>	<b>Viewing of Works</b>
<b>15:40-16:00</b>	<b>Opening</b>
<b>16:00-16:45</b>	<b>Awards Ceremony</b>
<b>16:45-16:50</b>	<b>Photoshoot / Interview</b>
<b>16:50-16:55</b>	<b>Lottery / Interview</b>
<b>16:55-17:20</b>	<b>Press / Interview</b>





# **Album of 2024 Net Zero Tech International Contest @Taiwan**

































分數		分數
主隊	罰球	客隊
	節數	
紀錄狀		紀錄狀
得分		得分

促進  
Promoting  
青年師生 投入淨零排放技術的研究發展  
Youth and academics in net-zero research  
社會各界 力行淨零排放科技的人才培育  
Society in cultivating net-zero talent  
國際學者專家 交流合作  
Global collaboration among experts  
淨零排放科技知識普及  
Spreading net-zero knowledge







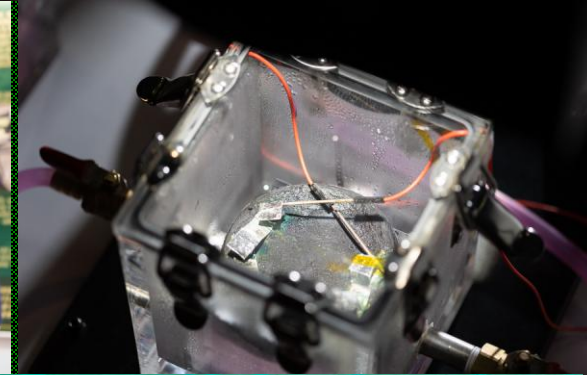
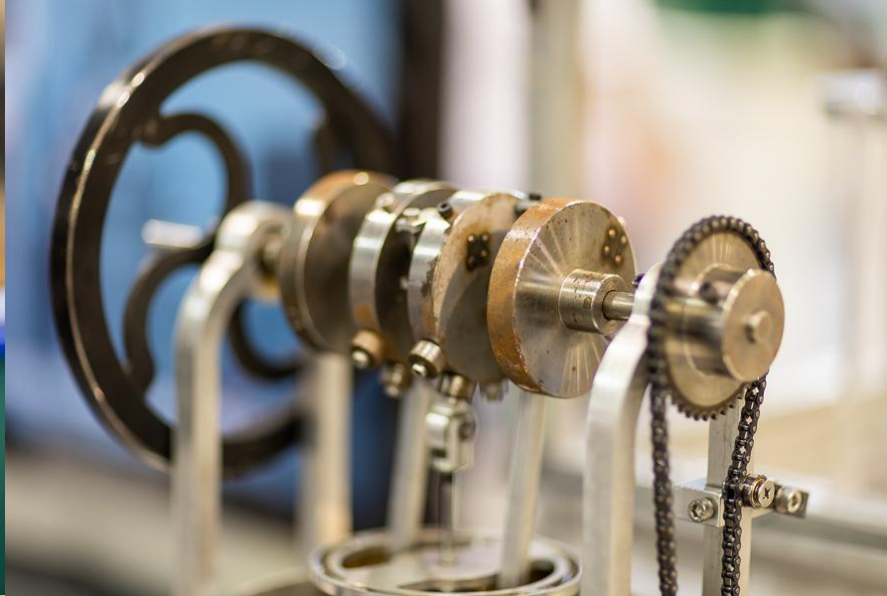
2024 Net Zero Tech International Contest @Taiwan(International Teams) Final Results

Awards		No.	Work Title	Position	Name		School	Department
1	Champion	INTL 15	Ultrahigh Efficiency Bidirectional DC-DC Converter for Energy Storage and Super Charger Applications	Advisor	Jih-Sheng	Lai	Virginia Polytechnic Institute and State University	Electrical and Computer Engineering
				Advisor	Hsin-Che	Hsieh		
				Leader	Bryan	Gutierrez		Mechanical Engineering
				Student	Ching-Yao	Liu		Electrical and Computer Engineering
				Student	Ganesh	Rai		
2	First Runner-Up	INTL 10	A novel up-scaling process of a photoelectrochemical system with H2 generation for real saline sewage treatment: taking pioneering steps towards net zero wastewater treatment technology	Advisor	Irene Man Chi	Lo	The Hong Kong University of Science and Technology	Department of Civil and Environmental Engineering
				Advisor	Zexiao	Zheng		
				Leader	Taoran	Dong		
				Student	Hoi Kit Justin	Man		
				Student	Cheuk Wai	Lung		
3	Second Runner-Up	INTL 08	Novel process design and validation for decreasing CO2 emission from cement production decarbonization	Advisor	吳	煒	National Cheng Kung University	化學工程學系
				Advisor	賴	啟銘		
				Leader	吳	紀昀		
				Student	張	宸語		
				Student	Mazumdar	Debayan		
				Student	曾	慶豪		
4	CPC Corporation, Taiwan Smart Energy Award	INTL 03	Advanced Carbon Capture and Elimination Process Technology using Membrane Engineering (ACCEPT-ME)	Advisor	康	敦彥	National Taiwan University	化學工程學系 (Department of Chemical Engineering)
				Leader	吳	柏均		
				Student	李	雪菱		
				Student	游	元禎		
				Student	張	守豐		



