



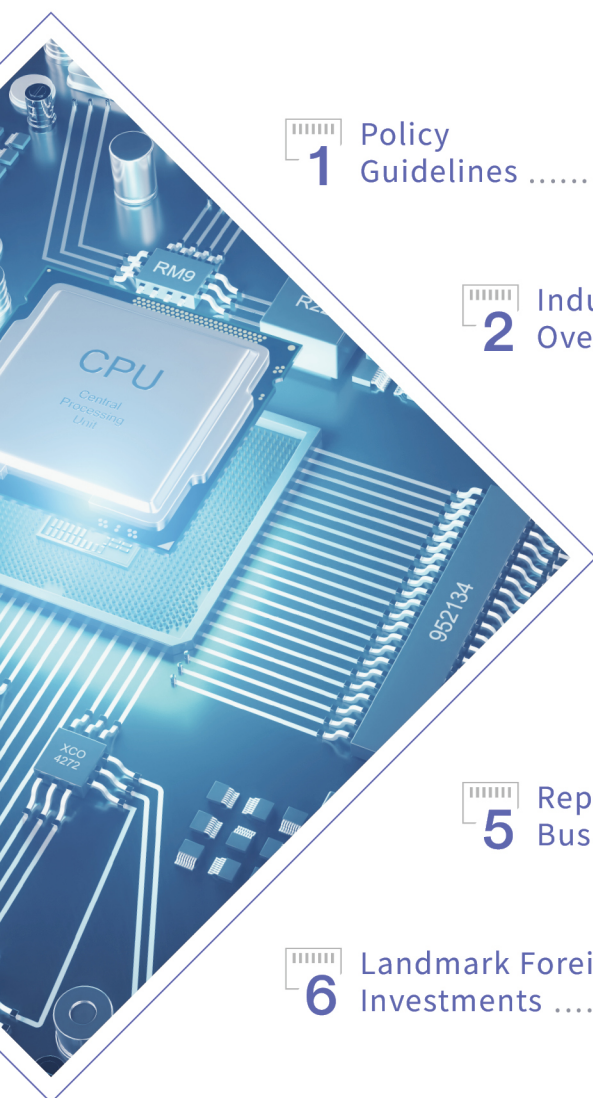
2025 Semiconductors

Key Industries in Taiwan



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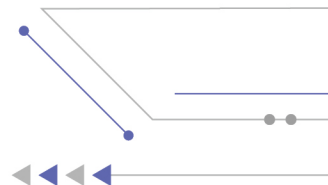
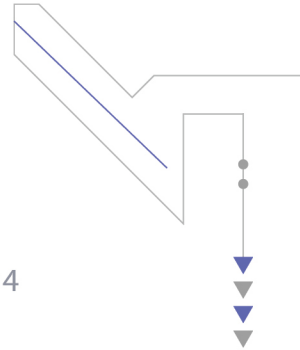
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Policy Guidelines

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As one of the world's most critical semiconductor hubs, Taiwan leads the globe in wafer fabrication and OSAT (outsourced semiconductor assembly and test) services, and ranks second in IC design. Notably, 92% of global advanced process capacity is concentrated in Taiwan, underscoring its strategic importance amid U.S.-China trade tensions and supply chain restructuring. In 2024, the government launched the Five Trusted Industry Sectors initiative, identifying semiconductors as a key focus area. Policies aim to strengthen domestic IC design R&D, establish advanced semiconductor R&D and pilot production hubs, support the development of advanced manufacturing processes and packaging technologies, and expand local capabilities in semiconductor materials and equipment.

Taiwan's semiconductor industry reached a record output of NT\$5 trillion in 2024, with global market shares of 69% for 10nm, 78% for 7nm, and 95% for 3nm process nodes. Taiwan plays a vital role in enabling AI, high-performance computing (HPC), and smartphones. The government envisions Taiwan as a global leader in semiconductor supply chains, promoting next-generation technologies such as silicon photonics, heterogeneous integration, and advanced packaging. National teams for equipment and materials are being formed to enhance self-sufficiency, while efforts also focus on IC design innovation, marketing, compound semiconductors, and quantum chips. The sector is expected to generate an additional NT\$2.66 trillion in output by 2028.

As the global semiconductor hub, Taiwan aims to leverage its manufacturing strength and partner with like-minded democracies to build a "democratic supply chain" that upholds free trade and resists market dumping. Taiwan's initiative for a global democratic semiconductor supply chain advocates for an industry model based in Taiwan that extends outwards to global markets — deepening collaboration with democratic partners to establish a resilient and secure global division of labor in the semiconductor industry.

To seize the opportunities and meet the challenges of future technological transformation, the government launched the Taiwan Chip-based Industrial Innovation Program (Taiwan CbI), to chart the course for Taiwan's future tech industries. The program focuses on four strategic pillars:

(A) Driving Industrial Innovation through AI and Chips

By integrating AI and chips to modernize traditional industries, Taiwan aims to enhance AI services, develop common platforms and tools, expand AI adoption across sectors, and build cross-disciplinary talent pipelines aligned with industry needs.

(B) Strengthening R&D to Attract Global Talent

In partnership with like-minded countries and aligned with semiconductor manufacturing investments, Taiwan is strengthening R&D and talent development in advanced chip technologies. A nationwide semiconductor equipment-sharing platform will be established to support access to fabrication tools and services. These include heterogeneous integration packaging, sensor chips, testing technologies, and back-end processing for memory components. The initiative will provide both industry and academia with the resources to prototype and test next-generation chips.

(C) Accelerating Advanced and Heterogeneous Integration Technologies

Taiwan will enhance its autonomy in IC design tools and core technologies, strengthen advanced chip design capabilities, and fast-track breakthroughs in heterogeneous integration and interface development to support next-generation processes and innovation in IC design.

(D) Silicon Island Attracts Global Startups and Investment

Taiwan will connect with global chip startups and investors, channel private capital into chip-based innovations, and leverage its complete semiconductor ecosystem and agile support infrastructure to position itself as the preferred destination for international IC startups and venture capital.

Industry Overview

2

(A) Output

In 2024, Taiwan's semiconductor industry reached a production value of NT\$5.3 trillion, accounting for 26.9% of the global market. This includes NT\$3.42 trillion from IC manufacturing (up 28.4%), NT\$1.27 trillion from IC design (up 16%), NT\$423.3 billion from packaging (up 7.7%), and NT\$200.2 billion from testing (up 5%). According to the Industrial Economics and Knowledge Center (IEK) at ITRI, the industry is projected to grow 19.1% in 2025 to NT\$6.3 trillion, driven by demand for generative AI, high-performance computing (HPC), 5G, automotive electronics, and data centers.

