

CTCI FOUNDATION

Technology, Talent, Innovation and Sustainability



CTCI Foundation Advocacy for Advancement

China Technical Consultants Inc., was founded on October 12, 1959 with the aim of introducing new technologies into Taiwan, cultivating local technological talent, facilitating economic development both at home and abroad and boosting the productivity of local manufacturers. Designated a non-profit organization, its incorporation was funded by prominent state-owned and private enterprises; and it was renamed CTCI Foundation in 2000. However, its fundamental aim has remained the same: being on the cutting edge of relevant areas of knowledge and promoting appreciation of its value.

In its role as a think tank, the CTCI Foundation has focused its efforts on the crucial and interlinked issues of energy, industrial development, the environment, economic development and value creation as they relate to enhancing Taiwan's economic and industrial status. At the same time, central to its mission has been a dedication to both introducing and explaining to the business community the latest global trends in technology; and to serving as a source of strategic policy advice as well as a common communication platform for government, industry and academic institutions.

Over the past 60 years, the CTCI Foundation has participated in diverse industrial development projects, and in its capacity as a trustworthy and professionally-run think tank platform has provided advice and guidance to the players involved on energy-related and environmental technology matters. On top of all that, every year it has awarded scholarships collectively worth over NT\$10 million.

The CTCI Foundation is a professionally-run, non-profit organization that has won plaudits from Taiwan's people for its performance over the past six decades.





Conference



Workshop



Symposium



Forum

Implementation of think tank research results

The CTCI Foundation, working from an objective and impartial standpoint, welcomes collaboration with both international and domestic experts and scholars representing diverse fields of study in governmental, industrial, academic and research-based institutions. Specifically, the parties collaborate through the medium of forums, conferences, workshops and symposia to reach consensus in public policy agendas and publishing special reports, book series and media news and articles; they will as well offer practical solutions to the problems faced by governments and industries.

From the research files of the CTCI Foundation think tank

- Science-based technologies: AI, 5G, Blockchain, gene editing, autonomous vehicles.
- Industrial and service development: petrochemicals, steels, medical industry, smart machinery, green energy, long-term and smart healthcare, energy storage, electric vehicles.
- Economics and society: international trade wars, platform economics, globalization, food safety, senior citizen healthcare.
- Environmental policy: environmental quality, the circular economy, life cycle assessment, environmental sustainability indicators.
- Climate change: greenhouse gas emission reduction, climate change adaptation, carbon emissions related to international competitiveness.
- Cross-strait exchanges and visits: energy, carbon trading and asset management, air quality, green industry.
- Resource management: water resources, the food-energy-water nexus, natural capital accounting, resource efficiency.
- Energy policy: electricity security, energy pricing, nuclear power, the national energy mix, renewable energy, energy conservation and efficiency.

The principles involved in planning the CTCI Foundation research topics

- The core values of the CTCI Foundation
- Current and foreseeable international technological and economic trends and forecasts
- Fulfilling both social and industrial needs
- Balancing technological practices and financial considerations

The CTCI Foundation think tank platform

Research Center for Energy & Industry

Research Center for Environment & Economy

In the years since 2006, CTCI Foundation has successfully transformed itself into a professional think tank; and in so doing has put in place a new milestone in developing Taiwan's capacity for innovation in knowledge creation. This achievement came about through following the blueprint laid down earlier for harnessing technological advancement for the wider community's good: encapsulated in the policy guideline 'Technological innovation, sustainable community benefits'. Achieving that will be boosted by the synergy gained from consulting assignments in the fields of energy and environmental technology.

The CTCI Foundation has been able to leverage its strengths in practical industrial matters into collaboration with leading experts in analyzing the latest trends in global economic developments. It also acts as a professional, objectively-oriented and transparently operating think tank, closely focused on finding solutions for the issues Taiwan faces in energy sector, industrial transformation, environmental protection and economic advancement.

Achievements in research as the CTCI Foundation think tank

• Platform

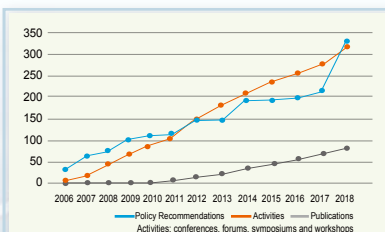
From 2006 to 2018, the CTCI Foundation research centers completed studies on 113 topics and invited more than 3,300 leading experts and scholars to participate. That cohort included more than 450 government representatives and staffers from 50 research and academic institutions.

• Events and activities

The CTCI Foundation has held 43 conferences, 23 forums, 249 symposia and 8 workshops - with more than 12,000 participants joining from governmental, industrial, academic and research institutions both in Taiwan and abroad.

• Publications

Between 2011 and 2018, a total of 70 special reports and 8 sets of serial books were published, while 335 policy recommendations were submitted to 707 governmental organizations.



Sponsoring academic gatherings

Since 2006, the CTCI Foundation has sponsored or itself organized 38 international conferences in which 230 academics and experts from abroad and 9,792 from Taiwan were invited to participate.

