
TAIWAN AND THE GLOBAL SEMICONDUCTOR SUPPLY CHAIN

Edited by:
Chen-Yuan Tung, Ph.D.
Representative
Taipei Representative Office in Singapore

Please feel free to reach out to the Economic Division of the Taipei Representative Office in Singapore should you have any enquiries or are seeking partnership opportunities of investment or collaboration in the field of semiconductors in Taiwan.

Email: singapore@sa.moea.gov.tw

Telephone: +65 6500-0128

Published: Taipei Representative Office in Singapore

Address: 460 Alexandra Road, #23-00 mTower, Singapore 119963

Email: sgp@mofa.gov.tw

Telephone: +65 6500-0100



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IN THE SPOTLIGHT

Taiwan IC Industry

- 2024: Taiwan's IC industry output value reached US\$ 165.6 billion in 2024, a 22.4% annual growth as compared to 2023 as it experienced sizeable growth in most sectors.
- 2025 Q1: Taiwan's IC industry in the first quarter of 2025 saw a significant YoY increase of 27.6% to US\$ 46.4 billion, despite a slight QoQ decline of 0.4%. Taiwan's IC industry achieves strong growth against a typically slower first quarter due to anticipatory U.S. tariffs and demand for AI technologies.
- 2025 outlook: IEK forecasts an overall positive outlook of a close to a one-fifth increase – a projection of US\$ 197.2 billion for Taiwan's IC industry in 2025, with all sectors of the industry set to see 6% to 23% increases from the previous year.

Global Semiconductor Industry

- 2024: The semiconductor market expanded by 19.7% YoY, reaching US\$ 630.5 billion, led by a surge in demand for AI semiconductors.
- 2025 Q1: The global semiconductor industry achieved US\$ 167.7 billion in quarterly sales, sustaining strong YoY growth driven by higher ASPs (up 57.7% since 2021 Q1) and AI-center restocking.
- 2025 outlook: Buoyed by continued AI-infrastructure build-outs and 5G deployments, WSTS projects the global semiconductor industry to climb 12.7% to US\$ 710.4 billion, underscoring ongoing robust demand across regions.

Global Companies

- Global foundries: The world's top 10 foundries saw combined revenue of US\$ 36.4 billion in 2025 Q1. TSMC consolidates its global dominance of 67.6% in market share through cutting-edge technology and innovation in advanced process nodes against Chinese competitors.
- Global fabless companies: The global IC design industry achieves a historic record of US\$ 77.4 billion combined revenue of the top ten companies in 2025 Q1. NVIDIA dominates the sector with a US\$ 42.369 billion revenue and a 54.7% in market share, outpacing its closest competitors.

Taiwan IC Industry in 2024

According to the Industrial Economics and Knowledge Center (IEK) of the Industrial Technology Research Institute (ITRI), Taiwan’s IC industry output value reached US\$ 165.6 billion in 2024, a 22.4% annual growth as compared to 2023 as it experienced sizeable growth in most sectors.

In 2024, the output value of the IC design sector sat at US\$ 39.6 billion, a 16.0% growth increase from 2023. Meanwhile, Taiwan’s IC manufacturing sector grew 28.4% to US\$ 106.5 billion as the sector experienced steady expansion, with wafer foundry increased by 30.1% to US\$ 101.1 billion in revenue compared to 2023. The IC packaging sector has a value of US\$ 13.2 billion, a 7.7% increase from 2023, and the IC testing sector amounted to US\$ 6.2 billion, a 5.0% increase from 2023.

Table 1: Taiwan IC Industry Output Value, 2021–2024

	2021 (US\$ B)	2021 Growth (%)	2022 (US\$ B)	2022 Growth (%)	2023 (US\$ B)	2023 Growth (%)	2024 (US\$ B)	2024 Growth (%)
IC Industry Output^a	127.1	26.7%	150.6	18.5%	135.2	-10.2%	165.6	22.4%
IC Design	37.8	42.4%	38.4	1.4%	34.1	-11.0%	39.6	16.0%
IC Manufacturing^b	69.4	22.4%	90.9	31.0%	82.9	-8.8%	106.5	28.4%
Foundry	60.4	19.1%	83.6	19.1%	77.6	-7.2%	101.1	30.1%
Memory & Other	9.0	51.0%	7.3	-18.2%	5.3	-27.8%	5.5	3.3%
IC Packaging	13.6	15.3%	14.5	7.0%	12.2	-15.6%	13.2	7.7%
IC Testing	6.3	18.2%	6.8	7.7%	5.9	-12.8%	6.2	5.0%
IC Product Output^c	46.8	44.0%	45.7	-2.3%	39.4	-13.7%	45.1	14.3%
Global Semi Market	555.9	26.2%	574.1	3.3%	526.9	-8.2%	630.5	19.7%

Notes:

a. IC Industry Output = IC Design + Manufacturing + Packaging + Testing

b. IC Manufacturing = Foundry + Memory and Other Manufacturing

c. IC Product Output= IC Design + Memory and Other Manufacturing

d. Output values are calculated based on companies headquartered in Taiwan

Source: Chia-Chen Lee, “Taiwan IC Industry Development in 2025Q1,” IEK, ITRI, June 9, 2025, p. 6.

Taiwan IC Industry in 2025

IEK reports that the total production value of Taiwan's IC industry in the first quarter of 2025 saw a significant year-on-year (YoY) increase of 27.6% to US\$ 46.4 billion from Q1 of last year, despite a slight quarter-on-quarter (QoQ) decline of 0.4%.

The growth was primarily driven by China's stimulus policies, which propelled pull-in demand for laptops, telecommunication products, and smartphones amid uncertainty over tariffs imposed by the Trump administration. These factors led to stronger-than-expected performance, with the usual seasonal downturn being offset by a rebound, giving Q1 revenues an unexpected boost.

In the first quarter of 2025, Taiwan's IC design industry output reached US\$ 11.3 billion—an 8.4% rise over 2024 Q4 and a 6.3% YoY increase.

In 2025 Q1, Taiwan's IC manufacturing output totaled US\$ 30.2 billion—down 2.8% QoQ but up 34.6% YoY. Within this, wafer foundry revenues fell 3.3% QoQ to US\$ 28.9 billion, weighed by the traditional seasonal slowdown, softer smartphone demand, and a slight drop in 3 nm contribution, yet climbed 36.1% YoY; conversely, memory and other manufacturing climbed 8.2% QoQ to US\$ 1.3 billion and, despite a 3.6% YoY dip, benefited from a low base in 2024 Q4 and stronger shipments from Nanya, Winbond, and Macronix.

Meanwhile, IC packaging and testing revenues were US\$ 3.3 billion and US\$ 1.6 billion, respectively—declining 3.7% and 2.3% QoQ but showing YoY changes of a 5.0% decline for packaging and an increase of 3.5% for testing—as weaknesses in smartphones and consumer electronics weighed on logic-IC and memory-packaging services, offset by steady automotive and AI-compute orders.

Table 2: Taiwan IC Industry Output Value - 2025 Q1

	2025 Q1 (US\$ B)	QoQ	YoY
IC Industry Output ^a	46.4	-0.4%	27.6%
IC Design	11.3	8.4%	6.3%
IC Manufacturing ^b	30.2	-2.8%	34.6%
Foundry	28.9	-3.3%	36.1%
Memory & Other	1.3	8.2%	-3.6%
IC Packaging	3.3	-3.7%	-5.0%
IC Testing	1.6	-2.3%	3.5%
IC Product Output ^c	12.6	8.4%	17.3%

Notes:

a. IC Industry Output = IC Design + Manufacturing + Packaging + Testing

b. IC Manufacturing = Foundry + Memory and Other Manufacturing

c. IC Product Output= IC Design + Memory and Other Manufacturing

d. Output values are calculated based on companies headquartered in Taiwan

Source: Chia-Chen Lee, "Taiwan IC Industry Development in 2025Q1," IEK, ITRI, 2025, June 9, p. 5.

IEK forecasts an overall positive outlook of a close to a one-fifth increase – a projection of US\$ 197.2 billion for Taiwan’s IC industry in 2025 (see Table 3), with all sectors of the industry set to see 6% to 23% increases from the previous year.

This growth is led by IC manufacturing, at US\$ 131.1 billion, up 23.1%—with wafer foundry accounting for US\$ 125.1 billion, a 23.8% rise, and memory and other manufacturing contributing US\$ 6.0 billion, up 9.3%; IC design, projected to reach US\$ 45.2 billion, up 13.9%; IC packaging, at US\$ 14.4 billion, growing 9.0%; and IC testing, at US\$ 6.6 billion, expanding 6.0%.

