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MOVING THE VISION FORWARD

TAIWAN'S NEW SOUTHBOUND POLICY

CONTENTS

02

Introduction



06

Science and Technology



12

Industrial Talent Development



26

Environmental Protection

20

Medical and Public Health Cooperation,
and the Development of Industrial Chains

32

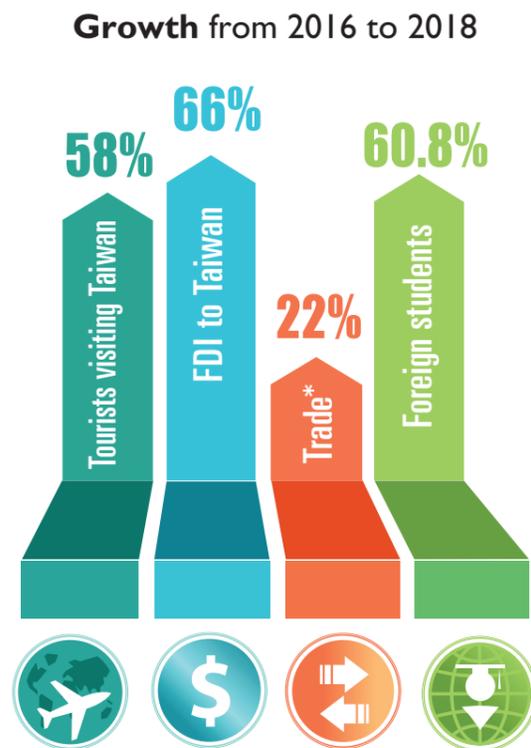
Disaster Preparedness



Introduction

LAUNCHED by President Tsai Ing-wen (蔡英文) in 2016, Taiwan's New Southbound Policy has generated some impressive numbers in just two years.

Trade between Taiwan and its 18 partner countries — the 10 ASEAN members (Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar, the Philippines, Singapore, Thailand and Vietnam), as well as Australia, Bangladesh, Bhutan, India, Nepal, Pakistan, Sri Lanka, and New Zealand — amounted to US\$117.1 billion in 2018, a 22 percent increase from 2016.



*BETWEEN TAIWAN AND ITS 18 PARTNER COUNTRIES



▲ President Tsai Ing-wen (蔡英文) speaks at a forum on the New Southbound Policy on May 30, 2019.

Foreign investment from those countries has grown by 66 percent over the same period. The number of tourists visiting Taiwan has increased by 58 percent over the same period, while the number of foreign students has grown by 60.8 percent. The revenue of the largest 1,000 Taiwanese businesses operating in the partner nations has reached US\$113.88 billion, with their combined profit exceeding US\$3 billion.

These results show that the New Southbound Policy is more than empty talk, Tsai says, adding that the government will continue to augment its implementation to allow Taiwan to play an integral role in economic development throughout Asia.

Building on the New Southbound Policy, Taiwan has been engaging in a wide range of deliberations with its partner countries, promoting bilateral partnerships and exchanges of talent, capital, technology, culture and education. The initiative consists of four main aspects: economic and trade collaboration, people-to-people exchanges, resource sharing and promotion of institutional links.

During a forum in June 2019 about the policy, President Tsai noted that the increasing geopolitical and economic importance of the nations included in the policy has motivated the US, Japan, South Korea and India to also introduce new regional strategies,

which she said shows that it is a “vision-oriented and forward-looking policy.”

The US-China trade dispute has also sparked more Taiwanese companies with operations in China to look toward New Southbound Policy partner countries. The initiative does not seek to advance Taiwan's geopolitical stature or influence, but intends for the nation to play a proactive role in the region through multifaceted cooperation, with mutual benefit and prosperity being key.

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▲ Minister Without Portfolio and Office of Trade Negotiations head John Deng (鄧振中) attends the APEC ministerial meeting in Port Moresby, Papua New Guinea, on Nov. 15, 2018.

It promotes a new model of economic development for the nation that reduces reliance on a single market, Tsai said, and avoids directly competing with China's Belt and Road Initiative, which focuses on regional infrastructure; Taiwan's projects are all about people and soft power, supporting tourism, education, healthcare, technology, small and medium enterprises, and agriculture.