Awards		No.	Work Title	Position	Name		School	Department
5	NTU-AIAD, Advanced Net Zero Emission Technology Award	INTL 04	Low-Cost Energy-Efficient Atmospheric-Pressure Plasma Jet Processed NiCo-Metalorganic Framework Electrocatalyst in Anion Exchange Membrane Water Electrolysis Module	Advisor	陳	建彰	National Taiwan University	應用力學研究所
				Advisor	陳	奕君		光電工程學研究所
				Advisor	王	孟菊	國立台灣科技大學	化學工程系
				Leader	普	智暉	National Taiwan University	應用力學研究所
				Student	余	碩恩		重點科技研究學院
				Student	闕	振宸		奈米工程與科學
				Student	陳	奇松		應用力學研究所
				Student	洪	柏彥		
				Student	吳	幸真		
				Student	謝	尚霖	國立台灣科技大學	化學工程學系
				Student	董	芮妤		
6	Advanced Green Energy Award	INTL 09	Next-Generation Redox-Mediated Bipolar Membrane Electrodialysis: Simultaneous Seawater Desalination and Carbon Capture	Advisor	侯	嘉洪	National Taiwan University	環境工程學研究所
				Leader	吳	旻臻		
				Student	張	睿耀		
				Student	高	毓慧		
				Student	王	柏硯		
				Student	陳	怡瑋		
7	Nan Pao Resins Zero Carbon Vanguard Award	INTL 20	Nanomaterial-driven 'green-heat' generation for CO2-free space-heating and water-desalination	Advisor	Sandip Kumar	Saha	Indian Institute of Technology Bombay	Mechanical Engineering
				Advisor	Chandramouli	Subramaniam		Chemistry
				Leader	Anuj	Bangad		Energy Science and Engineering
				Student	Nikita Vasudev	Chitre		Chemistry
				Student	Dipin	Thacharakkal		









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主競賽

亞 軍

勇源淨零科技獎

Tech | International Contest @ Taiwan  
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季 軍

勇源永續發展獎













# First Runner-Up

亞軍



# Second Runner-Up

季軍



















Net Zero Tech | International Contest @ Taiwan  
淨零排放科技國際競

Champion  
冠軍

Net Zero Tech  
NCHU  
National Central University

Net Zero Tech  
Advanced Green Energy  
前瞻綠能獎

Net Zero Tech  
主競賽  
季軍  
勇源永續發展獎

Net Zero Tech  
亞軍  
萬源淨零科技獎

Net Zero Tech  
主競賽  
華南銀行  
零碳希望獎











# Field trip (2024 Net Zero Tech International Contest @Taiwan)

Schedule		Group A	Group B
Time			
8/22	07:30	Start from Howard Civil Service International House	
	07:30-09:00	to TSMC Museum of Innovation	to ITRI
	09:00-10:20	Visit TSMC Museum of Innovation	Visit ITRI
	10:30-11:50	Visit ITRI	Visit TSMC Museum of Innovation
	11:50-14:00	Lunch (Lakeshore Hotel Hsinchu)	
	14:00-15:30	To the Highway Rest Area	
	15:30-18:00	To Howard Resort Xitou	
	18:30-20:30	Dinner (Howard Resort Xitou)	
8/23	06:00-14:00	Free time activities (Xitou)	
	14:00	Back to Taipei	















**Contest announcements and inquiries are supported in over 50 languages by the "Intelligent Service."**



### **Official Website**

<http://teco.tecofound.org.tw/zh-tw/pages/41>



### **Registration**

[https://www.tecofound.org.t  
w/nz/2025/login.php](https://www.tecofound.org.tw/nz/2025/login.php)



### **Intelligent Service**

<https://lin.ee/FbSaezX>





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