Cross-Strait connections: student exchange and visits

The CTCI Foundation has endeavored to promote cross-strait youth and student interaction of this type, so as to enable both sharing of knowledge and experience and the cultivation and training of budding professionals for emerging industries – both initiatives boosted by the resulting mutual and enhanced understanding of technological developments on the two sides of the Taiwan Strait.



Wisdom from the world's top thinkers

World-renowned scholars have been invited to Taiwan by the CTCI Foundation to speak to local industrialists, academics and students and thereby enrich both their knowledge and understanding of not only technology but also the broad sweep of humanity.



Cultivating a range of talents

Center for Engineering & Education

Back in 1962, at the time when Taiwan's economic growth began to really accelerate, an Engineering Education Research Fund was set up to import and introduce new technologies, cultivate engineering talent and generally lift Taiwan's industrial development to the next level. The interest received from the fund is deployed to finance scholarships, academic seminars and to sponsor talent development. The CTCI Foundation's initial aim was to nurture a wide range of talents and give free rein to group creativity.

CTCI Foundation academic awards

These are presented to talented people in the field of technology research to encourage them to raise the bar in local R&D productivity.

Enterprise visits for international graduate students

International graduate students on study programs in Taiwan's universities are invited to visit the country's leading industrial and commercial enterprises to foster better mutual understanding; and moreover, are encouraged to stay on and work in Taiwan after graduation.



The CTCI Foundation as sponsor of an entrepreneurship program

The Entrepreneurship Program aims to encourage students to discover new interests, stimulate their creativity and hopefully become involved in entrepreneurship.



The CTCI Foundation in technology R&D

Center for Engineering & Education

NT\$230 million has been invested in 48 R&D projects covering geotechnical engineering, construction management, resource recycling, structural engineering, information systems, process optimization, energy-efficient equipment and smart devices.

These research projects have been granted 36 patents globally. Licensed use of them has been applied for by local companies 141 times, generating licensing fees to a total value of NT\$3.3 billion.

Science and technology scholarships & AI Innovation Competition

The first CTCI Foundation scholarships were awarded in 1963 and since then some 4,000 students have benefited from the program, which makes four types of award:

1. Research Scholarships: for students who have completed their first year in a Ph.D. program.
2. Research Scholarships for international graduate students: for those studying for a Master's or Ph.D. degree at a university in Taiwan.
3. Living grants for international graduate students: For those studying for a Master's or Ph.D. degree at a university in Taiwan.
4. CTCI Foundation AI Innovation Competition: for professors/student groups from colleges or universities in Taiwan.

Our achievements over the years

Our present lustrous and distinguished reputation stems from a steadily-paced and unbroken journey from our founding through growth, transition, commitment and deepening belief in our core values.

By virtue of its origin in technical construction and related services, the CTCI Foundation has consistently focused on technological excellence and innovation, R&D, policy and practice to benefit the wider community, talent cultivation and the establishment of a think-tank platform.

Each transformative experience on our journey has demonstrated anew the spirit of the CTCI Foundation: both keeping up with the times and keeping faith with our beliefs. Following in the surefooted steps of our predecessors, we shall assimilate within our home country's wider community and draw from it the motivation to achieve our highest potential and so become a leader in the development of advanced technologies.

Armed with our inherent tenacity and perseverance, we will go proudly forth to face the challenges along our road, and head on to a bright and promising future.

1959~1979 Our initial stage - engineering services

This period saw the CTCI Foundation engaged in the design of oil refineries and petrochemical plants, both at home and overseas, as well as managing their construction. We were also active in setting up a talent cultivation fund, in funding and facilitating academic research and latterly in giving financial support to the CTCI Foundation as it planned the internationalization of its business.

● 1959: The CTCI Foundation established



The three distinguished, original patrons of the CTCI Foundation: from the left: Chien Chu, Kuo-Ting Lee, Kai-Ying King. (1959)

1959

● 1961-62: A pioneer in factory construction



The CTCI Foundation was contracted to build a glass container plant at Kuandu, near Taipei, for the Young Brothers Enterprise, Inc. as well as a liquefied ammonia works in Miaoli for China Mobil Allied Co. Ltd. (Photo shows the signing of the contract in 1961 for that project.)

1961-2

1962

● 1962: Established the Engineering Education Research Fund

The fund is endowed from previously-earned profits and operates as a charity, giving financial support to aspiring engineers during their studies.

● 1967: Launch of construction services overseas



Our first overseas construction contract – an oil refinery modification project in Bangchak, Thailand – was carried out by means of a joint-venture with Chiyoda Corporation of Japan.

1967

1979

● 1979: A founding investment in CTCI Corporation



In the years since that original investment in 1979 at the time of its founding, CTCI Corporation has become one of the world's top 100 construction companies.