Taiwan's unique vertical specialization and industrial clustering have created advantages in flexibility, speed, customization, and cost-efficiency. TSMC, with a 67% share of the global foundry market, leads a robust ecosystem of specialized players such as MediaTek, ASE, Winbond, and Nanya Technology Corporation (NTC). Advanced manufacturing capacity remains in high demand. IC design firms are accelerating their deployment of AI and HPC chips, while the OSAT sector is actively advancing cutting-edge packaging technologies such as Chip-on-Wafer-on-Substrate (CoWoS) and Fan-Out Panel-Level Packaging (FOPLP). Four pillars—AI, HPC, smart automotive electronics, and heterogeneous integration packaging—are driving Taiwan's semiconductor industry growth.

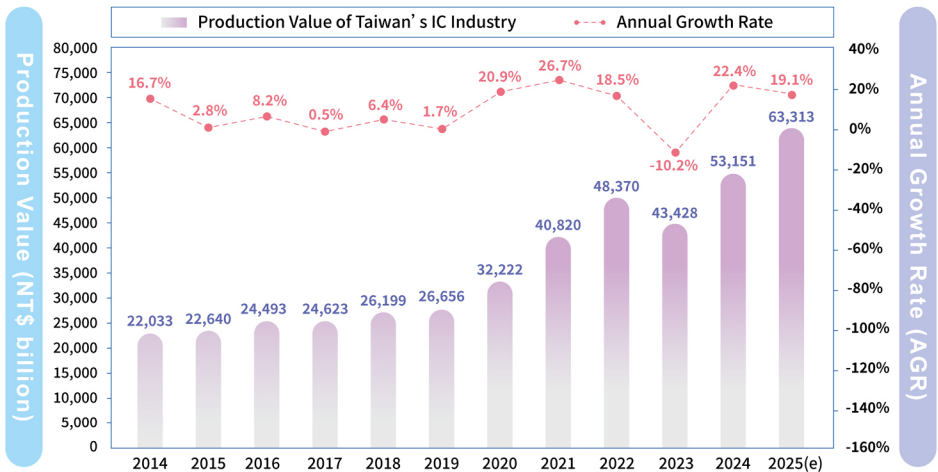


Figure 1. Taiwan IC Industry Output Value, 2014–2025

Sources: Taiwan Semiconductor Industry Association (TSIA); ITRI Industry, Science and Technology International Strategy Center (ISTI), July 2025

(B) Industry Value Chain

Taiwan boasts the world's most comprehensive and vertically integrated semiconductor cluster, with leading companies across all segments of the industry. Upstream, the value chain includes IC design and silicon intellectual property (SIP) providers. IC design companies specialize in segments such as memory, microcomponents, logic ICs, and analog ICs. Key players include MediaTek, NovaTek, and RealTek, which are not only leaders in Taiwan but also globally recognized. Prominent SIP providers include Andes Technology Corporation (ANDES), eMemory, Global Unichip Corporation (GUC), and Faraday.

Midstream production is led by TSMC, the global leader in wafer foundry and advanced nodes. Other strong performers across different process technologies include United Microelectronics Corporation (UMC), Vanguard International Semiconductor (VIS), and Powerchip Semiconductor Manufacturing Corporation (PSMC). Taiwan also maintains a robust and complete midstream supply chain, integrating leading domestic and international firms in silicon wafers, photomasks, chemical materials, and metal targets.

Downstream, internationally renowned OSAT (Outsourced Semiconductor Assembly and Test) companies such as ASE, Siliconware Precision Industries (SPIL), and Powertech Technology Inc. (PTI) are continuously investing in advanced packaging and testing technologies. The packaging materials supply chain is equally mature, with companies such as: Chang Wah Electromaterials Inc. (CWE), which produces bonding wires and lead frames; Unimicron, Nan Ya PCB, and KINSUS, which manufacture IC substrates; and providers of encapsulation materials such as Eternal Materials, Advanced Echem Materials Company (AEMC), and Everlight Chemical. Shenmao Technology (SHENMAO) supplies solder balls. Together, these companies support development of the advanced semiconductor packaging industry.

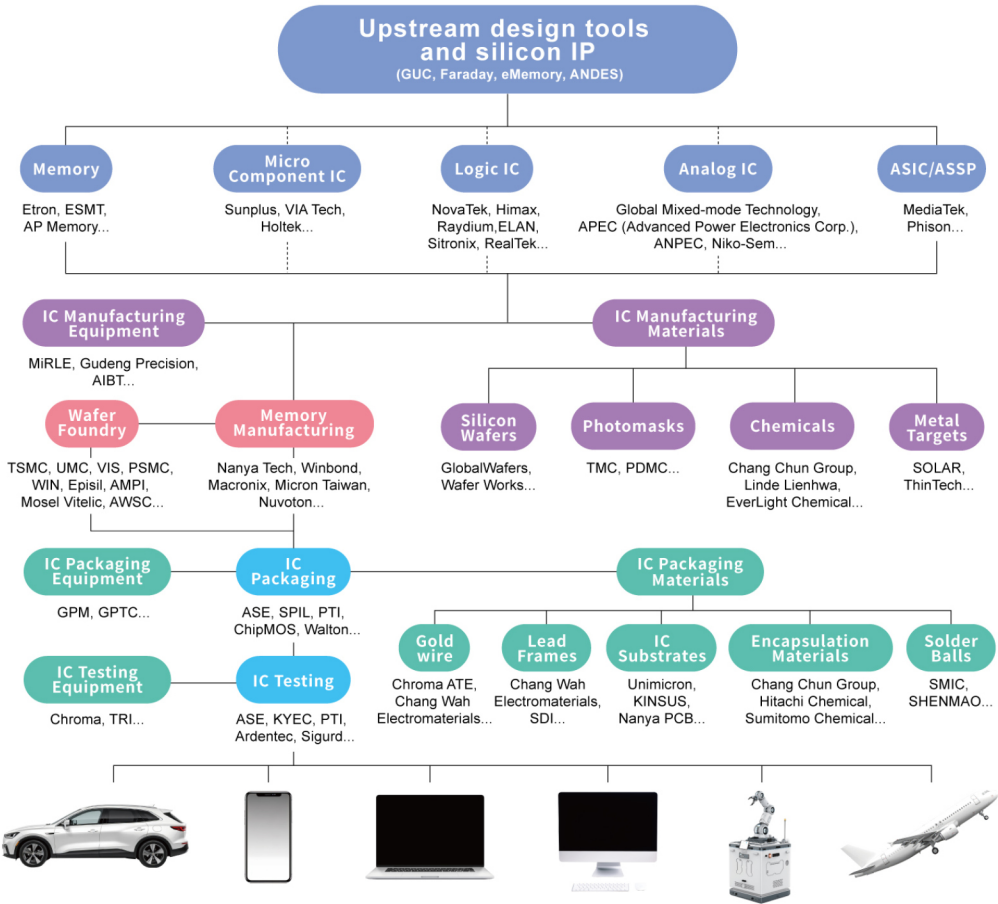


Figure 2. Taiwan Semiconductor Industry Chain and Representative Companies
Source: ITRI ISTI, ITIS Research Team (August 2025)