Table 3: Taiwan IC Industry Output Value - 2025 onwards

	2025 Q2(e) (US\$ B)	QoQ	YoY	2025 Q3(e) (US\$ B)	QoQ	YoY	2025 Q4 (e) (US\$ B)	QoQ	YoY	2025(e) (US\$ B)	YoY 2025
-											
IC Industry Output^a	47.7	2.9%	20.6%	51.3	7.4%	18.9%	51.8	1.1%	11.4%	197.2	19.1%
IC Design	11.1	1.5%	14.1%	11.6	4.1%	13.9%	11.2	3.0%	7.8%	45.1	13.9%
IC Manufacturing^b	31.5	4.5%	25.3%	34.2	8.6%	22.5%	35.2	2.9%	13.4%	131.1	23.1%
Foundry	30.1	4.3%	27.0%	32.6	8.4%	23.1%	33.6	2.9%	12.5%	125.1	23.8%
Memory & Other	1.4	9.0%	-1.3%	1.6	11.5%	12.3%	1.6	2.3%	34.6%	6.0	9.3%
IC Packaging	3.5	4.6%	9.4%	3.8	9.4%	9.8%	3.8	1.5%	8.6%	14.4	9.0%
IC Testing	1.6	1.9%	8.7%	1.7	3.0%	7.3%	1.7	0.7%	1.9%	6.6	6.0%
IC Product Output^c	12.5	0.4%	12.1%	13.2	4.9%	13.7%	12.8	2.3%	10.6%	51.1	13.4%
Global Semi Market	-	-	-	-	-	-	-	-	-	710.4	12.7%

Notes:

(e) indicates estimate.

a. IC Industry Output = IC Design + Manufacturing + Packaging + Testing

b. IC Manufacturing = Foundry + Memory and Other Manufacturing

c. IC Product Output= IC Design + Memory and Other Manufacturing

d. Output values are calculated based on companies headquartered in Taiwan

Source: Chia-Chen Lee, "Taiwan IC Industry Development in 2025Q1," IEK, ITRI, 2025, June 9, p. 5.

From 2021 through the 2024 estimations (see Table 4), Taiwan’s IC industry expanded, rising from about US\$ 127.1 billion in 2021 to US\$ 165.5 billion in 2024. The fastest-growing segment was wafer foundry, which climbed from US\$ 60.4 billion to US\$ 101.0 billion, driven by surging demand for advanced process nodes. Overall IC manufacturing jumped from US\$ 69.4 billion to US\$ 106.5 billion, outpacing IC design, which grew from US\$ 37.8 billion to US\$ 39.6 billion as AI and 5G chips fueled long-cycle design wins.

Within manufacturing, memory and other production was highly cyclical—peaking early, dipping from US\$ 9.0 billion in 2021 to US\$ 5.3 billion in 2023, and recovering slightly to about US\$ 5.5 billion by 2024. The combined IC product output (design and memory-&-other) fell from US\$ 46.8 billion in 2021 to US\$ 39.4 billion in 2023 before rebounding to US\$ 45.1 billion by 2024.

IC packaging remained a relatively stable from US\$ 13.6 billion in 2021 to US\$ 13.2 billion in 2024, while IC testing maintained at US\$ 6.2 billion business in 2024.

IEK forecasts an overall upward trend in output value across all IC industry subsectors in 2025. In total, the IC industry is expected to grow by 19.1%, reaching US\$ 197.2 billion. The foundry and IC design subsectors are projected to see the largest year-on-year increases in 2025. The foundry sector is forecast to grow by 23.8% to US\$ 125.1 billion, while the IC design sector is expected to expand by 13.9% to US\$ 45.1 billion. A key factor driving this growth is likely the robust demand for AI chips, despite the uncertainties in the international trade environment.

Table 4: Taiwan IC Industry Output Value, 2021-2025 Estimate

	2021 (US\$ B)	2021 Growth (%)	2022 (US\$ B)	2022 Growth (%)	2023 (US\$ B)	2023 Growth (%)	2024 (US\$ B)	2024 Growth (%)	2025 (e) (US\$ B)	2025 Growth (%)
IC Industry Output^a	127.1	26.7%	150.6	18.5%	135.2	-10.2%	165.5	22.4%	197.2	19.1%
IC Design	37.8	42.4%	38.4	1.4%	34.1	-11.0%	39.6	16.0%	45.1	13.9%
IC Manufacturing^b	69.4	22.4%	90.9	31.0%	82.9	-8.8%	106.5	28.4%	131.1	23.1%
Foundry	60.4	19.1%	83.6	19.1%	77.6	-7.2%	101.0	30.1%	125.1	23.8%
Memory & Other	9.0	51.0%	7.3	-18.2%	5.3	-27.8%	5.5	3.3%	6.0	9.3%
IC Packaging	13.6	15.3%	14.5	7.0%	12.2	-15.6%	13.2	7.7%	14.4	9.0%
IC Testing	6.3	18.2%	6.8	7.7%	5.9	-12.8%	6.2	5.0%	6.6	0.6%
IC Product Output^c	46.8	44.0%	45.7	-2.3%	39.4	-13.7%	45.1	14.3%	51.1	13.4%
Global Semi Market	555.9	26.2%	574.1	3.3%	526.9	-8.2%	630.5	19.7%	710.4	12.7%

Notes:

(e) indicates estimate.

a. IC Industry Output = IC Design + Manufacturing + Packaging + Testing

b. IC Manufacturing = Foundry + Memory and Other Manufacturing

c. IC Product Output= IC Design + Memory and Other Manufacturing

d. Output values are calculated based on companies headquartered in Taiwan

Source: Chia-Chen Lee, “Taiwan IC Industry Development in 2025Q1,” IEK, ITRI, 2025, June 9, p. 6.

As seen in Figure 1, Taiwan’s IC ecosystem has more than tripled in size over the past decade, scaling from roughly US\$ 68.6 billion in 2014 to US\$ 165.5 billion in 2024.

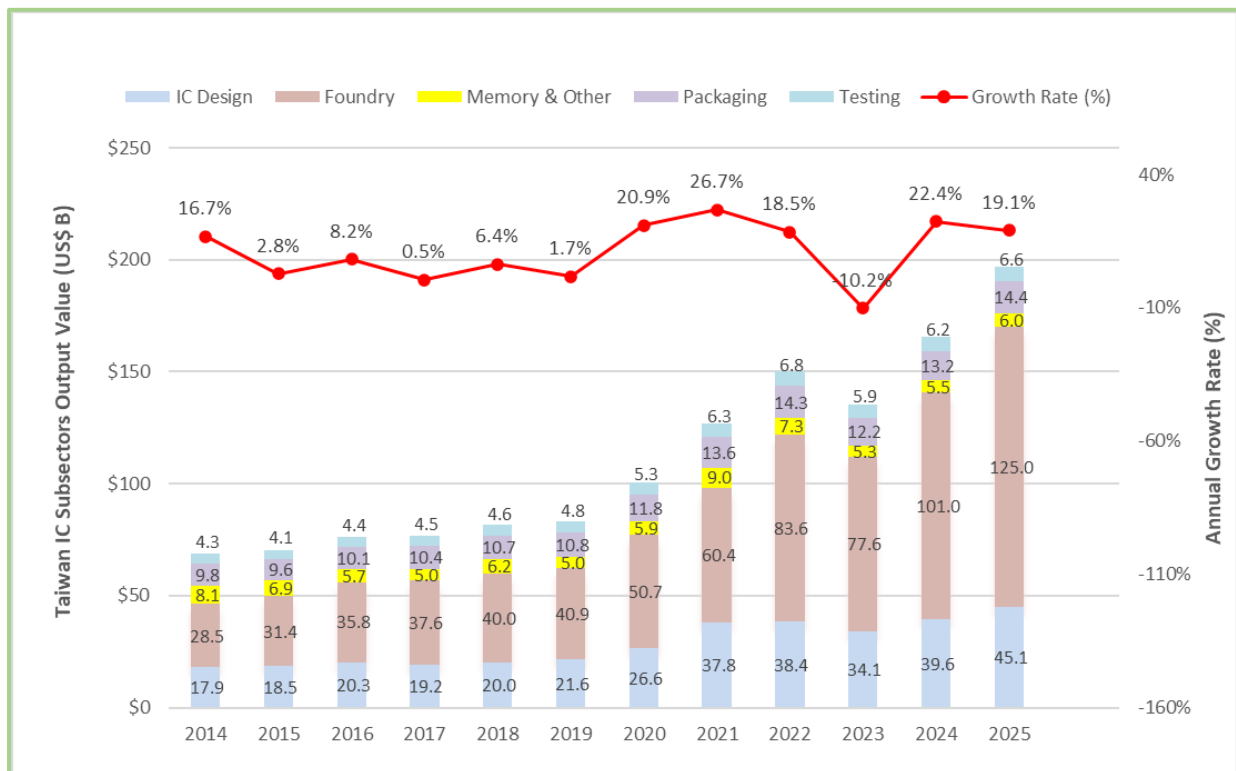
The chart’s stacked bars show wafer foundry (tan) as the engine of growth—soaring from around US\$ 28.5 billion in 2014 to US\$ 101.0 billion in 2024—while IC design (blue) climbed steadily from US\$ 17.9 billion to US\$ 39.6 billion.

Memory & other (yellow) maintained at US\$ 5-9 billion—starting from US\$ 5 billion in 2014, dipping to US\$ 5 billion in 2017, peaking US\$ 9 billion in 2021, then settling back to US\$ 5.5 billion in 2024. As of backend services, IC packaging and IC testing remained relatively stable in the US\$ 4–7 billion and US\$ 10-14 billion range, respectively.

The growth-rate (red) line shows 16.7% growth in 2014 and below 10% between 2015 and 2019, a COVID-era surge to 26.7% in 2021, a dramatic downturn of –10.2% in 2023, and a strong rebound of 22.4% in 2024—underscoring how AI and data-center demand have turbocharged Taiwan’s foundry and design segments while the memory, packaging, and test sectors followed.