Minister Without Portfolio John Deng (鄧振中), who oversees the policy, says that the government's plans for 2019 entail providing more assistance to small and medium-sized enterprises, facilitating greater cooperation on health and agriculture, and pushing for major investment projects while maintaining the policy's steady progress in other areas.

With the policy's target student numbers reached and exceeded, the Ministry of Education is devoting more resources to assuring the quality of

exchanges, such as improving Mandarin education for foreign students. It is also fine-tuning the policy's implementation strategies by streamlining overseas operations and deepening government-to-government exchanges.

Meanwhile, awareness of and the need for greener solutions continue to grow in the partner countries — in June 2018, the Association of South-east Asian Nations launched a collaborative marine protection project, and in August 2019, in conjunction with the EU, the nations initiated the High-Level Dialogue on Environment and Climate Change. Accordingly, Taiwan's Environmental Protection Administration continues to share and export Taiwan's rich experience and expertise in environmental policy and implementation, which presents abundant opportunities for Taiwan's professionals and industry.

Over the past two years, the Ministry of Science and Technology has set up 12 overseas research centers in the partner countries, covering artificial intelligence, healthcare, biotechnology, engineering and humanities. But it's about more than just exporting Taiwan's scientific achievements, as the ministry hopes to expand Taiwan's academic network while fostering long-term friendships and collaborations to enable both sides to better understand each other's mutual needs.

Through regional collaboration, Taiwan is able to conduct research on a more global scale.

Boasting Asia's largest training facility in Nantou County's Zhushan Township, the National Fire Agency continues to share Taiwan's extensive experience in dealing with a wide range of natural and human-made disasters. Taiwan's expertise has garnered the attention of the US, which called it a "model of disaster preparedness for the region." In partnership with the American Institute in Taiwan, the two sides have already co-hosted two disaster relief and humanitarian assistance workshops with participants from across the Indo-Pacific region.

The Ministry of Health and Welfare's One Country, One Center program — in which Taiwanese hospitals are tasked with each forming a medical team to integrate local medical resources and extend healthcare cooperation with a specific partner country — has been expanded to seven countries, with Myanmar joining in March 2019. During 2018, the program trained 336 medical professionals from partner countries and introduced 71 enterprises to the target region. Looking forward, the ministry hopes to further expand its medical and health connections in the region, open up economic opportunities and build a better and more secure regional preventive health network. ■

▲ An advertisement to promote tourism in Taiwan is featured prominently at a mall in Australia.



▲ Minister of Science and Technology Chen Liang-gee (陳良基), front row fifth from left, touts the achievements of 12 overseas research centers in nine countries covered by the New Southbound Policy initiative, at a news conference in Taipei in August 2019.

IN AUGUST 2019, the Ministry of Science and Technology unveiled the achievements of its 12 overseas research centers in South and Southeast Asia, focusing on a range of fields including engineering, artificial intelligence (AI), healthcare, environmental change, as well as the humanities and social sciences.

While the ministry has so far established three of its 17 overseas divisions in Australia, India, and Vietnam, it has been encouraging local universities and research institutes to establish long-term operations in other New Southbound Policy partner countries.



▲ Professor Tsair-Fuh Lin and an assistant stand next to a mobile laboratory trailer with water testing equipment that was donated to the Philippines.

Minister of Science and Technology Chen Liang-gee (陳良基) says that these academics funded by the ministry can act as vanguards to explore new territories or broaden existing ties.

Over the past two years, the centers have been successively set up in India, Singapore, Sri Lanka, Malaysia, Thailand, Vietnam, Indonesia, the Philippines and Myanmar with the goal of “solving mutual problems, creating mutual benefits and promoting high-level talent exchanges.”

While Taiwan has much expertise to offer, the focus remains on people. Chen says that interpersonal connections and mutual understanding are key to building long-term friendships with scientific collaborators. Instead of just exporting Taiwan’s technology, the human aspect is vital to identifying the needs of each country and what role Taiwan can play in meeting those needs.