(C) Industry Cluster

Taiwan's three major science parks in the north, central, and south have long formed a clearly defined upstream–downstream division of labor along the western technology corridor, making significant contributions to economic growth, employment, and technological innovation. To further expand the clustering effect of the semiconductor and AI industries, the government in 2024 starting working on a Silicon Valley in the Taoyuan–Hsinchu–Miaoli region, centered on the Hsinchu Science Park and extending to Taoyuan and Miaoli. This initiative covers the entire industry chain, from IC design and wafer manufacturing to assembly and testing. In 2025, the Southern Taiwan Silicon Valley (STSV) Program was introduced, integrating the Shalun Smart Green Energy Science City with the semiconductor corridor and science parks spanning Chiayi to Pingtung to foster an AI-centered industrial ecosystem. By connecting these two major clusters with the western technology corridor, science parks, and transportation hubs, Taiwan will not only comprehensively enhance the competitiveness of its semiconductor and AI industries, but also promote balanced regional development and strengthen technological self-reliance.

As of 2023, Taiwan had 307 semiconductor companies employing a total of 317,000 people. The government continues to attract foreign materials and equipment manufacturers to invest in Taiwan, thereby bolstering the resilience of the domestic supply chain. In response to urgent global demand for semiconductor products, domestic companies are also expanding and reinforcing their advantages in advanced process technologies to maintain Taiwan's leading position in the global semiconductor industry.

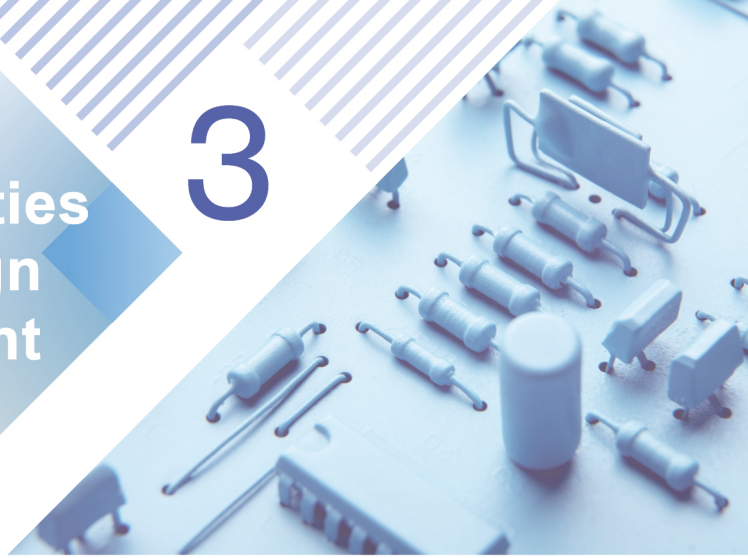


Figure 3. Distribution of Taiwan's Semiconductor Clusters

Source: Taiwan Economic Forum, Autumn 2024 Edition (September)

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Opportunities for Foreign Investment



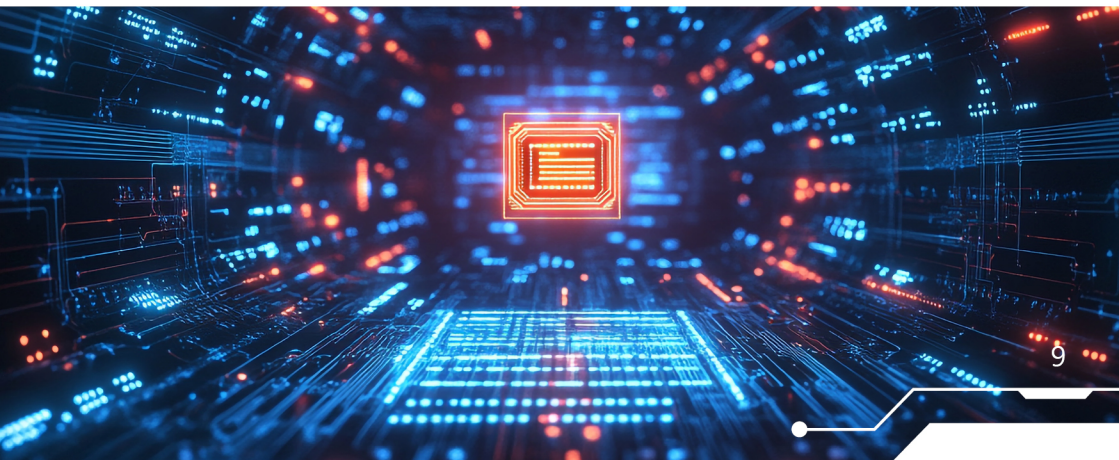
(A) Establishing a Presence in Global Semiconductor Industry Clusters

Taiwan has become a critical production hub under the drive of the global semiconductor supply chain restructuring and the advent of AI technology. The Southern Taiwan Science Park extends from Chiayi to Pingtung, bringing together fabs for 5nm, 3nm, and 2nm processes, as well as advanced packaging facilities such as CoWoS and System of Integrated Chips (SoIC). Leveraging its advantages in utilities, transportation hubs, and logistics, the park offers investors and suppliers a comprehensive operating environment.

At the same time, the government is also promoting Regional Training Bases for Industrial Talents and Technology to help universities establish practical training facilities, introduce industry instructors and overseas experts, and launch credit and certification courses. These programs address diverse manpower needs—from process operation to R&D design—creating a dual growth engine that reinforces Taiwan's leadership position in the global semiconductor supply chain.

(B) Growing Demand for Semiconductor Equipment and Materials

Global demand for semiconductor materials and equipment is rising rapidly. According to Market Data Forecast, the semiconductor equipment market is expected to grow at a CAGR of 10.2% from 2025 to 2033, reaching US\$243.2 billion by 2033. For semiconductor materials, IndustryARC projects the global semiconductor manufacturing materials market to reach US\$97.9 billion by 2030, with a CAGR of 5.9%. In 2025, construction will begin on 18 new fabs worldwide, with operations and mass production starting in 2026–2027. Amid this rising demand, Taiwan has made notable progress in localizing materials. High-purity silicon wafers and CMP slurry are gradually replacing imports, and local suppliers are collaborating with fabs to develop key chemicals such as photoresists, etchants, and dopant gases. On the equipment side, domestically produced tools—from thin film deposition and etching to packaging alignment and dicing—have entered the semiconductor supply chain. Key components such as optical lenses, vacuum pumps, and high-voltage power supplies are also moving toward local design and manufacturing, shortening supply chains and improving maintenance efficiency. Taiwan is emerging as a global core partner for semiconductor materials and equipment, with strong potential to attract deeper collaboration with foreign firms.