In 2025, Taiwan’s IC industry is projected to reach US\$ 197.2 billion, a 19.1% increase over 2024. Wafer foundry is set to remain the growth engine at US\$ 125.0 billion, while IC design will expand to US\$ 45.1 billion. Memory & other manufacturing is forecast at US\$ 6.0 billion, and the backend segments will each post solid gains—IC packaging to US\$ 14.4 billion and IC testing to US\$ 6.6 billion.

Figure 1: Output Value of Taiwan's Semiconductor Subsectors(2014-2025(e))



Source: Chia-Chen Lee, "Taiwan IC Industry Development in 2025Q1," IEK, ITRI, 2025, June 9, p. 7.

Foundry sector saw its share increase dramatically from 41.5% in 2014 to 61.0% in 2024 due to TSMC being at the forefront of the market foundries. As TSMC expands its supply chain globally and prepares to capitalize on the AI revolution with various strategies, its output value of foundries increases exponentially in response.

All other subsectors – IC design, packaging, testing and others see a decrease in output ratio from 2014 in 2024. For instance, the share of memory related sector shrinks from 11.8% in 2014 to 3.3% in 2024, and that of IC packaging declined from 14.3% to 8.0%.

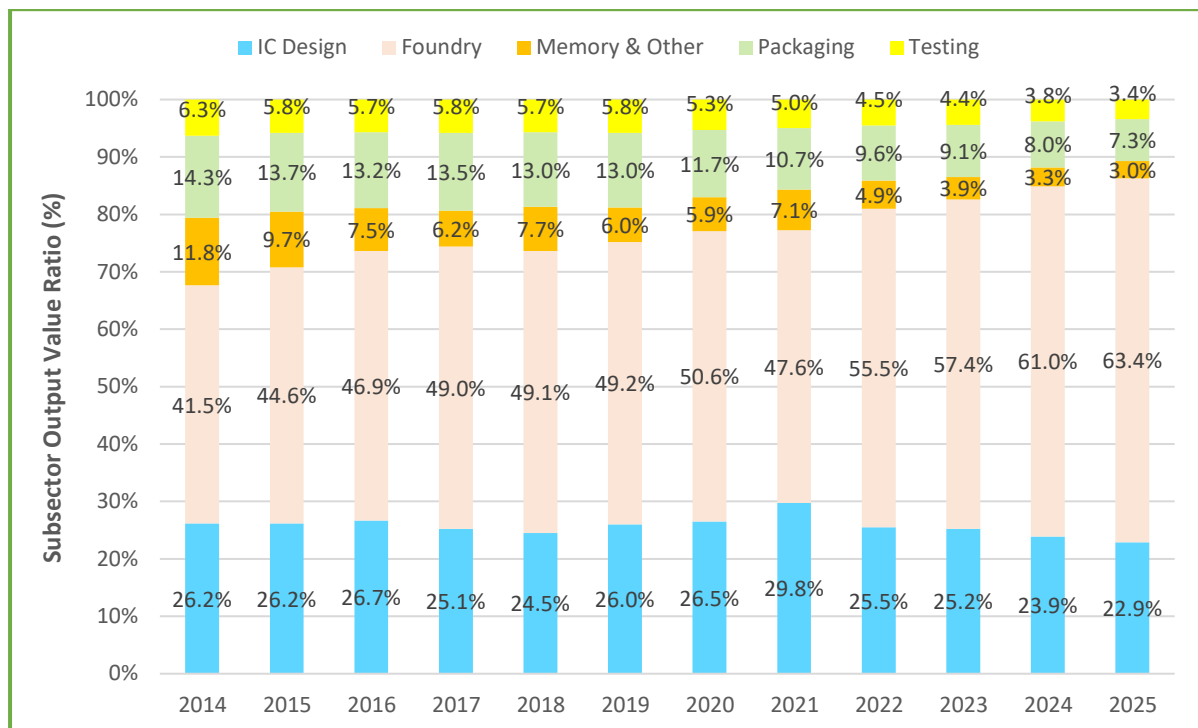
During the first quarter of 2025, the IC industry achieved a production value of US\$ 46.4 billion, a sum which displays an upwards trend of 27.6% increase from the first quarter of 2024.

Looking ahead for the rest of 2025, IEK forecasts AI applications to continue penetrating high-end smartphones, PCs, edge devices, and related hardware

areas, driving market demand for AI chips and ASIC design services. As a robust consumer demand for AI computing capabilities intensifies, IC foundries and packaging-and-testing firms stand to benefit from the continued expansion of advanced process capacity required for AI chips, boosting overall output performance of the industry.

Overall, despite uncertainties in the current global political and economic landscape, IEK projects thae share of the foundry in Taiwan’s semiconductor industry to continue to expand to 63.4%, 2.4 percentage increase in 2025 compared to 2024.

Figure 2: Structural Share Trends of Taiwan's Semiconductor Industry



Source: Chia-Chen Lee, “Taiwan IC Industry Development in 2025Q1,” IEK, ITRI, 2025, June 9, p. 7.

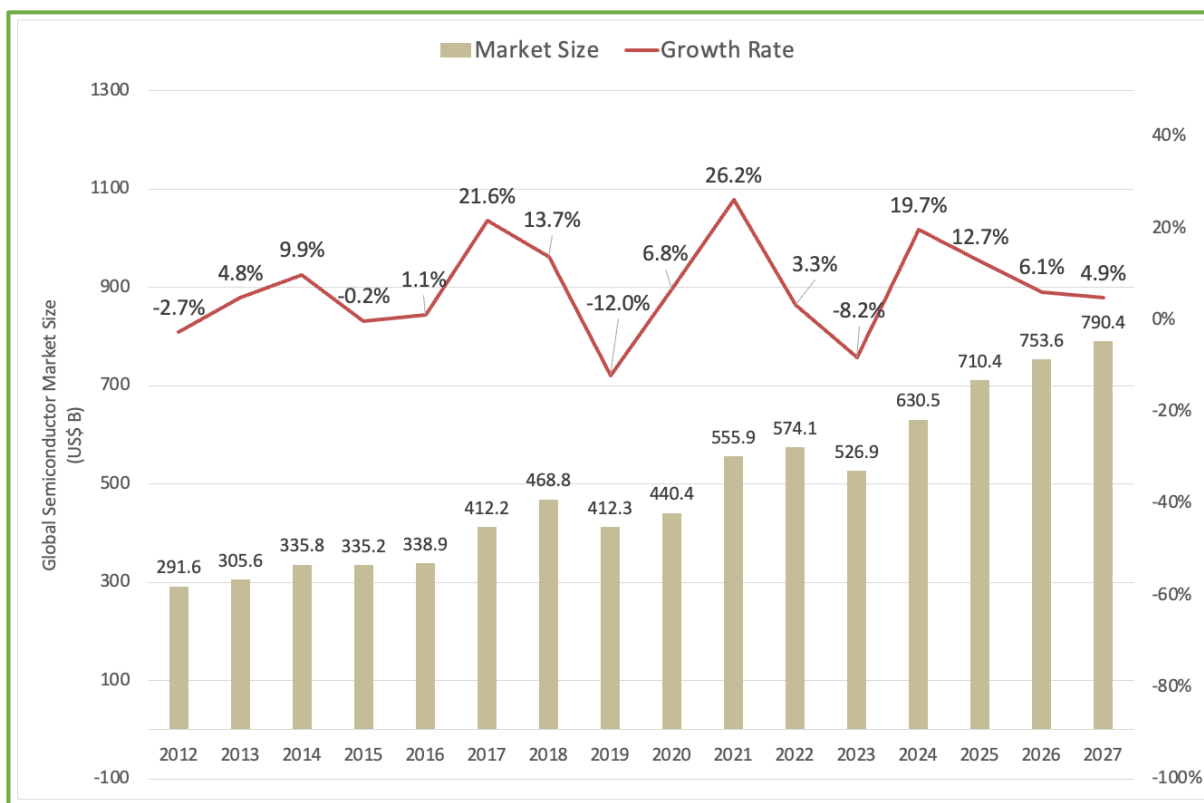
Global Semiconductor Industry in 2024

According to the World Semiconductor Trade Statistics (WTST), the global semiconductor marketing experienced significant growth in 2024. Driven by a surge in demand for AI semiconductors, a rebound in memory prices, and a gradual recovery in the production of end-user electronic products, the market size expanded by 19.7% year-over-year, reaching US\$ 630.5 billion. Among the various semiconductor segments, memory ICs exhibited the most substantial growth.

From 2012 to 2016, the global semiconductor market remained relatively stable, with annual revenues ranging between US\$ 291.6 billion and US\$ 338.9 billion. Between 2017 and 2020, the market grew to a higher plateau, reaching between US\$ 412.2 billion and US\$ 468.8 billion.

In 2021, the industry experienced a sharp surge, with total market value rising to US\$ 555.9 billion, followed by a further increase to US\$ 574.1 billion in 2022. However, in 2023, the market saw a correction, declining to US\$ 526.9 billion. Despite that, 2024 marked a historic high, with global semiconductor revenues reaching a record US\$ 630.5 billion.

Figure 3: Global Semiconductor Market Development Trend



Note: Data is based on global semiconductor market forecast figures published by WSTS in March 2025.

Source: Chia-Chen Lee, "Global Economy and Semiconductor Market Trends in the First Quarter of 2025," IEK, ITRI, June 9, 2025, p. 8.

