

INNOVATION  
LAB  
ASIA

A GUIDE TO  
THE INNOVATION ECOSYSTEM OF

# TAIWAN

INDUSTRIENS  
FOND  
FREMMER DANSK  
KONKURRENCEVNE  
The Danish Industry Foundation



TECHBBQ

# PREFACE

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This guide gives you a brief introduction to the Taiwanese innovation ecosystem, with special focus on **Taipei** where most of the startups and stakeholders are based.

The guide presents the main business opportunities, the most important leads, and most interesting stakeholders, as seen from a Danish perspective. We give you a realistic understanding of the local startup scene, based on first-hand experience and on-the-spot dialogues.

This publication has been developed by Asia House and TechBBQ as part of a series of guides to innovation ecosystems in the China Bay Area and Taiwan, India, Japan, Korea, and Singapore.

The series is published as part of the non-profit initiative **Innovation Lab Asia** to improve and enhance cooperation between Danish and Asian innovation ecosystems. The project is supported by the Danish Industry Foundation.

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# WHY TAIWAN?

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Taiwan is a world leader in advanced manufacturing, hardware production, and computer technology, and a key link in the global supply chain for electronics, computers, semiconductors, and mobile phones. It is also a central hub for shipments and trans-shipments in East Asia and a major center for advanced R&D.

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The business environment of Taiwan is generally stable, and the costs are lower than in Korea and Japan. Additionally, Taiwan presents fewer risks in terms of intellectual property rights compared to mainland China and other parts of Asia.

Many international companies choose to set up branches in Taiwan due to the ability to access Taiwanese free trade zones and a favorable corporate tax rate.

## TAIWAN RANKS . . .

- # 4 on the World Economic Forum's Innovation Capability Index 2018
- # 10 on the Global Economic Freedom Index 2019
- # 13 on the Ease of Doing Business Index 2019

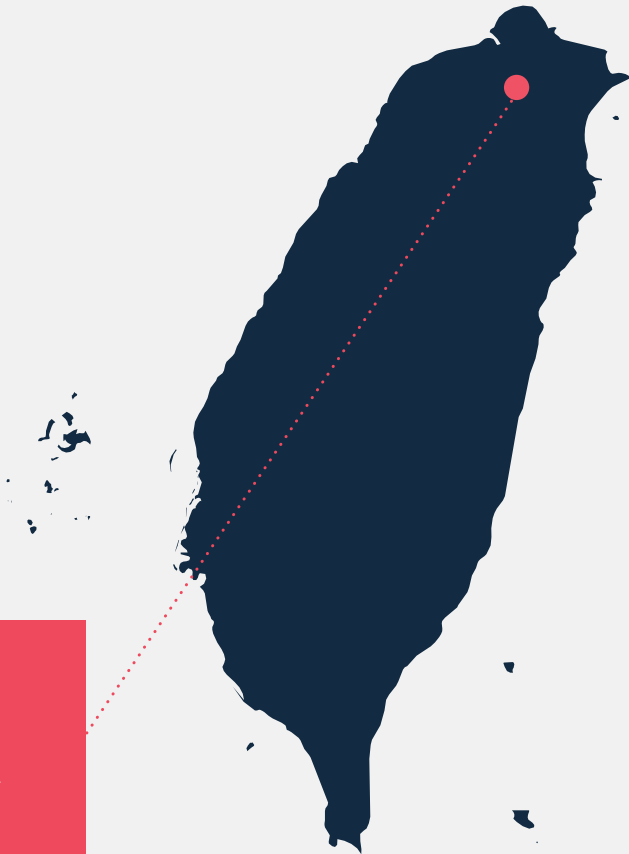
Various science and industrial parks and export processing zones have been set up to expand trade and investment opportunities through initiatives such as tax incentives, tariff exemptions, low-interest loans, and other favorable terms.