(C) Advanced Packaging Breakthroughs Beyond Moore's Law

With Moore's Law slowing and demand surging for generative AI and high-performance computing, advanced packaging has become a new driving force in semiconductors. Technologies such as 2.5D/3D heterogeneous integration packaging (Fan-Out; CoWoS; 3D Chiplet; Wafer-Level Packaging, WLP) are key to boosting chip interconnect density and energy efficiency. Market research firm Yole estimates that in 2024, the global advanced packaging market will reach US\$45.73 billion, accounting for about 50% of the overall packaging market, and will grow to US\$113.33 billion by 2033 at an average annual growth rate of around 10%.

TSMC is leading the development of CoWoS technology and expanding capacity in Taichung, Zhunan, and Chiayi. Major OSAT providers such as ASE, SPIL, and PTI are also accelerating their Fan-Out and 3D packaging deployments, building a complete heterogeneous integration manufacturing chain. At the same time, demand is surging for materials and equipment such as high-thermal-conductivity substrates, EUV photoresists, Through-Silicon Via (TSV) equipment, electroplating systems, and lithography tools, attracting international suppliers to set up operations in Taiwan and strengthening the local supply chain to create long-term opportunities for foreign investment and technology partners. Silicon photonics technology is expected to reach its peak around 2027, and with Taiwan's world-class advanced packaging capabilities, the country is positioned as a leading exporter and partner in global silicon photonics packaging. Backed by patent advantages, Taiwan's packaging industry could maintain a 10–20 year lead and further enhance the resilience of its semiconductor sector.



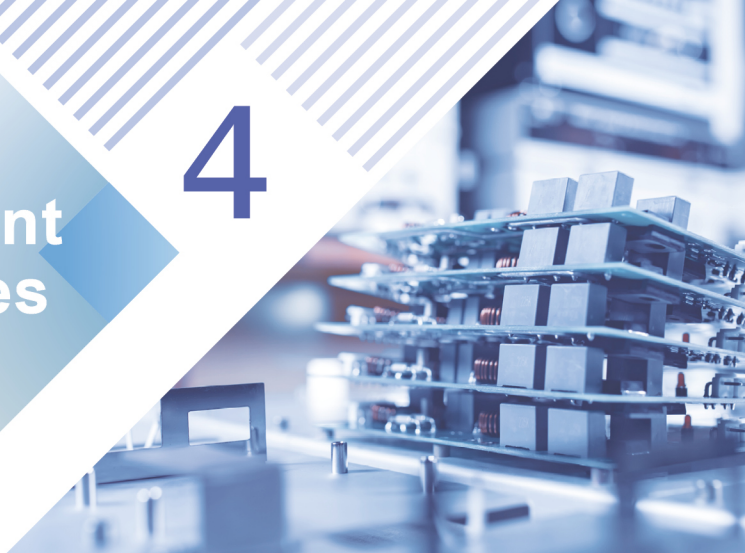
(D) Capturing Growth Opportunities in the Asian Market by Establishing Functional Operations Centers in Taiwan

Against a backdrop of heightened geopolitical tensions and intensified technology competition, the global semiconductor supply chain is undergoing accelerated restructuring toward regionalization and decoupling from China. Governments worldwide are implementing subsidy policies, export controls, and technology transfer restrictions to strengthen domestic manufacturing capacity and reduce reliance on China. With its comprehensive and highly vertically integrated semiconductor ecosystem, Taiwan remains a global hub for technology collaboration and manufacturing.

As region-specific, dedicated-facility production models take shape, demand for after-sales services is rising. Foreign companies can leverage Taiwan as a service hub for the Asian market by establishing equipment repair, refurbishment, training, testing, or parts/module logistics centers, thereby seizing the growth opportunities of Asia's semiconductor industry.

Investment Incentives

4



(A) Tax Incentives

In addition to the standard 20% profit-seeking enterprise income tax rate, Taiwan offers the following tax incentives to encourage foreign investment, support industrial innovation, and promote industry–academia collaboration (Table 1) :

Table 1 Tax Incentives

Incentive	Details
R&D Expenditure	Companies may deduct up to 15% of qualified R&D expenditures from their profit-seeking enterprise income tax in the current year, or up to 10% spread evenly over three years.
Technology Licensing	Royalties paid to foreign companies for imported technologies or products involving patents, copyrights, or other proprietary rights are exempt from profit-seeking enterprise income tax, subject to MOEA approval.
Equipment Procurement	- Companies or limited partnerships that invest NT\$1 million–NT\$2 billion in smart machinery, 5G systems, cybersecurity, AI, or energy-saving and carbon-reduction technologies may choose: (1) up to 5% of the expenditure deducted in the current year, or (2) up to 3% deducted over three years, with an annual cap of 30% of income tax payable. - Imported machinery which local manufacturers cannot produce are eligible for import tariff exemption.

Employee Stock Compensation	Employees receiving up to NT\$5 million in stock-based compensation may defer taxation until the shares are actually transferred (e.g., sold or gifted), rather than having them taxed in the year they are granted.
Foreign Specialist Professional	Qualified foreign professionals are exempt from income tax on 50% of annual salary income exceeding NT\$3 million, which is not included in their consolidated taxable income.
Tax Incentives for Businesses in industrial parks	Companies that move into technology industrial parks (TIP), science parks, and free trade zones (FTZ) are exempted from import tariffs, excise tax, and business tax on machinery and equipment, raw materials, fuel, supplies, and semi-finished products.
Miscellaneous Sources	Companies or limited partnerships can reinvest their undistributed earnings within three years following the year they were generated. Provided that it meets a certain threshold, investments used for constructing or purchasing buildings, hardware, software, or technology for business operations, may be deducted from the current year's undistributed earnings, exempting them from the additional 5% profit-seeking enterprise income tax.

(B) Investment Incentives

Global Innovation Partnership Initiatives Program

To encourage foreign enterprises with complementary strengths to conduct innovative R&D in Taiwan, the government provides funding of up to 50% of total R&D expenses for projects that are jointly developed with local partners and exceed Taiwan's current industrial capabilities. Eligible projects must deliver strategic value—such as developing critical or integrative technologies needed by industry, enhancing R&D efficiency, accelerating commercialization, building R&D supply chains, or expanding international market reach—and are subject to approval by the Ministry of Economic Affairs.

Taiwan Industry Innovation Platform Program (TIIP)

To guide the industry towards high-value development and encourage companies to enter the high-end product application market to enhance the overall industry's added value rate, the MOEA Industrial Development Administration is promoting the Taiwan Industry Innovation Platform Program (TIIP), which provides thematic R&D project subsidies of 40-50% for companies with R&D teams in Taiwan and up to 40% subsidy for self-proposed R&D projects from enterprises.