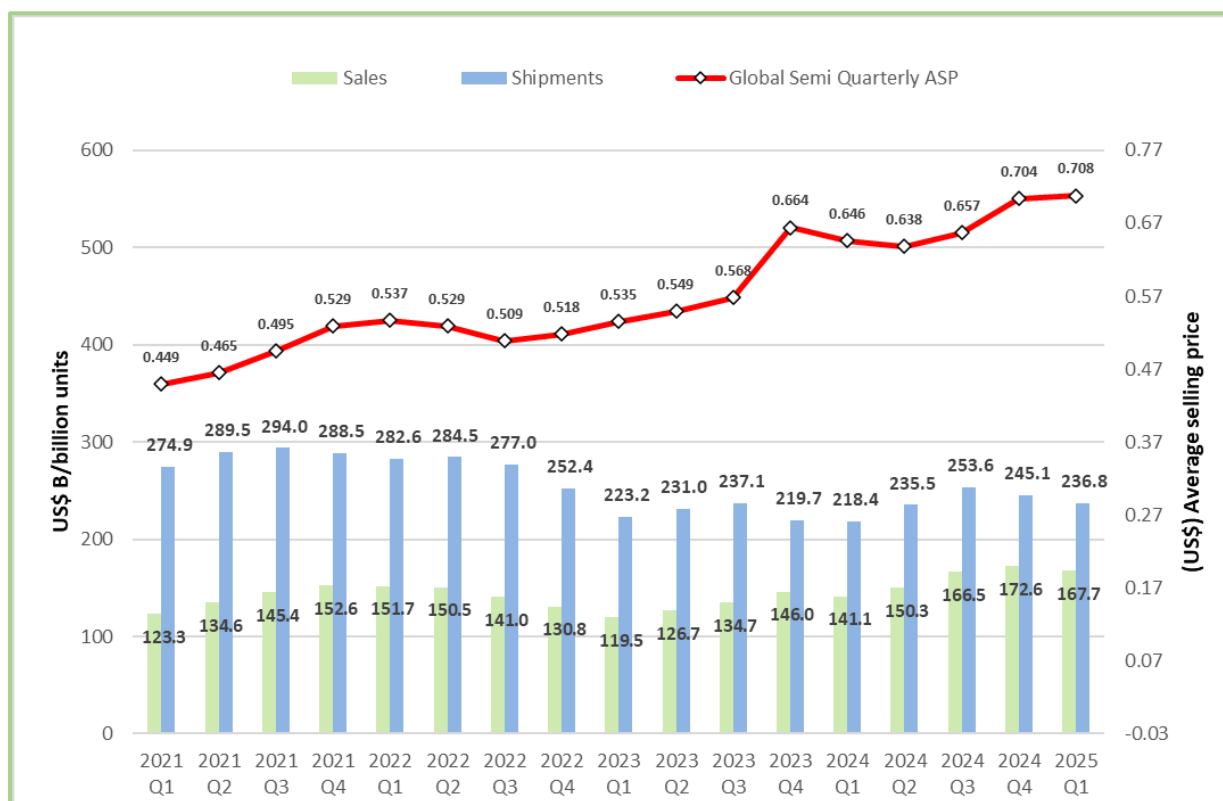
Global Semiconductor Industry in 2025

According to the World Semiconductor Trade Statistics (WSTS), the global semiconductor market reached US\$ 167.7 billion in the first quarter of 2025, reflecting an 18.9% year-on-year growth compared to the same period in 2024.

While market value has grown, unit shipments have been on a downward trend. In 2021 Q1, global semiconductor shipments totaled 274.9 billion units. From 2021 Q2 to 2022 Q3, shipments remained relatively stable, fluctuating between 277.0 billion and 294.0 billion units. However, after 2022 Q4, shipment volumes dropped below 260 billion units, reaching only 236.8 billion units in 2025 Q1.

Meanwhile, the average selling price (ASP) has been steadily climbing. It rose from US\$ 0.449 in 2021 Q1 to US\$ 0.708 in 2025 Q1—an increase of 57.7% over four years.

Figure 4: Global Semiconductor Market Quarterly Growth Trend



Note: Data sourced from WSTS as published in May 2025 on global semiconductor rolling monthly market values.

Source: Chia-Chen Lee, "Taiwan IC Industry Development in 2025Q1," IEK, ITRI, 2025, June 9, p. 2.

Over the past four years, regional semiconductor spending has mirrored the industry's boom-bust cycle and AI-driven rebound. China led the recovery in 2021–22—climbing from about US\$ 43 billion in 2021 Q1 to US\$ 51.5 billion by 2021 Q4—before retracting to US\$ 33.3 billion in 2023 Q1 amid inventory corrections, then rebounding to US\$ 48.8 billion in 2024 Q3 and slightly declining to US\$ 46.2 billion in 2025 Q1 (+7.6% YoY).

The U.S. followed a similar arc, dipping into the high US\$ 28.8 billion in the first quarter of 2023, but surging to US\$ 60.7 billion by Q4 2024 and settling at US\$ 55.7 billion in 2025 Q1 (–8.2% QoQ, +45.3% YoY).

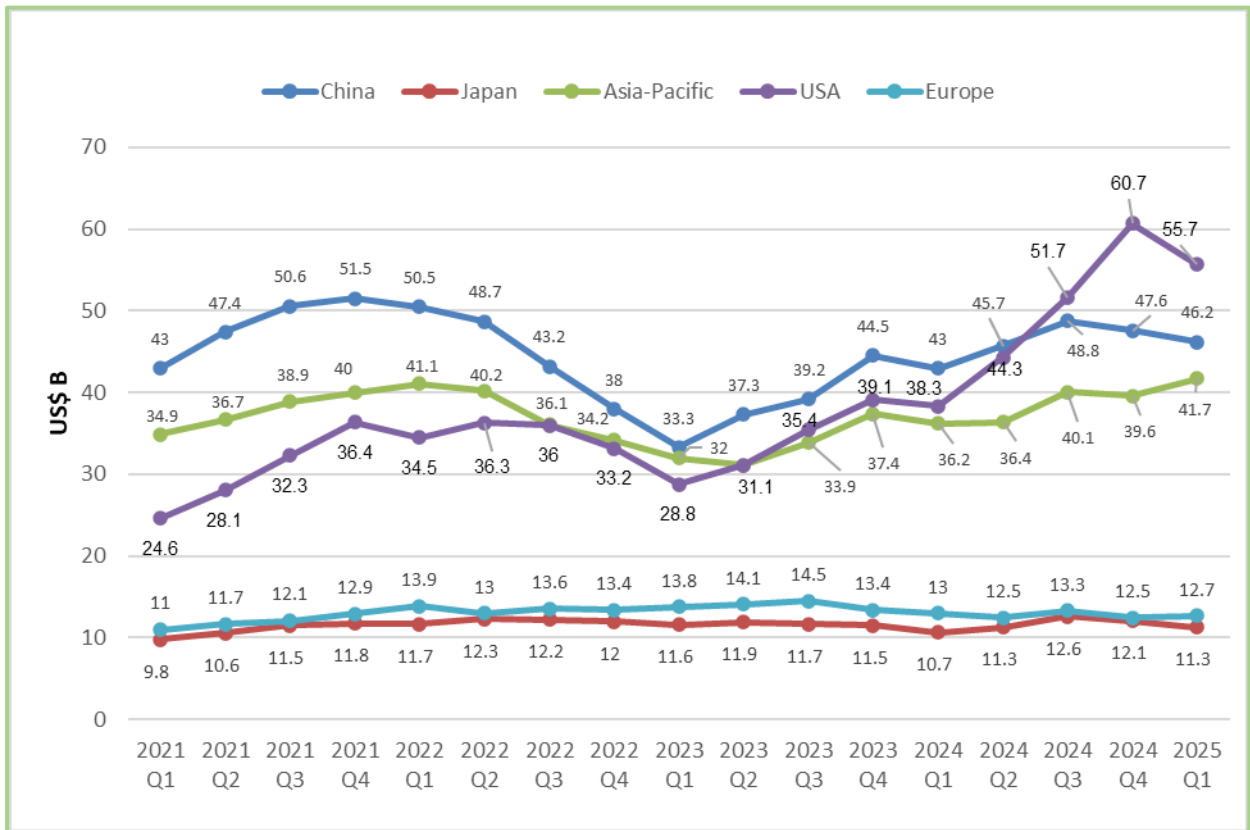
Asia-Pacific, China and Europe also bottomed in 2023 before recovering—Asia-Pacific to US\$ 41.7 billion (+15.4% YoY) and Europe to US\$ 12.7 billion (–2.0% YoY) by Q1 2025—while Japan remained relatively stable around US\$ 11–13 billion (+5.8% YoY). These patterns reflect a typical seasonal lull in Q1, overlaid on a strong year-over-year upswing driven by renewed AI, data-center, and 5G chip investments.

In 2025 Q1, the U.S. market pulled in US\$ 55.7 billion (see figure 5), down 8.2% from 2024 Q4 but up 45.3% YoY, and China delivered US\$ 46.2 billion, off 2.9% QoQ.

In 2025 Q1, Asia-Pacific rebounded to US\$ 41.7 billion, a 5.3% QoQ while Europe hovered around US\$ 12–14 billion. Japan stayed subdued at about US\$ 11.3 billion, off 6.6% QoQ but up 5.8% YoY.

The global semiconductor industry is estimated by WSTS is forecasted to grow 12.7% to US\$ 710.4 billion in 2025 as quarterly growth in various regions experiences steady market growth and continues to invest in AI infrastructures and technologies.