1980~2005 R&D and technical services

In this time-frame, the CTCI Foundation became notable for providing expert technological consultancy and advisory services on pollution control, energy conservation and environmental protection. The firm also developed a strong suite of skills as an adviser on innovation and governmental policy formulation in the technological sphere, as well as sponsoring scholarships and academic gatherings related to its core competencies.

● 1983: Commissioned the Industrial Pollution Control Task Force

1983

1987

1981

● 1981: Opening of the Catalyst Research Center

The CTCI Foundation collaborated in the successful development of several petrochemical products, such as dimethylbenzene, a copper-zinc catalyst and acrylonitrile-based carbon fiber.

● 1987: Set up the Energy Task Force



Since its inception, the Energy Task Force has helped manufacturers to each compile their own individual energy use diagnosis, with an eye to future conservation. In its latest of several iterations, the Energy Task Force is known as the Energy & Industry Research Center. (Photo shows an event organized by the Energy & Industry Research Center on behalf of the Energy Commission, MOEA, in 2002.)

● **1995: Donation of the Kuo-Ting Lee Library**



This distinguished and learned collection was donated to the National Central University in Zhongli, northern Taiwan.

● **1994: Donation to the Foundation for the Advancement of Outstanding Scholarship (FAOS)**

The sum of NT\$162.0 million was granted by the CTCL Foundation to the FAOS to help develop its work in this key area of learning.

● **1989: Launched the Environmental Protection Technology Center**



The Center was set up in response to the then growing awareness of environmental issues, and from its inception has been committed to their resolution. After the latest of a number of transitional moves, it is currently titled the Environmental Economics Research Center. (Photo shows in 2000 the Environmental Protection Technology Center was the organizer of discussions on managing the quality of regional water resources.)

**2006~
Innovative knowledge
service phase**

After transitioning into a think tank, the CTCL Foundation continued its participation in a number of specialized fields: the development of advanced technologies; providing scholarships for students with outstanding technological talent; and raising the level of societal well-being.

● **2011: Publication of the first Special Report**

The CTCL Foundation began publishing its edited research results as special-feature reports that serve as sources of reference for government, industry and academia.

● **2006: Transition to a think tank**

The CTCL Foundation initiated its aforementioned innovative knowledge service phase by repositioning itself as a think tank specializing in energy-related and environmental issues.

● **2005: Invested in Taiwan's High Speed Rail project**

The CTCL Foundation leveraged its role in helping formulate national transportation policy into becoming an investor in the project.

● **2002~03: Received the Arts & Business Award from the Ministry of Culture**

● **2015~: Expanding the scope of research**

The CTCL Foundation think tank's early research focused on energy-related and environmental issues: these included the circular economy, oil and natural gas applications and clean energy. The portfolio was then gradually expanded to take in socio-economic matters, such as healthcare, food safety, international trade, smart manufacturing and digital innovation.

● **2019: Advancing academic research in Taiwan**



The CTCL Foundation took the lead in forming a confederation of six academic societies and to then jointly announce the founding of the 'CTCL Foundation Academic Awards' in 2019. (Photo shows the press conference announcing the CTCL Foundation Academic Awards)

● **2018~: Addressing the development of advanced technology**



In the period 2018-2019, CTCL Foundation has held a series of seminars on the development and uses of AI...and has received critical acclaim for their content. (Photo shows a conference in 2019 titled 'Innovative applications of AI in daily living')

● **2014: CTCL Foundation scholarships for international students**



Since that year, the CTCL Foundation has hosted visits by a variety of corporate enterprises; and has instituted the award of research scholarships to international graduate students. (Photo shows the CTCL Foundation Technology Scholarship Award Ceremony, 2018)

The CTCI Foundation Vision

Technology, Talent, Innovation and Sustainability

The CTCI Foundation has been in being for six decades and is recognized in Taiwan as a reputable and professionally-run body. The CTCI Foundation will continue to serve as a bridge between international research-based institutes and their peers in Taiwan, as well as helping their individual staff members to connect. It will also function as a platform upon which government, industry and academia can both exchange information and co-organize cooperative collaboration.

We are committed to being a trusted, impartial and well-reputed think tank, providing expertise on issues related to energy, industry, economics and the environment. We will endeavor to ensure that Taiwan's national energy and environmental policies achieve a balance between national security, socio-economic development and environmental protection. We will work to promote the development of Taiwan's energy, industry, economics and the environment, so that the greatest possible benefit to the nation and its people is achieved in those fields and properly applied.

The CTCI Foundation will carry on with introducing new technologies and its collaborative involvement in advanced R&D, followed by commercialization of the results. In the area of scholarships, the Foundation will both adjust the scale of awards and diversify their specific types so as to extend by both cultivation and acquisition the range of skills needed to strengthen Taiwan's international competitiveness at this time of widespread advanced education and emerging innovative industries.

The CTCI Foundation will continue to honor its vision, comprising Technology, Talent, Innovation and Sustainability. We will adapt, accommodate and adjust; and above all, commit to our promise to raise the level of Taiwan's societal well-being.