5

Representative Taiwan Businesses



IC Design

In 2024, three Taiwanese companies—MediaTek, Novatek, and Realtek—ranked among the world’s top 10 IC design firms.

▼ MediaTek

MediaTek is the world’s fifth-largest IC design company, specializing in mobile communications, AI, smart home, and connectivity chipsets. It has launched a series of 5G- and generative AI-enabled chips, including the Dimensity 6300, 7200, and 9300, while its first 3nm chip—the Dimensity 9400—has entered mass production. The company is also expanding into high-end applications and smart ecosystems with solutions such as Wi-Fi 7 (Filologic 860/360), its automotive platform (Dimensity Auto, in partnership with NVIDIA), and AI edge computing (Genio 700).

▼ NovaTek

NovaTek is the world’s second-largest supplier of display driver ICs. The company has long focused on developing image display and digital multimedia technologies. In 2024, it invested NT\$2 billion in a new R&D center in the Southern Taiwan Science Park, scheduled for completion in 2027, with an expected output value of NT\$30 billion and creation of 1,000 jobs. Its product portfolio includes display driver ICs, 6nm system-on-chips (SoCs), 8K 120Hz display chips, CNN 3.0 chips, and e-paper chips, with strengths in AI imaging, energy efficiency, and edge computing applications.

▼ RealTek

A leading global IC provider, Realtek is actively integrating AI technologies to enhance product design and testing efficiency, improving its evaluation of Power, Performance, and Area (PPA) through advanced EDA tools. The company is focused on developing Wi-Fi 6/6E/7 and 2.5GbE high-speed network chips, widely adopted in gaming and flagship devices. In the audio-visual sector, Realtek is enhancing AI-powered image recognition and processing features. In the automotive market, it is concentrating on high-resolution audio and AI image processing, while developing high-speed Ethernet and Port Physical Layer (PHY) solutions. These advancements continue to strengthen Realtek’s competitive edge across networking, consumer electronics, and PC segments.



IC Manufacturing

Taiwan holds over 60% of the global market share in semiconductor foundry services, with TSMC leading the industry. In advanced processes below 7nm, TSMC alone accounts for more than 90% of global market share. As of 2024, four of the world's top ten wafer foundries are Taiwanese companies: TSMC, UMC, VIS (Vanguard International Semiconductor), and PSMC (Powerchip Semiconductor Manufacturing Corporation).

▼ TSMC

TSMC is the world's largest semiconductor foundry, with a market capitalization of approximately US\$915 billion in 2025—ranking tenth globally and first in Asia. Advanced nodes (7nm and below) account for over 70% of its revenue, with mass production for more than 11,000 products across 500+ customers. Its 3nm process has expanded into AI and data center applications, alongside the rollout of 3DFabric™, an advanced 3D IC platform integrating CoWoS, InFO, and SoIC packaging technologies to accelerate heterogeneous integration. TSMC's 2025 capital expenditure is projected to reach US\$42 billion, supporting the construction of nine new fabs across Taiwan, the US, Japan, and Germany—including a 2nm fab in Arizona (mass production in 2028) and the operational Kumamoto fab in Japan, with a second facility to be completed by 2027.

▼ United Microelectronics Corporation (UMC)

UMC is the world's third-largest semiconductor foundry, specializing in 14nm FinFET, 22nm ultra-low power (ULP) and ultra-low leakage (ULL) nodes, as well as a 28nm high-performance computing (HPC) platform. The company is also advancing mmWave process technologies targeting 55nm, 40nm, and 28nm nodes for high-performance or low-power applications in IoT, 5G, automotive, and industrial radar sectors. UMC has also partnered with Japan's DENSO to establish a 12-inch IGBT production line in Japan, entering the automotive-specific semiconductor market.

▼ Vanguard International Semiconductor Corporation (VIS)

VIS focuses on power management, display drivers, automotive electronics, fingerprint sensors, IoT, and micro-electromechanical Systems (MEMS) applications. To meet the demands of the IoT era, the company continues to develop embedded Non-Volatile Memory (eNVM) or embedded flash technologies. Its 0.18μm General MCU and touch ICs have entered mass production, while 0.11μm process development is actively underway.

▼ Powerchip Semiconductor Manufacturing Corp. (PSMC)

PSMC operates four 12-inch and two 8-inch fabs, with an annual capacity exceeding 2.1 million 12-inch equivalent wafers. It focuses on mature nodes above 28nm, serving IoT, industrial, and automotive applications. The company is also developing 3D interchip technologies that integrate memory and logic, delivering a foundry platform optimized for high performance, low power, and high integration.



IC Packaging and Testing (OSAT)

Taiwan leads the world in IC packaging and testing, with a comprehensive industrial cluster and strong global presence. In 2024, four Taiwanese companies ranked among the world's top ten OSAT providers, including ASE Technology, PTI, and King Yuan Electronics Co. (KYECC).