However, some analysts warn that the current trade dispute between China and the US, combined with increasing manufacturing costs in mainland China may impact Taiwan, whose economy is closely interconnected with that of mainland China.

Some Taiwanese firms are now moving back home to avoid American tariffs. At the same time, these firms have received some benefits from the Taipei government, including financing and permission to hire more international workers.



# MAIN ECOSYSTEM OVERVIEW



## TAIPEI

- The Taipei metropolitan area is the political, cultural, and economic center of Taiwan and home to a third of the Taiwanese population. The startup ecosystem is especially concentrated in the surrounding municipality of Taipei, with strong clusters in pharmaceuticals, robotics, and life sciences.



# TAIPEI

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## THE ECOSYSTEM AT A GLANCE

Taiwan's startup ecosystem is not as well-known and developed as neighboring Shanghai, Singapore, and Hong Kong, but the island has some unique strengths for early stage startups looking to scale into Asia.

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The ecosystem in Taiwan is characterized by heavy investment from the public sector and a relatively conservative VC landscape. And while Taiwan's startup ecosystem lags behind some other parts of Asia due to an absence of adventurism and a uniform pool of talent, it has been exceptionally active in recruiting foreigners to help grow the burgeoning startup ecosystem, mostly from the ASEAN region. This means that government startup programs are significantly more open to internationals compared to elsewhere in the region.

Since 2017, the government has made an ambitious plan to transform Taiwan into a “startup nation” by building a better startup ecosystem and encouraging more citizens to become entrepreneurs or join startups. This is being achieved through various programs to foster innovation among young people and university students.

Taiwan has a highly educated workforce, especially within engineering and math, as there are many jobs on the island related to the IT and semiconductor industries. As a rule, the Taiwanese startup community is generally interconnected, in that almost all startup initiatives receive public financing, and in fact compete for funding and grants from the same pool.

From a Danish perspective, it is worth noting that the public sector in Taiwan has a strong focus on establishing smart cities and adopting more sustainable energy sources. **The smart city strategy opens up possibilities for Danish startups in numerous sectors including IoT, Fintech, Edtech, Transportation and many others.** Secondly, the focus on transforming the energy sector to a greener and more sustainable model paves the way for startups within Energy and Cleantech, where Denmark has a strong reputation.

#### FACT & FIGURES ON THE STARTUP ECOSYSTEM 2019

- The value of the Taipei ecosystem is estimated at USD 2.4 billion
- The average amount of funding for early-stage startups is USD 206,000
- The overseas market penetration is 28% (the global average is 23%)
- The Taipei ecosystem ranks top 5 globally in terms of local connectedness





## MAIN LEADS

The Taiwanese government is investing heavily in the innovation ecosystem and has a dedicated strategy of attracting foreign talent. These programs are perhaps the most relevant access points for Danish entrepreneurs considering Taiwan. Advanced manufacturing is also interesting, though it seems only a few government or private schemes specifically help startups connect with this ecosystem. Accelerators may help finding the right manufacturing partners.

- **Startup@Taipei** helps startups access public resources provided by the Taipei City government. The resources include grants and other types of funding support, many of which are open to foreign companies. Startup@Taipei was established by the Taipei City Government to boost the city's startup ecosystem and is run by the National Association of Young Entrepreneurs.

Startup@Taipei also helps with business matchmaking and runs a global event called Taipei International Startup Week every November, where startups can pitch and exhibit to investors and corporates. Furthermore, they have

launched an international incubation program. To apply, startups need to register a company in Taiwan and recruit at least one Taiwanese employee. If they are chosen, they will get financial support matching the company's own fiscal contribution.

- **Taiwan Tech Arena** is a nonprofit program and coworking space that offers multiple accelerator programs that generally run for 6 months at a time. Established in 2018 and funded by the Ministry of Science and Tech, Taiwan Tech Arena aims to be economically self-sufficient by 2022.