Figure 5: Quarterly Growth Trend of Global Semiconductor Market by Region



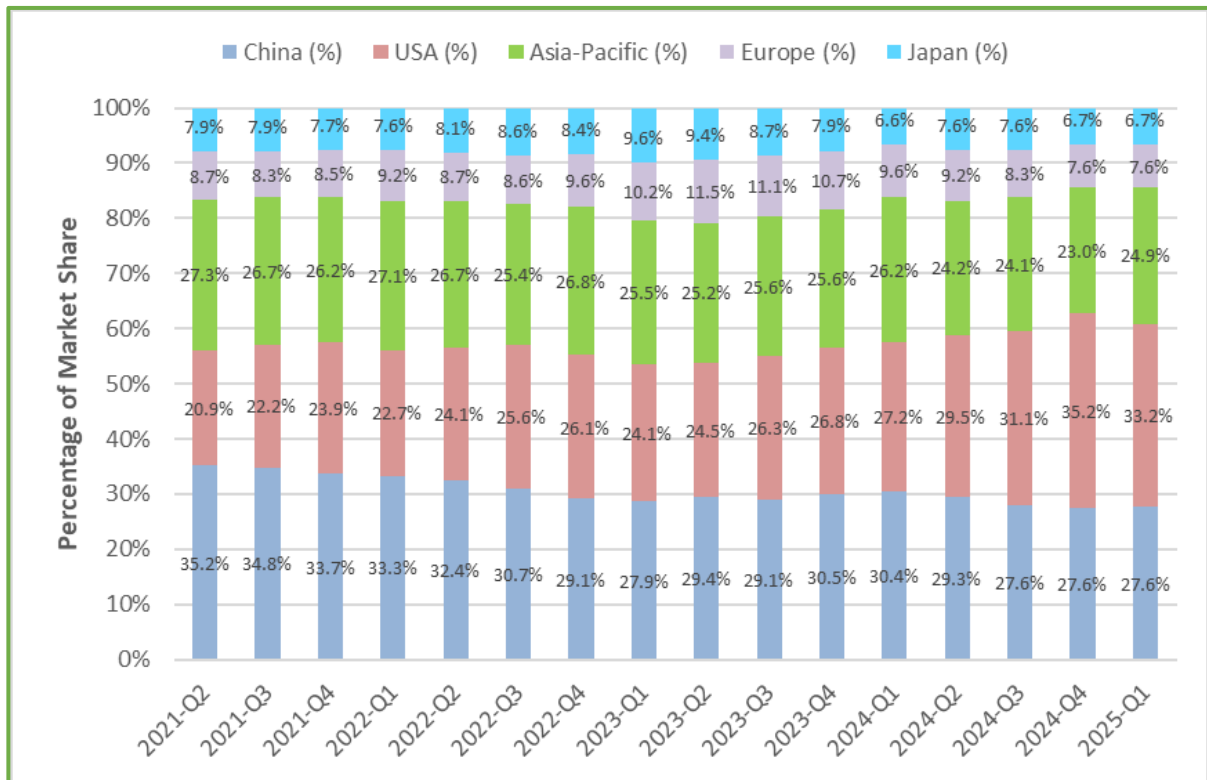
Note: Data based on WSTS statistics published in May 2025 on global semiconductor rolling monthly market values.

Source: Chia-Chen Lee, “Taiwan IC Industry Development in 2025Q1,” IEK, ITRI, 2025, June 9, p. 3.

In terms of regional shares of the global semiconductor market, the proportions held by Japan, the Asia-Pacific region (excluding China), and Europe have remained relatively stable over time. In contrast, the United States has seen a significant and steady rise in its market share—from 20.9% in 2021 Q2 to 24.5% in 2023 Q2. Following 2023 Q3, the U.S. market share accelerated notably, reaching 29.5% in 2024 Q2, and 35.2% by 2024 Q4, before slightly dipping to 33.2% in 2025 Q1. This marks a 12.3 percentage point increase compared to 2021 Q2.

Conversely, China’s share of the global semiconductor market has been on a steady decline. It dropped from 35.2% in 2021 Q2 to 32.4% in 2022 Q2, and further to 29.4% in 2023 Q2. From 2024 Q3 through 2025 Q1, China’s share plateaued at 27.6%, representing a 7.6 percentage point decrease from 2021 Q2.

Figure 6: Quarterly Market Share by Region in the Global Semiconductor Market



Note: Data source is WSTS, based on the global semiconductor rolling monthly market values published in May 2025.

Source: Chia-Chen Lee, "Taiwan IC Industry Development in 2025Q1," IEK, ITRI, 2025, June 9, p. 3.

Global Foundry Companies

According to the latest survey by market research firm TrendForce, the combined revenue of the world's top 10 semiconductor foundries reached US\$ 36.40 billion in 2025 Q1, marking a QoQ decline of US\$ 2.08 billion or 5.4%, due to seasonal softness. However, compared to the same period last year, total revenue surged by US\$ 4.44 billion, representing a YoY increase of 13.9%.

Notably, only three foundries posted QoQ revenue growth this quarter: SMIC (+1.8%), Vanguard International Semiconductor (+1.7%), and Nexchip (+2.6%). All other major players, including TSMC, saw revenue decline, with Samsung (-11.3%) and GlobalFoundries (-13.9%) recording the largest drops.

However, when measured YoY and excluding seasonal effects, TSMC's revenue grew 22.6%, while SMIC, Hua Hong Group, and Nexchip also posted strong growth of 18.2%, 42.8%, and 17.7%, respectively. Remarkably, TSMC alone contributed US\$ 4.7 billion in annual revenue growth — exceeding the combined YoY growth of the entire top 10 foundries (US\$ 4.44 billion) — a clear testament to its overwhelming market leadership.

The global market share of the top 10 foundries remained stable at 97.0%, with rankings unchanged from 2024 Q4. However, TSMC continues to widen its lead over competitors.

In 2025 Q1, TSMC generated US\$ 25.52 billion in revenue (-5.0% QoQ, +22.6% YoY), pushing its market share to 67.6%, a new record. This marks a 0.5 percentage point gain from the previous quarter and a striking 14-point leap from 2022 Q1.

In contrast, Samsung's revenue dropped to US\$ 2.89 billion, down 11.3% QoQ and 24.5% YoY, with market share falling to 7.7% — an 8.6-point decline since 2022 Q1.

SMIC, ranked third, posted US\$ 2.25 billion in revenue (+1.8% QoQ, +18.2% YoY), holding a 6.0% market share. However, its share has oscillated between 5% and 6% and remains difficult to expand further.

Despite intensified policy support and subsidies over the past three years from the Chinese government, the global market shares of China's top three foundries — SMIC, Hua Hong Group, and Nexchip — have remained mostly unchanged, at around 5–6%, 2–3%, and 1%, respectively.

Their reliance on mature process nodes has led to lower average selling prices, capping both revenue and profit growth. For instance, SMIC achieved a record-high US\$ 8.0 billion in 2024 revenue but only US\$ 493 million in net income — a net profit margin of 6.1%, in stark contrast to TSMC’s 43.1%, highlighting the disparity in profitability and value-added capabilities.

Looking at the three-year trend, TSMC’s market share has steadily climbed from 55.4% in 2022 to 58.9% in 2023, and 64.0% in 2024 — an increase of 8.6 percentage points over two years, driven by advanced node leadership and strong customer retention.

Beyond TSMC, only SMIC saw a slight increase in share — from 5.3% in 2022 to 5.7% in 2024. Yet, the total market share of China’s top three foundries barely changed: from 9.6% in 2022, to 9.0% in 2023, and 9.1% in 2024.

TSMC is rapidly consolidating its global dominance through cutting-edge technology, capacity expansion, and market share in advanced process nodes. In contrast, rivals such as Samsung face dual pressures of shrinking revenue and declining market share.

Despite generous state support, China’s top foundries continue to grapple with technological bottlenecks and price-based competition, limiting their ability to break through in global share. The foundry race is no longer merely about scale — it’s about who leads at the frontier of innovation.

Table 5: Top Global Foundries Revenue: 2025 Q1 vs 2024 Q4

Unit: million US\$

Ranking	Company	2025Q1	2024Q4	Difference	QoQ	Contribution
1	TSMC	25,517	26,854	-1337	-5.0%	64.3%
2	Samsung	2,893	3,260	-367	-11.3%	17.7%
3	SMIC	2,247	2,207	40	1.8%	-1.9%
4	UMC	1,759	1,867	-108	-5.8%	5.2%
5	GlobalFoundries	1,575	1,830	-255	-13.9%	12.3%
6	Huahong Group	1,011	1,042	-31	-3.0%	1.5%
7	Tower	358	387	-29	-7.5%	1.4%
8	VIS	363	357	6	1.7%	-0.3%
9	Nexchip	353	344	9	2.6%	-0.4%
10	PSMC	327	333	-6	-1.8%	0.3%
Total of Top 10		36,403	38,482	(2,079)	-5.4%	100.0%

Source: Trendforce, Press Releases, June 9, 2025.