▼ ASE Technology

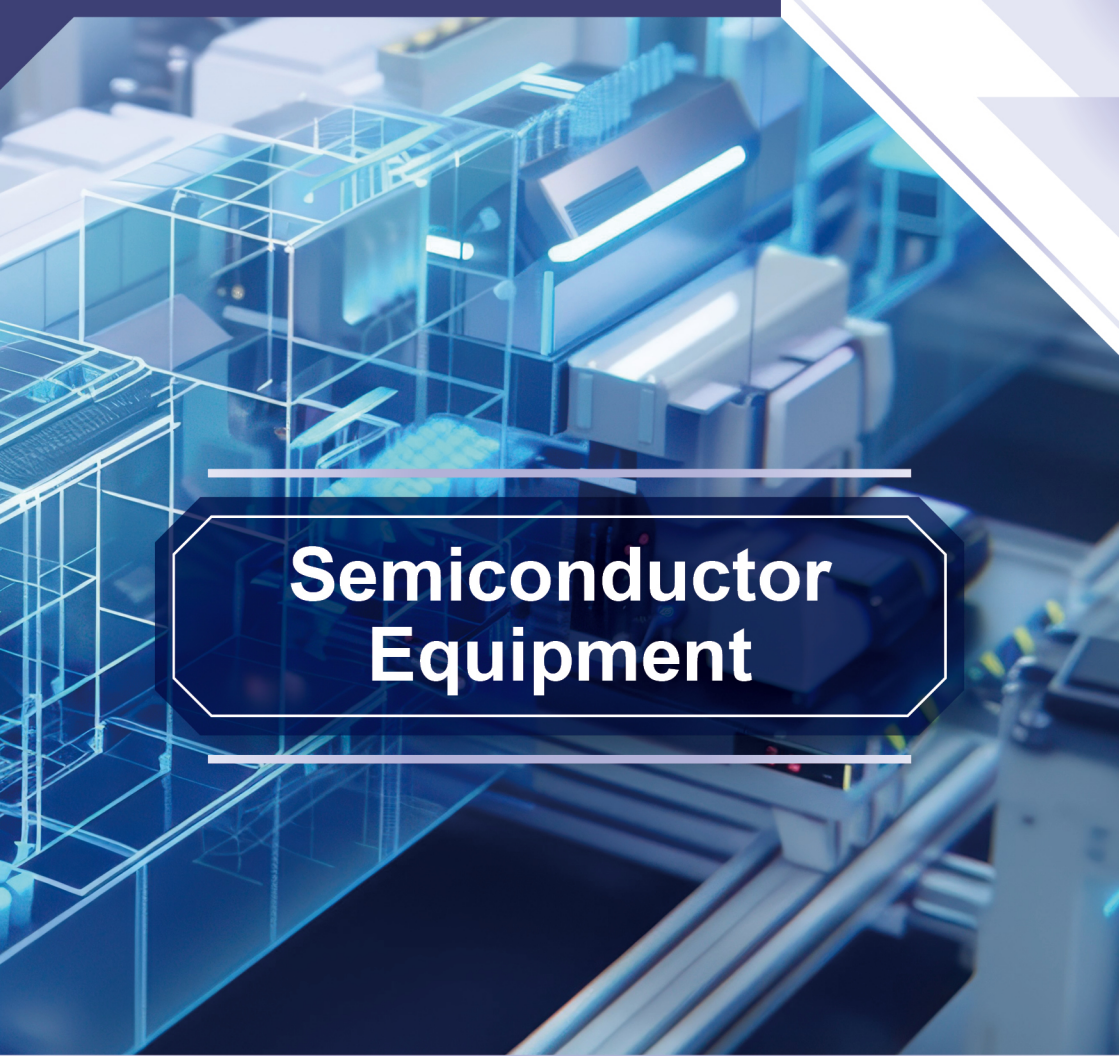
The world's largest provider of semiconductor packaging and testing services, covering wafer probing, wafer-level packaging, system-in-package (SiP), final testing, and electronics manufacturing services (EMS). In response to rising demand from AI, high-performance computing, 5G, and automotive electronics, ASE is actively expanding its advanced packaging capacity. Capital expenditures are projected to reach up to US\$1.9 billion in 2025, with a focus on strengthening key technologies such as CoWoS, fan-out panel-level packaging (FOPLP), and 2.5D/3D packaging.

▼ Powertech Technology Inc. (PTI)

A global leader in memory packaging and testing, PTI offers a full range of services from wafer bumping to finished product shipment. In recent years, the company has been actively expanding into advanced packaging, including system-in-package (SiP), radio frequency (RF) packaging, wafer-level chip scale packaging (WLCSP), through-silicon via (TSV), and CMOS image sensor (CIS) technologies, with applications in medical, automotive, and surveillance sectors. PTI has also established an RF laboratory and completed antenna-in-package (AiP) packaging verification, positioning itself for growth in 5G and smart healthcare while maintaining competitiveness in the high-end packaging market.

▼ King Yuan Electronics Co., Ltd. (KYEC)

The world's largest dedicated semiconductor testing company and the second largest globally by testing revenue, specializing in wafer probing, IC final testing, burn-in, and advanced post-packaging testing. KYEC operates three advanced facilities in Hsinchu, Zhunan, and Tongluo, and has service locations in North America, Japan, and Singapore. Its fourth plant in Tongluo is currently undergoing capacity expansion, with a focus on meeting testing demand for AI and high-performance computing applications.



Semiconductor Equipment

In recent years, Taiwan's direct exports of semiconductor equipment have risen sharply, with mainland China, Singapore, the United States, and the Netherlands as the four largest export destinations, accounting for over 70% of total exports. Taiwanese equipment makers are primarily engaged in traditional packaging equipment, contract manufacturing of modules, and components for major international companies. Domestic suppliers such as FITI Group in Applied Materials' supply chain, Gudeng Precision in ASML's supply chain, and Scientech in TSMC's CoWoS supply chain are among the Taiwan-based vendors integrated into the global market.

▼ FITI Group

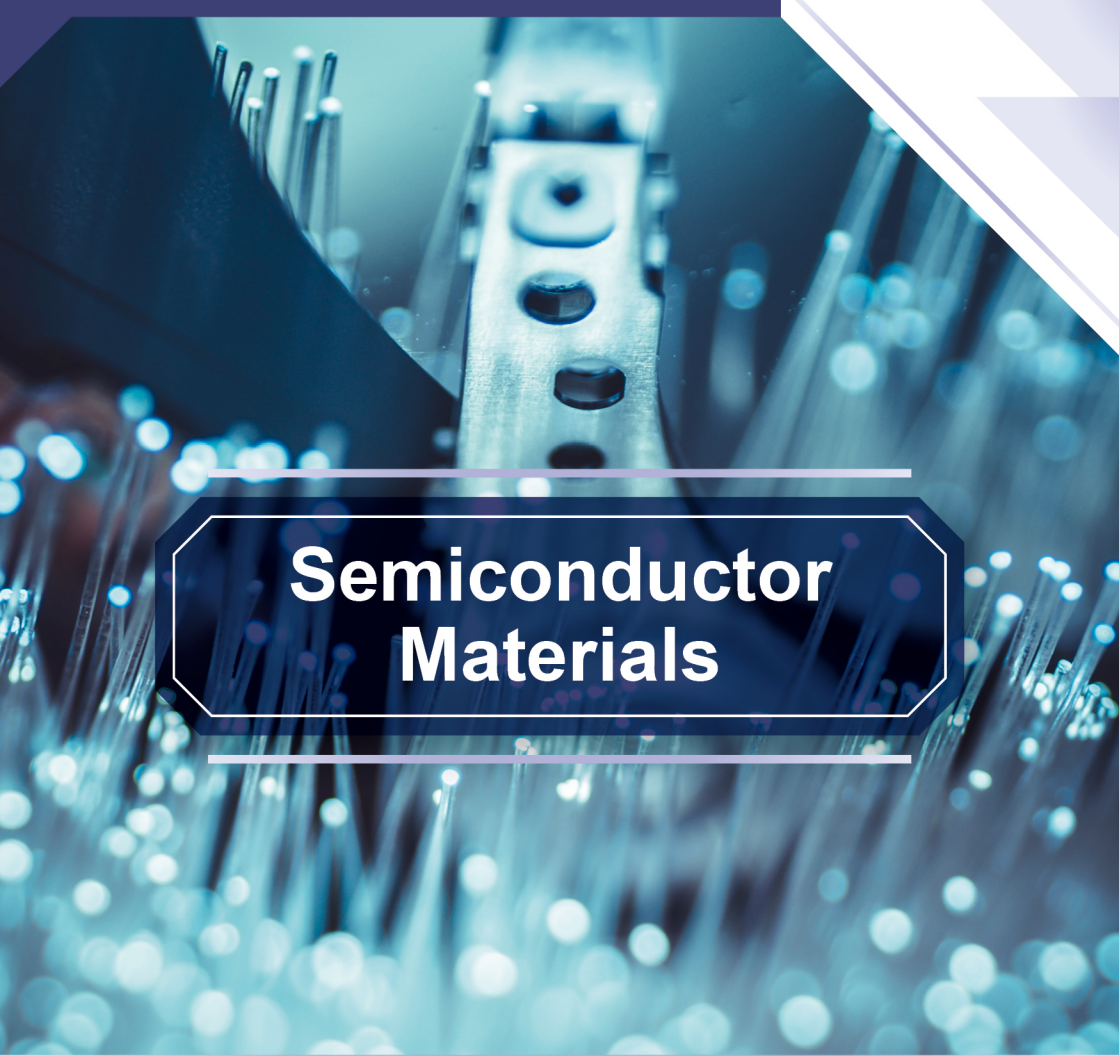
An affiliate of the Hon Hai (Foxconn) Group, FITI primarily produces key modules and components for front-end semiconductor manufacturing equipment, and also develops and manufactures high-end semiconductor and industrial automation equipment. The company also provides integrated solutions and designs and manufactures medical equipment. FITI operates manufacturing bases in Zhunan, Taiwan, and has sales offices in California and Texas, USA. With precision component manufacturing and mechatronics integration as its core capabilities, FITI is one of the few companies in the industry capable of achieving vertical integration for high-end equipment.