Taiwan Tech Arena currently collaborates with the French and Canadian governments on international exchange of startups. Furthermore, they have active collaboration with the French startup ecosystem and often help startups with their prototyping. Taiwan Tech Arena has also partnered with Techstars to host events.

## SMALL, SMART & PROGRESSIVE

- Taiwan was one of the first "Tiger Economies" to emerge in Asia
- Today, Taiwan is a high-income economy with a skilled workforce and a strong infrastructure
- Taiwan is small; you can drive around the island in just 8 hours
- Taiwan legalized same-sex marriage in 2019
- All public places in Taipei have free wi-fi
- Biking & recycling are very popular

- **Garage+** is one of the first accelerator programs established in Taiwan and has set the standard for accelerator programs in the country. The accelerator is one of the few privately funded programs available and is especially strong in the electronics and semiconductor industry.

Their "Startup Global Program" invites international startups to Taiwan to realize their prototypes and enter the Asian market. Foreign startups can also get access to a 10-day visitation program to meet partners and find co-funding opportunities.



## OTHER LEADS

Innovation Lab Asia has established contacts with several interesting organizations in Taipei that might prove relevant for Danish startups. We can facilitate further contact if needed.

- **Startup Terrace** is funded by the Ministry of Economics and is an ambitious project to bring startup ecosystem players into one location. While space is still being built and divided, the campus will host both Microsoft and AWS, and accelerators like Startup Bootcamp. Startup Terrace aims to be the world's largest network of multi-corporate backed accelerators helping startups scale internationally. The facilities will include ample coworking spaces for entrepreneurs.
- **Taiwan Startup Stadium** caters mainly to Japanese and Taiwanese startups looking to internationalize and provides an accelerator and coaching program for early stage startups. With about 24% foreign founders and 70% foreign coaches and mentors, the program is globally grounded. The program is open to early stage foreign companies if they have a Taiwanese employee at the C-level.
- **InnoVEX** is the main startup event in Taiwan and the most interesting local event from a Danish startup point of view. In 2019, it attracted more than 18,000 visitors, 500+ VCs along with numerous ecosystem stakeholders. InnoVEX is a feature exhibit of the computer and technology expo commonly known as **COMPUTEX TAIPEI**, a leading global ICT and IoT conference. In 2019, it set a record of more than 42,000 visitors over five days, with gaming as the number one interest of attendees.
- **Startboard** is a relatively new program, that seeks to assist foreigners, mainly from South East Asia, in setting up companies in Taiwan to help retain some of the country's 30,000 foreign students. Startboard helps founders ideate and begin companies and are partnered with local stakeholders who can assist founders with R&D. Startboard is also a major player in the startup ecosystem, building and hosting events for foreigners looking to enter the ecosystem.



## OTHER GATEWAYS & ACCESS POINTS

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- **Taiwan Rapid Innovation Prototyping League for Entrepreneurs (TRIPLE)** is a matchmaking platform connecting global hardware startups with reliable hardware partners & resources in Taiwan. It currently has more than 480 industrial members with rich product development and manufacturing experience to work with hardware startups to commercialize their innovation.
- **KAFNU** is a new coworking space with lux facilities, including places to sleep, a gym, and a restaurant. They also host daily events, many of which are startup related.
- **Appworks** is an accelerator founded in 2009, that has seen more than 300 startups through their accelerator programs. Appworks is increasingly focusing on AI and Blockchain startups. The program is foreigner friendly, with 20-30% of founders in each batch coming from overseas. The accelerator also has its own VC.
- **The Institute of Information Industry** is a governmental organization that offers industry incubation services and can help connect startups to capital and partners. Through their program CONNECT TAIWAN, they operate incubation centers that provide six major categories of services for the startup companies: regular assistance, value added innovation, incubation networking, investment matching, and international cooperation.