For example, Chen says, engineers from Taiwan’s National Cheng Kung University (NCKU) hit the mark in meeting the specific needs of their Philippine collaborators by helping advance their water quality monitoring and improvement techniques. As Taiwan’s closest neighbour, the Philippines suffers from serious water contamination issues, with almost one in 10 residents lacking access to a safe and sustainable water supply.

With the ministry’s support, NCKU in May 2017 established the Taiwan-Philippines Joint Water Quality Research and Innovation Center along with Mapúa University (MU) in the Philippines, bringing experts from state-run Taiwan Water Corp and environmental consultancies in touch with their Philippine counterparts. Aside from sharing Taiwan’s expertise, the project aims to facilitate training and exchanges of professionals and students as well as establish a database for Philippine hydrologists.

They have been focusing on Laguna de Bay, the second-largest freshwater lake in Southeast Asia and an important source of drinking water for Manila, where a 2016 NCKU and MU joint project found high concentrations of cyanotoxins, and taste and odour compounds produced by cyanobacteria. In September 2018, four Taiwanese companies donated a mobile laboratory trailer with water testing equipment worth NT\$1.3 million to the center.

The ministry also supported National Chung Cheng University (NCCU) in inaugurating the Indo-Taiwan Research Center on Artificial Intelligence and Machine Learning at the Indian Institute of Technology Ropar in July 2019, when Deputy Minister of Science and Technology Hsu Yu-chin (許有進) led a delegation to expand collaborations with India.

Amid rapid growth in India's economy, the timing is ideal for Taiwanese to boost cooperation with that country, says Jack Huang (黃士銘), NCCU's dean of research and development. Hsu says the center will serve as a hub for faculty and student exchanges, as well as academic-industrial collaboration in diverse fields including microelectronics and space technology.

When Taiwan's capabilities in manufacturing and customized hardware design are coupled with India's edge in software and development, the two can make world-class breakthroughs in AI-related

areas, Huang says. As many Taiwanese businesses have difficulty finding proper access to the Indian market, the AI center can serve as a "beachhead" to facilitate access.

Capitalizing on Taiwan's highly acclaimed healthcare system and medical research, the ministry sponsored the Taichung-based China Medical University (CMU) to establish the Taiwan-Singapore Ageing and Cancer Overseas Science and Technology Innovation Center.

The quality of Taiwan's healthcare system — including infrastructure, professional competence, cost, and availability of quality medicine — has been ranked the best out of 89 countries surveyed, according to the most recent Health Care Index compiled by *CEOWORLD Magazine*. In another survey, released in 2012, 14 Taiwanese hospitals were included in a list of the world's top 200 hospitals, trailing only the US and Germany.



▲ **LEFT:** Deputy Minister of Science and Technology Hsu Yu-chin (許有進), front row, second right, accompanied by Representative to India James Tien, third right, and Indian Institute of Technology Ropar director Sarit Kumar Das, right, cuts the ribbon at the inauguration of the Indo-Taiwan Research Center on Artificial Intelligence and Machine Learning in Rupnagar, India, on July 27, 2019.
RIGHT: National Tsing Hua University's groundbreaking plasmonic nanoantenna combined with bilayer molybdenum disulfide technology to boost hydrogen production is a collaboration between Indian and Taiwanese doctoral students.

THE INDO-TAIWAN Research Center on Artificial Intelligence and Machine Learning at the Indian Institute of Technology Ropar will serve as a hub for faculty and student exchanges, as well as academic-industrial collaboration in diverse fields including microelectronics and space technology, says Hsu Yu-chin, deputy minister of Science and Technology.

Taiwan and Singapore share the problem of a declining birth rate and ageing population, making it crucial for both countries to explore methods of achieving "healthy ageing," CMU Office of Global Affairs dean Yang Liang-yo (楊良友) says.

The Singaporean government has over the past two years boosted its funding for research into human ageing, and the center builds on CMU's existing collaboration with the National University of Singapore on ageing, cancer and neurobiology.