▼ Gudeng Precision

A global leader in critical materials and advanced photomask carrier solutions, Gudeng holds the world's No.1 market share for EUV pods used in sub-7nm processes, serving major semiconductor companies worldwide as its primary customers. In 2020, the company obtained the aerospace AS9100D certification, expanding into the precision parts market for aerospace applications and successfully entering the supply chains of the world's two largest commercial aircraft manufacturers. With product portfolios spanning both the semiconductor and aerospace sectors, Gudeng is among the few Taiwanese companies active in these two industries.

▼ Scientech

A leading Taiwanese manufacturer of advanced process equipment for the semiconductor and optoelectronics industries, Scientech's products cover applications in semiconductors, chemical biotechnology, LEDs, solar cells, LCDs, and packaging and testing. The company produces in-house wet process equipment and advanced packaging tools, holding over 50% domestic market share in LED front-end wet process systems. It also provides 12-inch semiconductor wafer reclamation services, making it the leading provider in Taiwan. With more than 40 years of experience in the semiconductor and optoelectronics industries, Scientech has expanded into biomedical and environmental fields, establishing a solid customer base and strong technical capabilities.



Semiconductor Materials

Taiwan holds a key global position in wafer fabrication and IC packaging and testing. Under the government's Five Trusted Industry Sectors initiative, the semiconductor sector focuses on IC design, equipment, and materials. In addition to advancing IC design for cutting-edge processes, the initiative accelerates localization of semiconductor materials and equipment to strengthen supply chain resilience. Key material categories include specialty chemicals, photoresists, silicon wafers, and specialty gases. Leading Taiwanese companies such as GlobalWafers, AEMC, and Shiny Chemical Industrial Co. Ltd play pivotal roles in the global semiconductor materials market.

▼ GlobalWafers

The largest silicon wafer supplier in Taiwan and the third largest globally. The company offers a complete 3- to 12-inch wafer production line, covering crystal growth, slicing, grinding, diffusion, epitaxy, and polishing. It produces high value-added products including epitaxial wafers, SOI wafers, FZ silicon wafers, and compound semiconductor materials. Applications span power management, automotive power components, communications, and MEMS devices. GlobalWafers is also investing in silicon photonics and compound semiconductor technologies to capture future market opportunities.

▼ AEMC (Advanced Echem Materials Company)

The only company in Taiwan solely focused on specialty chemical materials for advanced lithography processes. AEMC is dedicated to the R&D and production of chemical materials for semiconductors and display applications. Since 2020, it has expanded its R&D base in Taoyuan and established manufacturing sites in Tainan and Kaohsiung Science Park. The company invests approximately 10% of its annual revenue in R&D and employs a team of over 100 researchers focused on custom synthesis and innovative formulations. It provides key front-end process chemicals and advanced packaging materials for semiconductors, offering rapid development and customized services. AEMC is a key local supplier in Taiwan's materials ecosystem.

▼ Shiny Chemical

The second-largest producer of electronic-grade solvents in Taiwan, Shiny Chemical specializes in high-purity process chemicals used in semiconductors, photoresist manufacturing, packaging and testing, and LED production. It operates nine manufacturing sites and three R&D laboratories, with in-house capabilities for refining high-purity solvents and producing custom formulations. Its products are widely used in developer solutions, cleaning agents, and etching processes. In 2023, it was honored by TSMC with the excellent chemical supplier award and the supplier ESH (Environment, Safety, and Health) award, underscoring its vital role in the semiconductor supply chain.

Landmark Foreign Investments

6



In recent years, as the global semiconductor industry's center of gravity has shifted toward Asia, Taiwan has leveraged its comprehensive industrial ecosystem, stable production environment, and strong talent pool to attract substantial additional investment from foreign companies. These investments span the entire value chain—from materials supply, equipment manufacturing, and chip design to wafer foundry, packaging and testing, and cloud applications—further consolidating Taiwan's central position in the global semiconductor supply chain.

Furthermore, in response to the growing demand in Asian markets for high-performance computing (HPC) and semiconductor equipment, foreign enterprises have been setting up operations centers, technical training facilities, and maintenance support sites in Taiwan to strengthen local services and supply chain synergies, accelerating Taiwan's emergence as a key hub for high-tech operations and technical support in the Asia-Pacific region.

1. NVIDIA (US)

In recent years, NVIDIA has significantly expanded its investments and presence in Taiwan, spanning AI supercomputers, R&D centers, industry collaboration, and talent cultivation. Initiatives include establishing its Asia-Pacific finished goods warehouse at the Farglory Free Trade Zone in Taoyuan Airport; setting up the Taipei-1 advanced AI supercomputing center in the Kaohsiung Software Park; and collaborating with Hon Hai to establish Taiwan's first AI factory equipped with 10,000 Blackwell GPUs. NVIDIA continues to work with supply chain partners to drive AI R&D, ecosystem development, and talent cultivation, positioning Taiwan as the global heart of AI innovation.

2. Advanced Micro Devices (AMD, US)

AMD opened R&D offices in Shalun, Tainan, and the Asia New Bay Area in Kaohsiung in 2025, focusing on the development of AI computing, silicon photonics, and heterogeneous integrated chips. The company is inviting domestic companies to participate in joint R&D, which is expected to spur additional NT\$15 billion in new investments. AMD is also collaborating with National Cheng Kung University, National Yang-Ming Chiao Tung University, and National Sun Yat-sen University to cultivate local AI talent.