Table 6: Top Global Foundries Revenue: 2025 Q1 vs 2024 Q4

Unit: million US\$

Ranking	Company	2025Q1	2024Q1	Difference	YoY	Contribution
1	TSMC	25,517	20,819	4,698	22.6%	105.8%
2	Samsung	2,893	3,833	-940	-24.5%	-21.2%
3	SMIC	2,247	1,901	346	18.2%	7.8%
4	UMC	1,759	1,756	3	0.2%	0.1%
5	GlobalFoundries	1,575	1,632	-57	-3.5%	-1.3%
6	Huahong Group	1,011	708	303	42.8%	6.8%
7	Tower	358	351	7	2.0%	0.2%
8	VIS	363	342	21	6.1%	0.5%
9	Nexchip	353	300	53	17.7%	1.2%
10	PSMC	327	320	7	2.3%	0.2%
Total of Top 10		36,403	31,962	4,441	13.9%	100.0%

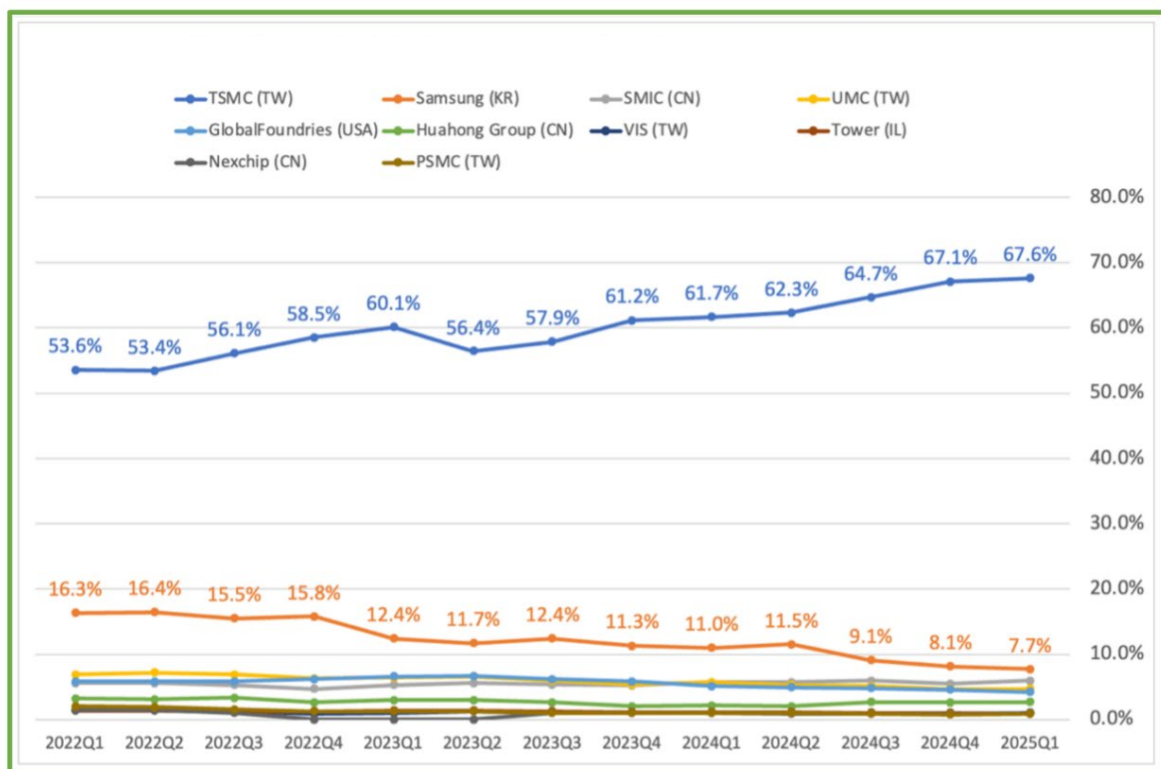
Source: Trendforce, Press Releases, June 9, 2025.

Table 7: Global Market Share of Top 3 Chinese Foundries by Revenue: 2022-2025

	2024	2023	2022
SMIC (CN)	5.7%	5.4%	5.3%
Huahong Group (CN)	2.4%	2.7%	3.1%
Nexchip (CN)	0.9%	1.0%	1.3%
Sum	9.1%	9.0%	9.6%

Source: Trendforce, Press Releases, March 10, 2025.

Figure 7: Market Share of Global Top 10 Foundries by Revenue: 2022 Q1-2025 Q1



Source: Trendforce, Press Releases, March 10, 2025.

Table 8: Ranking and Market Share of Global Top 10 Foundries by Revenue: 2022-2024

Ranking	Company	Market Share		
		2024	2023	2022
1	TSMC (TW)	64.0%	58.9%	55.4%
2	Samsung (KR)	9.9%	12.0%	16.0%
3	SMIC (CN)	5.7%	5.4%	5.3%
4	UMC (TW)	5.2%	6.1%	6.8%
5	GlobalFoundries (USA)	4.9%	6.3%	6.0%
6	Huahong Group (CN)	2.4%	2.7%	3.1%
7	Tower (IL)	1.1%	1.2%	1.3%
8	VIS (TW)	1.0%	1.1%	1.3%
9	Nexchip (CN)	0.9%	1.0%	1.3%
10	PSMC (TW)	0.9%	1.1%	1.7%

Source: Trendforce, Press Releases, March 10, 2025.

TSMC is rapidly consolidating its global dominance through cutting-edge technology, capacity expansion, and market share in advanced process nodes. In contrast, rivals such as Samsung face dual pressures of shrinking revenue and declining market share.

Despite generous state support, China’s top foundries continue to grapple with technological bottlenecks and price-based competition, limiting their ability to break through in global share. In the global race for market share amongst companies, TSMC emerged as the top contender with SMIC managing a modest gain in contrast to top Chinese competitors over the three-year period. The foundry race is no longer merely about scale — it’s about who leads at the frontier of innovation.

Global Fabless IC Design Companies

In the first quarter of 2025, the global IC design industry achieved a historic record, with the combined revenue of the top ten companies reaching US\$ 77.4 billion. This figure represents a quarter-on-quarter growth of 6.5% and a remarkable year-on-year surge of 44.4%, largely driven by anticipatory stockpiling in response to new U.S. tariffs and the robust demand for AI data centers.

NVIDIA solidified its dominance in the sector, reporting a staggering revenue of US\$ 42.369 billion—nearly five times higher than its closest competitors such as Qualcomm, Broadcom, and AMD. Its market leadership is attributed to the company's relentless push in launching cutting-edge AI chips and platforms. In fact, NVIDIA alone accounted for 97.2% of the quarter-on-quarter increase in revenue among the global top ten IC design firms. While the group as a whole saw a revenue growth of US\$ 4.703 billion from the previous quarter, NVIDIA contributed US\$ 4.571 billion of that total.

During the same period, NVIDIA's quarterly growth rate stood at 12.1%, while its year-on-year growth reached an impressive 71.9%. As a result, its share of the total revenue among the top ten companies expanded from 52.0% in 2024 Q4 to 54.7% in 2025 Q1. The only other company to post double-digit quarterly growth was Realtek, with a 30.7% increase. In contrast, some major players recorded negative quarterly growth, including Qualcomm (-6.1%), AMD (-2.9%), and OmniVision (-1.6%).

On a year-over-year basis, most companies in the top ten posted double-digit gains. NVIDIA led the charge with a 71.9% increase, followed by Marvell at 49.6%, MPS at 39.3%, AMD at 35.9%, and Realtek at 30.7%. These figures underscore the intensifying importance of AI-related demand and the increasing market polarization favoring the most innovative players.

As of the first quarter of 2025, market share among the top ten IC design firms showed significant concentration. NVIDIA commanded a dominant 54.7%, with Qualcomm, Broadcom, AMD, and MediaTek trailing behind at 12.2%, 10.8%, 9.6%, and 6.0% respectively. The remaining firms each held less than 2.5% of the market. NVIDIA's market share not only reflects its overwhelming scale but also marks a notable 2.4 percentage point increase compared to the previous quarter, further reinforcing its unrivaled status in the global IC design landscape.

Table 9: 2025 Q1 Global Top 10 Fabless IC Design Companies by Revenue

Ranking	Company	24 Q1 Revenue (US\$ M)	24 Q4 Revenue (US\$ M)	25 Q1 Revenue (US\$ M)	QoQ (%)	YoY (%)	24 Q4 Share (%)	25 Q1 Share (%)
1	NVIDIA	24,648	37,798	42,369	12.1%	71.9%	52.0%	54.7%
2	Qualcomm	8,026	10,084	9,469	-6.1%	18.0%	13.9%	12.2%
3	Broadcom	7,265	8,218	8,343	1.5%	14.8%	11.3%	10.8%
4	AMD	5,473	7,658	7,438	-2.9%	35.9%	10.5%	9.6%
5	MediaTek	4,244	4,269	4,661	9.2%	9.8%	5.9%	6.0%
6	Marvell	1,249	1,717	1,869	8.9%	49.6%	2.4%	2.4%
7	Realtek	815	815	1,065	30.7%	30.7%	1.1%	1.4%
8	Novatek	777	781	825	5.6%	6.2%	1.1%	1.1%
9	OmniVision	670	744	732	-1.6%	9.3%	1.0%	0.9%
10	MPS	458	622	638	2.6%	39.3%	0.9%	0.8%
<i>Total</i>		53,625	72,706	77,409	6.5%	44.4%	100.0%	100.0%