While Singapore specializes in genetic screening, CMU is dedicated to combining Chinese herbal medicine and Western medical systems. The two have pooled their expertise to explore research into healthy ageing.

Even though Chinese herbal medicine is also part of China's medical tradition, CMU has the advantage given its broad-ranging evidence-based research and its use of Western scientific techniques to analyse the effects of herbal medicine, while most of the research into herbal medicine in China remains separate from the system of Western medicine, Yang says.

WHILE

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▲ Jyh-Hong Chen, Vice President of CMU and Dean of the College of Medicine, left, signed an MOU with Khay-Guan Yeoh, Dean of the NUS Yong Loo Lin School of Medicine, right, at the National University of Singapore.

▼ National Chung Shan University's College of Marine Sciences has been working with Sri Lankan researchers in biodiversity and marine studies for the past four years.



▼ National Taitung University signed an MOU with Tanjungpura University in Indonesia in 2018.



The college is helping some of the country's institutions to establish ocean research agencies later in 2019, as well as facilitating more links such as Chinese language learning programs and talent cultivation, Hung says.

The remaining centers cover vastly different fields. Schools are working with Vietnam and Thailand in agriculture, plant conservation and health-care; with Malaysia in digital technology, clean water and sustainable energy; and with Myanmar in economic research and data analysis.

Social sciences are also part of the focus — located in Taiwan's Aboriginal heartland, National Taitung University brings its expertise in indigenous studies to the Taiwan-Indonesia Center of Southeast Asian Ethnicities, Cultures and Societies, formed in August 2018 in conjunction with Tanjungpura University in West Kalimantan, Indonesia.

Taiwan's Aborigines and the majority populations of partner countries Brunei, Indonesia, Malaysia and the Philippines all share Austronesian roots in language and culture, and the program hopes to nurture deeper connections based on this common background. Consequently, the Science and Technology Innovation Center for Taiwan-Philippines Indigenous Knowledge, Local Knowledge and Sustainable Studies in the Philippines is also partially focused on incorporating indigenous knowledge.

Chen emphasizes that everything is going steadily according to plan, and he hopes to focus on recruiting more high-tech professionals from New Southbound Policy partner countries to Taiwan for exchanges and research.

"The more people come, the more we can expand our resources," Chen says. ■

Southbound collaborations in marine studies are no less vibrant.

The impact of global warming, ocean acidification and environmental change on marine life, especially in tropical and subtropical areas, are of concern to many scientists, says National Sun Yat-sen University (NSYSU) College of Marine Sciences vice dean Hung Chin-chang (洪慶章).

Even before the university launched the Taiwan-Sri Lanka Environmental Change Science and Technology Innovation Center in February 2019 in conjunction with the University of Sri Jayewardenepura, it had been collaborating with Sri Lankan researchers for almost four years in the fields of biodiversity and marine studies.

While many Taiwanese are unfamiliar with Sri Lanka, both are island countries with similar geographic features, and while one is located in the subtropical west Pacific and the other in the tropical Indian Ocean, they face similar environmental threats to their marine and plant resources, making them ideal partners to explore solutions. By working on a regional scale, Taiwan will be able to gather

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richer data and examine these issues from a broader international perspective.

The center is geared to play an instrumental role in enhancing exchanges between the two countries in marine life and ocean studies, and research carried out by the center is expected to help both Taiwan and Sri Lanka cope with the challenges of global environmental change.

The research center is focused on four vital environmental fields: terrestrial ecology and conservation; nutrient and carbon dynamics in coastal zones; the effect of global warming on coral reefs, marine ecosystems, mangroves and seagrass beds; and smart shrimp aquaculture using cutting-edge technology.

Sri Lanka's shrimp larvae are of better quality than their Taiwanese counterparts, making shrimp farming a valuable area for bilateral collaboration, Hung says. With the college's AI-assisted techniques for improving shrimp farming methods, it can help Sri Lanka mitigate the impact of ocean warming on its shrimp farming industry and boost production.



▲ The Vietnam-Taiwan Joint Plant Conservation Research Center has discovered a new plant species, *Stegnogramma austro-vietnamensis*, in Vietnam.