3. MERCK (Germany)

Merck has invested approximately NT\$17 billion to establish its first large-scale semiconductor materials manufacturing and applications R&D center worldwide in Taiwan. Production will cover thin film materials, specialty gases, and planarization materials to support advanced process requirements. The facilities are scheduled for phased completion starting in 2025. This campus marks a key milestone in Merck's Level Up growth program and will serve as a critical hub for strengthening the company's global semiconductor materials supply chain.

4. Entegris (US)

A leading global supplier of advanced materials and process solutions for the semiconductor and high-tech industries. In 2023, the company invested approximately NT\$15 billion in the Southern Taiwan Science Park in Kaohsiung to establish its largest manufacturing site worldwide. The new facility produces advanced liquid filters, high-purity chemical containers, and deposition materials, significantly boosting production capacity. Equipped with energy-saving, waste-reduction, and renewable energy utilization technologies, the plant enhances both sustainability and supply chain resilience.

5. Mitsubishi Chemical (Japan)

In response to the rapid expansion of Taiwan's semiconductor industry and the surging demand for semiconductor-grade specialty chemicals, long-established Hengyi Chemical Co., Ltd and Mitsubishi Chemical have jointly invested NT\$1.2 billion in Miaoli to expand production. The new plant manufactures electronic-grade sulfuric acid, enabling the partners to serve semiconductor customers in the nearby Hsinchu Science Park more quickly, while also reducing transportation costs and enhancing competitiveness.

6. Toray (Japan)

Toray, a leading Japanese fiber and materials manufacturer, focuses on the development of advanced semiconductor technologies and materials, spanning diverse fields such as next-generation packaging release films, EUV lithography nanoparticle dispersion technologies, and water treatment and environmental purification testing. In March 2025, the company announced a new investment plan to establish the Toray Taiwan Technical Center (TTTC), with locations in Taipei City and Hsinchu County. In addition to its existing customer services, TTTC will expand into semiconductor technology and related material R&D, strengthening collaboration in the semiconductor sector.

7. ASML (Netherlands)

The Dutch lithography equipment giant has set up its first overseas Global EUV (extreme ultraviolet) Training Center in the Southern Taiwan Science Park to train EUV specialists in Taiwan. In 2023, ASML launched its largest-ever investment in Taiwan, announcing a NT\$30 billion plant in Linkou, expected to begin operations as early as 2026. With TSMC expanding plants across Taiwan, ASML also plans to open a Kaohsiung office and may add an operations site in Chiayi's Taibao City depending on TSMC's advanced packaging plant needs.

8. Lam Research (US)

A global leader in wafer fabrication equipment and services, Lam Research has been deeply involved in Taiwan's semiconductor industry for over 30 years, with sites in Hsinchu, Linkou, Taichung, Tainan, and Kaohsiung. The company provides advanced technology and services for memory, logic chips, and specialty processes. In 2024, it inaugurated a new Kaohsiung office connecting the Luzhu Science Park and Nanzih Technology Industrial Park, strengthening service and technical support in the Southern Taiwan Semiconductor Corridor ("S-Corridor"). Lam Research also plans to establish an advanced node and high-end process technology R&D center in Taiwan.

9. TRUMPF (Germany)

A global leader in laser technology and machine tools, TRUMPF established its New Office and EUV Training Center in 2023. This facility is the company's first overseas EUV Training Center outside of its German headquarters and is the most technologically advanced EUV training site overseas. It supports training needs for advanced semiconductor manufacturing processes and EUV lithography technology on a global scale.

1. MOEA Official Website

https://www.moea.gov.tw/MNS/populace/news/News.aspx?kind=1&menu_id=40&news_id=113251

2. Executive Yuan Official Website

<https://www.ey.gov.tw/Page/448DE008087A1971/85934011-c705-4b5c-87a4-a0beb8df0c6f>

3. ITRI ISTI (Industry, Science and Technology International Strategy Center) IEKNet

<https://ieknet.iek.org.tw/>

4. Taiwan Semiconductor Industry Association (TSIA)

<https://www.tsia.org.tw/>

5. Industrial Technology Information Service (ITIS)

<https://www.itis.org.tw/>

6. NDC Department of Industrial Development

<https://ws.ndc.gov.tw/Download.ashx?u=LzAwMS9hZG1pbmlzdHJhdG9yLzEwL3JlbGZpbGUvMC8xNTk0NC9kMThiMzViYS02M2ZiLTRmMDMtODdiMS01Y2UwZjY1MWJkZWlucGRm&n=MjAyNOe2k%2ba%2fn%2birluihoV%2fnp4vIraPomZ9fMy0xLuWwiOmhlOWgseWwjl%2fnqanlm7roh7rngaPljYrlsl7pq5TlnlvmpmpvpoJjlhYjl nLDkvY0ucGRm&icon=.pdf>

7. Yahoo News

<https://tw.stock.yahoo.com/news/2024%E5%B9%B4%E5%85%A8%E7%90%83%E5%89%8D%E5%8D%81%E5%A4%A7ic%E8%A8%AD%E8%A8%88%E5%BB%A0%E7%87%9F%E6%94%B6%E6%8E%92%E5%90%8D%E5%87%BA%E7%88%90%EF%BC%81%E8%BC%9D%E9%81%94%E5%B9%B4%E5%A2%9E125%E5%86%8D%E7%A8%B1%E9%9C%B8%E3%80%81%E8%81%AF%E7%99%BC%E7%A7%91%E6%8E%92%E7%AC%AC%E4%BA%94-085435157.html>

8. BusinessNext

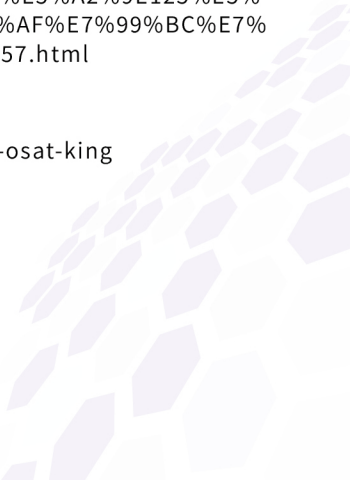
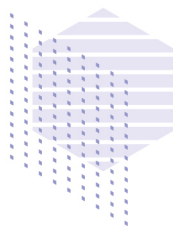
<https://www.bnext.com.tw/article/83257/ase-holdings-osat-king>

9. Market Data Forecast

<https://www.marketdataforecast.com/market-reports/semiconductor-equipment-market>

10. IndustryARC

<https://www.industryarc.com/PressRelease/4136/Semiconductor-Fabrication-Material-Market-Research>



2025 Semiconductors

Key Industries in Taiwan



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