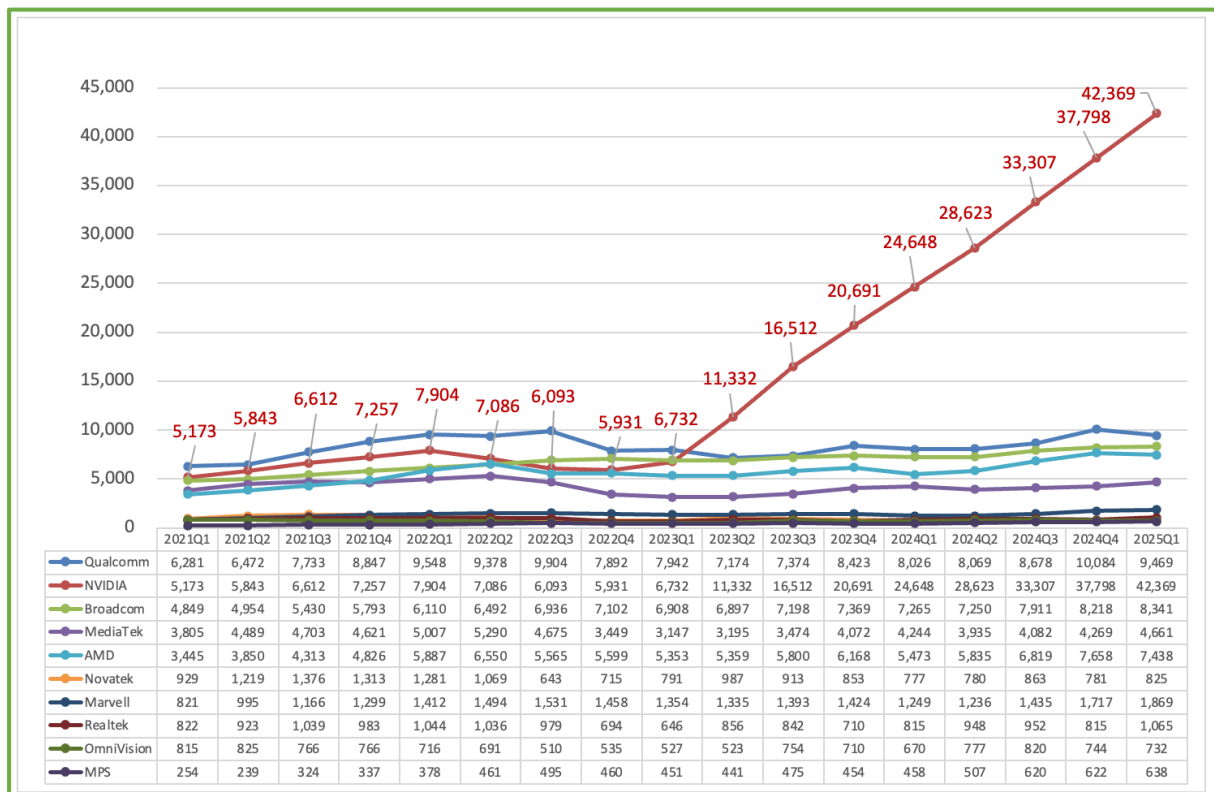
Source: TrendForce, “Robust AI Demand Drives 6% QoQ Growth in Revenue for Top 10 Global IC Design Companies in 1Q25, Says TrendForce,” June 12, 2025,

<https://www.trendforce.com/presscenter/news/20250612-12618.html>.

Over the past four years, the development of AI has dramatically accelerated the growth trajectory of NVIDIA within the global IC design industry—and this momentum shows no sign of slowing. From the first quarter of 2021 through the first quarter of 2023, revenue among the world’s top five IC design companies—namely Qualcomm, NVIDIA, Broadcom, MediaTek, and AMD—remained relatively close. In fact, as of 2023 Q1, Qualcomm (US\$ 7.942 billion) and Broadcom (US\$ 6.908 billion) still held a slight lead over NVIDIA, which posted US\$ 6.732 billion in revenue that quarter.

However, starting from the second quarter of 2023 through the first quarter of 2025, a stark divergence emerged. While the other four major players—Qualcomm, Broadcom, MediaTek, and AMD—continued to post relatively stable quarterly revenues around the US\$ 4-10 billion mark, NVIDIA’s performance surged at a remarkable pace. Its revenue leapt from US\$ 6.732 billion in 2023 Q1 to US\$ 11.332 billion in 2023 Q2, marking a 68.3% quarter-on-quarter increase. By the first quarter of 2024, that figure had more than doubled to US\$ 24.648 billion, representing a 117.5% increase from 2023 Q2. The momentum continued into 2025 Q1, with NVIDIA’s revenue climbing further to US\$ 42.369 billion—an impressive 71.9% year-on-year growth from 2024 Q1.

Figure 8: Global Top Ten Fabless IC Design Companies by Revenue: 2021-2025 Q1



Source: TrendForce, June 16, 2025,
<https://datatrack.trendforce.com/Chart/content/22/ic-design-revenue>.

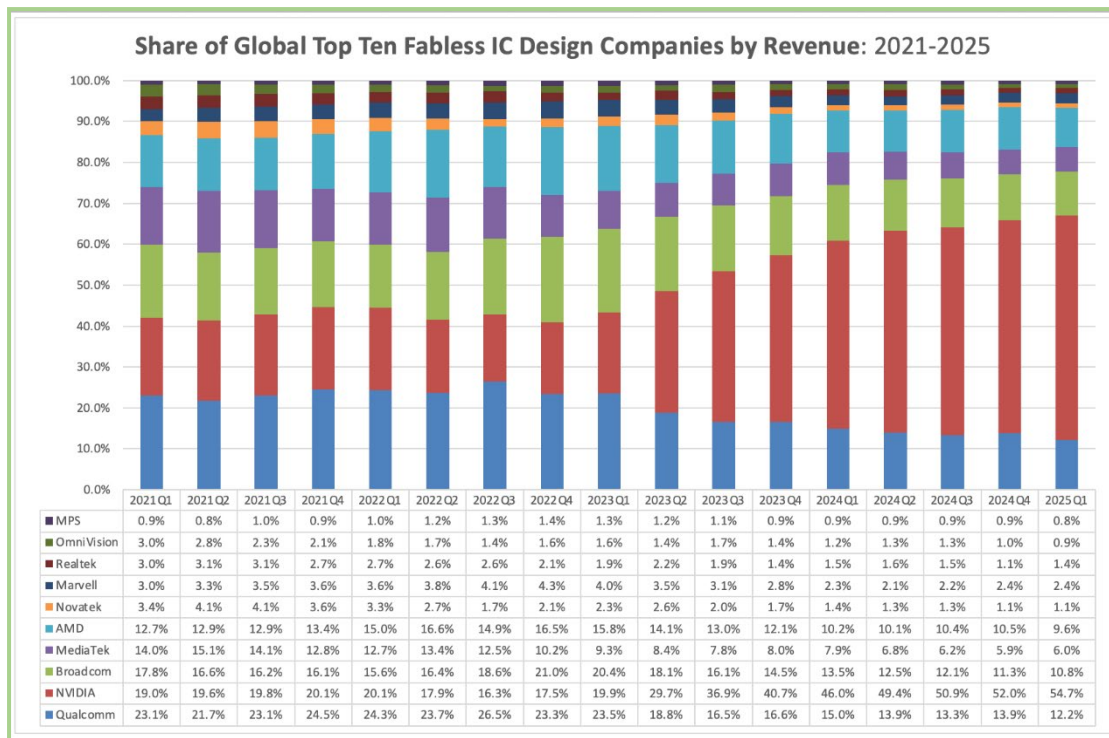
In terms of the revenue share held by the world’s top ten fabless IC design companies, the period between the first quarter of 2021 and the first quarter of 2023 was marked by a relatively balanced landscape. During this time, Qualcomm, NVIDIA, Broadcom, MediaTek, and AMD shared the market in what could be described as a “pentarchy,” with no single player significantly outpacing the others. In 2023 Q1, their respective market shares stood at: Qualcomm 23.5%, Broadcom 20.4%, NVIDIA 19.9%, AMD 15.8%, and MediaTek 9.3%.

However, beginning in the second quarter of 2023, NVIDIA broke away from the pack, initiating a clear upward trajectory in market dominance. Within just one quarter, its global market share surged by 9.8 percentage points to 29.7%, surpassing all its major rivals. By comparison, Qualcomm dropped to 18.8%, Broadcom to 18.1%, AMD to 14.1%, and MediaTek to 8.4%.

This trend only accelerated. By the first quarter of 2024, NVIDIA’s share had climbed dramatically to 46.0%, while the shares of the other four leading players

declined to 15.0% for Qualcomm, 13.5% for Broadcom, 10.2% for AMD, and 7.9% for MediaTek. The momentum continued into the first quarter of 2025, with NVIDIA further expanding its dominance to 54.7%. Meanwhile, the others saw continued erosion of their market positions: Qualcomm fell to 12.2%, Broadcom to 10.8%, AMD to 9.6%, and MediaTek to just 6.0%. All other companies combined failed to secure more than 2.5% of the market individually. NVIDIA had effectively transitioned from one of several strong contenders prior to 2023 Q2 to the undisputed leader of the global fabless IC design arena after 2023 Q3.

Figure 9: Share of Global Top Ten Fabless IC Design Companies by Revenue: 2021-2025



Source: TrendForce, June 16, 2025, <https://datatrack.trendforce.com/Chart/content/22/ic-design-revenue>

The expansion of AI applications will be expected to drive the upgrade of electronic products in 2025. The drive will lead to further innovation and development in semiconductor technologies. However, uncertainties in the form of U.S. tariffs cloud the stability of global supply chains of semiconductor chips and the ability to forecast clear market trends.