# STRONGHOLDS & OPPORTUNITIES

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Taiwan's classic stronghold is hardware manufacturing. Two of its largest companies – Foxconn and TSMC – are world leaders within contract manufacturing of electronics and computer chips, and semiconductor production is a key industry in Taiwan. These strongholds are reflected in one of the chosen focus sectors of this report: **Advanced hardware manufacturing.**

**The two other focus areas of this report are Greentech and Smart cities.** Both are considered classic Danish strongpoints, and both are particularly relevant for Taiwan right now.

As for so many parts of the world, Taiwan is in the midst of a rapid drive toward sustainability. For Taiwan, this transition seems particularly ambitious, especially in the field of smart cities and renewable energy. Thus, these policy initiatives may pave the way for strong market opportunities for Danish startups and SMEs.



## HARDWARE MANUFACTURING

- **Though Shenzhen in the China Bay Area is a strong contender for rapid prototyping and hardware manufacturing, Taiwan is a viable alternative for Danish startups.** Generally, the Taiwanese are more accustomed to dealing with Europeans and speak better English. Being smaller, Taiwan also enjoys a more centralized setup for advanced facilities.
- For Danish companies, there are some advantages to manufacturing in Taiwan over mainland China. IPR is considered stronger in Taiwan than in mainland China and manufacturers are experienced in meeting high standards for cutting edge technology products.
- Most of Taiwan's exports are intermediate goods, used in the supply chain of other regions, mainly mainland China. Thus, semiconductors, flat panels, various other types of electronic components, together with the finished electronic products, account for 65% of Taiwan's total exports there.

### TAIWAN MAKES...

- 75% of all personal computers
- 50% of all LCD screens
- 25% of all semiconductors
- 20% of all smartphones





## GREENTECH

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- Taiwan's current energy production is unsustainable and air pollution is worsening. The island relies heavily on imported energy, expensive subsidies, and has a high volume of greenhouse gas emissions. Taiwan lags its peers in developing energy substitution technologies, such as Carbon Capture and Storage, and is very keen to find solutions that may come from foreign companies.
- The Taiwanese government has made green energy a clear priority and is committed to increasing renewable energy sources from 3% to 20% by 2025, reducing carbon emissions by 20% of 2005-levels by 2030, and phasing out nuclear energy.
- Thus, the Taiwanese government will need to invest heavily in windmills, solar cells, and other Greentech solutions, and is open to innovation. This will provide real opportunities for Danish startups in the years to come.
- The government is also promoting a dramatic rethinking of energy transmission and storage. For instance, the government power company Taipower is installing smart meters to allow remote reporting of electricity consumption data as part of an implementation of advanced metering infrastructure.
- Thus, Danish startups within the field of semiconductors, battery storage, or digitizing grids may find Taiwan an interesting destination.



## SMART CITIES

- The Taiwanese government has made smart cities a prerogative and new smart-city digital technologies involving the Internet of Things are being adopted with the aim of improving economic development through industrial transformation. A smart-machinery center has been established in the city of Taichung with the aim of increasing Taiwan's smart manufacturing capabilities.
- The transport sector is being revolutionized by smart city technologies. Examples include the eTag electronic toll collection system on freeways, the EasyCard payment platform for transportation, the Wi-Fi system on the Taoyuan Metro, and the electronic parking space monitoring that collects information, making vehicle traffic in the city more efficient.
- The national health card has been equipped with a chip that contains information on the full medical history of the cardholder. The chip allows doctors to see the patient's medical history and drug prescriptions, communicate directly with the insurer, and issue a payment.
- **Taiwan is seeking to become the global hub for smart city development, where foreign researchers and companies could experiment and develop smart city applications.** Thus, the Taipei Smart City program helps foreign companies run a pilot using government infrastructure. In addition, Taiwan's annual Smart City Summit & Expo is the largest platform dedicated to smart city solutions in Asia.

### FLAGSHIP COMPANIES

- Foxconn, the world's largest electronics contract manufacturing company
- TSMC, the world's largest contract chipmaker
- HTC, ASUS, Acer Computers



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