As it stands, the global semiconductor market is expected to maintain double-digit growth momentum, with the market size expected to reach US\$ 710.4 billion, reflecting a year-on-year growth rate of 12.7%, in 2025.

Despite the latest WSTS statistics for forecasted growth over a period of two years with a projected outlook of surpassing US\$ 710 billion mark in 2025, U.S. tariffs imposed by the Trump administration will complicate global trade.

TSMC and NVIDIA: AI Titans Reshape the Global Semiconductor Landscape

In the first quarter of 2025, the global semiconductor industry witnessed a clear trend: the strong are getting stronger. In this AI-driven industrial race, Taiwan's TSMC and America's NVIDIA have emerged as the two undisputed champions—one dominates the foundry sector, the other reigns over AI chip design. Not only do they thrive individually, but they also empower each other, jointly forging a new semiconductor ecosystem.

According to a recent report by research firm TrendForce, the world's top 10 IC design companies generated a combined revenue of US\$ 77.4 billion in 2025 Q1, a 44.4% year-on-year increase. Remarkably, NVIDIA alone contributed over half of that revenue—US\$ 42.37 billion, five times more than its closest competitor, with a staggering 71.9% year-on-year growth. Its data center business accounted for US\$ 39.1 billion, up 73% from the previous year. Even more astounding, NVIDIA was responsible for 97.2% of the overall growth in IC design revenues, leaving traditional rivals like Qualcomm, Broadcom, and AMD far behind.

As AI computing surges, NVIDIA's high-end GPUs—such as the H100 and B100—have become the backbone of data centers and cloud service providers. Since 2023 Q2, NVIDIA has rapidly widened its lead, with its global market share soaring from less than 20% in 2023 Q1 to 54.7% by 2025 Q1, establishing a near-monopoly in the design field.

AI chips are meaningless without advanced manufacturing. Enter TSMC. Despite seasonal headwinds slightly impacting the foundry market overall, TSMC reported US\$ 25.52 billion in revenue for 2025 Q1—a 22.6% year-on-year increase. Its global market share surged to 67.6%, a historical high. Compared to 2022 Q1, TSMC's market share has gained 14 percentage points in just three years, far outpacing runner-up Samsung (7.7%) and the combined Chinese foundries, which remain stagnant around 9%.

Notably, while the top 10 global foundries collectively increased their revenues by US\$ 4.44 billion, TSMC alone accounted for US\$ 4.698 billion of that, indicating it was virtually the sole growth driver for the entire foundry sector.

This dominance is underpinned by TSMC’s unmatched process technology and its ability to consistently secure orders from top-tier clients like NVIDIA, Apple, and AMD.

Rather than fighting separate battles, TSMC and NVIDIA have implemented a deeply integrated “dual tower” strategy: NVIDIA designs the chips; TSMC manufactures them. Without TSMC’s sub-7nm advanced process technology—which account for 73% of its wafer sales—there would be no H100 or B100. Without NVIDIA’s ultra-high-performance AI chips, demand for TSMC’s cutting-edge manufacturing would not have skyrocketed.

This alliance has concentrated the semiconductor value chain at both ends—design and manufacturing—leaving mid-tier players like Samsung and Qualcomm caught in a vice.

Despite three years of massive subsidies from the Chinese government, domestic foundry giant SMIC still faces technological bottlenecks and lacks the ability to mass-produce advanced nodes. Its global market share remains stuck around 6%, with a modest profit margin of 6.1%, far behind TSMC’s 43.1%.

Samsung, meanwhile, is mired in a double dilemma: lagging in advanced process technology with low yield rate and suffering a loss of major clients like NVIDIA. Since 2022, its market share has dropped by more than 8 percentage points, reflecting both technical regression and market erosion.

In 2025, the global semiconductor market is projected to exceed US\$ 710 billion, with a 12.7% annual growth rate. AI remains the most potent growth engine—transforming everything from smartphones to vehicles, from cloud infrastructure to edge devices. The demand for high-performance chips and advanced manufacturing will only intensify.

However, geopolitical tensions are rising. A new wave of U.S. tariffs on China may further restructure the global supply chain. In this shifting landscape, TSMC and NVIDIA—pillars of the Taiwan-U.S. tech alliance—will play increasingly pivotal roles. Their mutual dependence is not just a corporate success story; it marks the dawn of a “dual titan” era in global technology.

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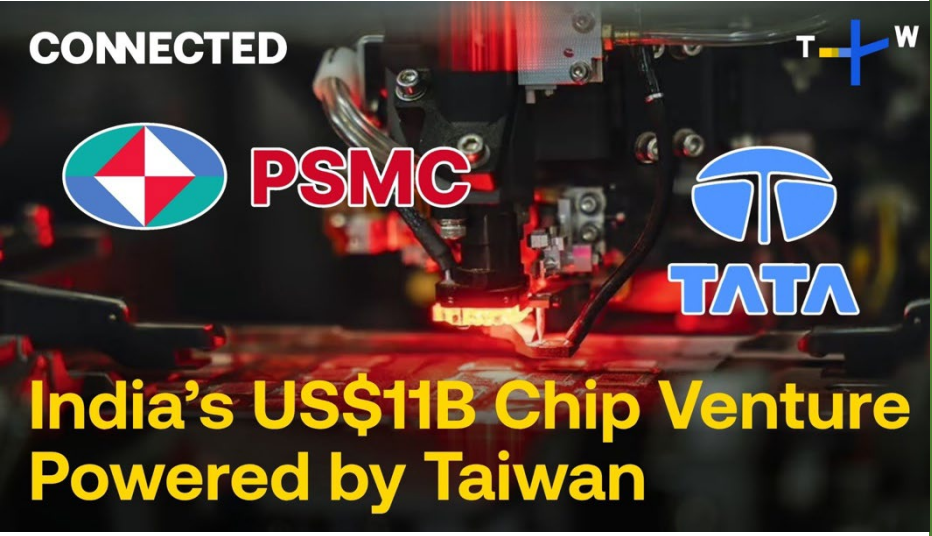
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[Tariff Battles Intensify over Semiconductors](#)



U.S. President Donald Trump's tariffs have shaken the global economy, including critical semiconductor supplies chains. In response, major companies like Taiwan's TSMC and the United States's Nvidia have attempted to tread carefully to avoid provoking either Washington or Beijing. Which countries and companies will be hit hardest? How can Taiwan protect both its domestic economy and its overseas

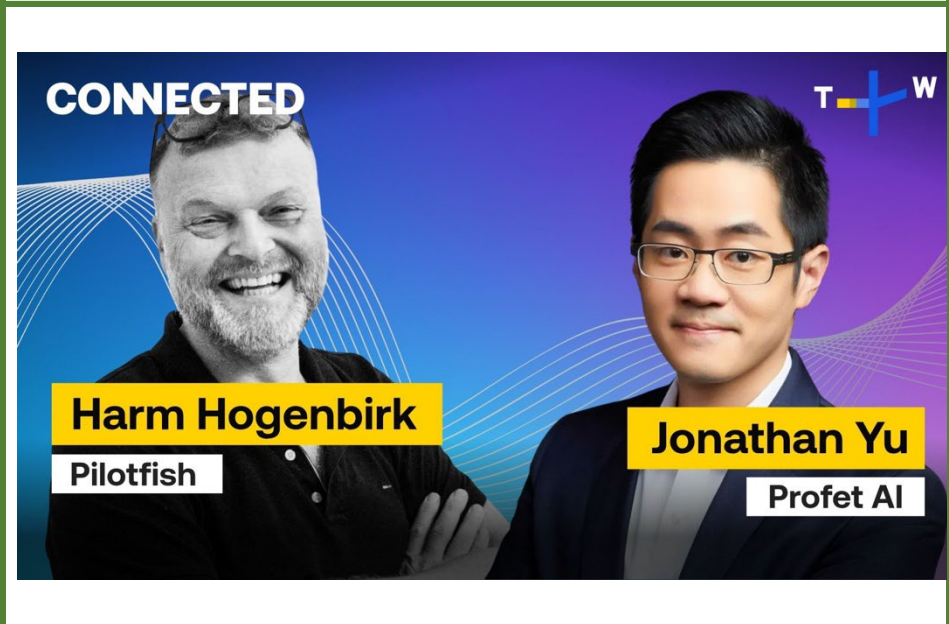
	<p>investments? And how significant is Nvidia CEO Jensen Huang’s recent trip to Beijing? This episode explores the intensifying competition within the global chip industry, China’s response to the U.S. economic tactics, and what Taiwan is doing to safeguard its chip leadership.</p>
<p>CONNECTED</p> <p>Web Debut: May 28, 2025</p>	 <p>CONNECTED</p> <p>India's US\$11B Chip Venture Powered by Taiwan</p>
<p>Title: <u>India's New Semiconductor or Fab Powered by Taiwan: Tata & PSMC's US\$11B Bet</u></p>	<p>Description: India is building its first commercial semiconductor fab with Taiwan's PSMC and the Tata Group, positioning Dholera, Gujarat, as a potential chipmaking powerhouse. But challenges like labor laws, tariff barriers, talent retention and policy stability could complicate the journey. We break down the stakes, risks and potential of India’s semiconductor push. And finally, what could Taiwan gain from this collaboration?</p>
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Title:
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Harm Hogenbirk and Profet AI's Jonathan Yu discuss how AI is transforming design and industry — from smarter product development to no-code AI tools for small businesses — while stressing the need for human-centred innovation in Taiwan and beyond.
