Regional Industry Focus

China Semiconductor

Refer to important disclosures at the end of this report

DBS Group Research . Equity

2 Jun 2025

Crisis breeds opportunities

- US tariffs are accelerating China's localisation push, with chip self-sufficiency set to reach 50–60% by 2030 in a market commanding 42% of global equipment spend and 30% of backend capacity
- Local equipment champions gaining ground - NAURA (comprehensive tools), AMEC (etch/deposition), ACM (wafer cleaning)
- In foundries, SMIC leads in advanced nodes while Hua Hong dominates mature nodes
- P/E valuations appear stretched vs global peers, but PEG <1x points to stronger earnings growth potential; picks are NAURA (fair value: RMB550), AMEC (RMB216); ACM (USD30); SMIC (HKD53.20)

Opportunities emerging from disruption. Rising US tariffs and tighter export controls are accelerating China's push for semiconductor self-sufficiency, especially in areas where domestic substitution is viable. With a roadmap to raise its self-sufficiency rate from around 20% today to 50–60% by 2030, China's drive presents significant growth opportunities for local semiconductor players. Despite tariff uncertainties, we view the risk-reward profile in China's semiconductor sector as attractive.

China too big to ignore. As the world's largest electronics producer, China generates roughly one-third of global output in products such as computers and smartphones. In 2024, it accounted for 42% of global semiconductor equipment spending, the highest globally, with 35% y/y growth, while also accounting for 30% of global back-end capacity in assembly, packaging, and testing. Structural drivers such as AI adoption, data localisation, and cloud expansion continue to support long-term demand.

From follower to contender. China's semiconductor equipment makers are gaining share amid a shift toward localisation, supported by subsidies, procurement access, and rising demand. NAURA leads in comprehensive tool offerings and is the only Chinese name among global top chip equipment makers. AMEC focuses on advanced process tools like dry etching and chemical vapor deposition (CVD), while ACM Research specialises in wafer cleaning and surface preparation. In foundries, SMIC is poised to lead advanced-node substitution, while Hua Hong dominates the mature-node space.

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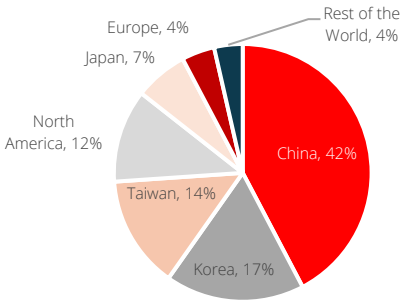
STOCKS

	Price LCY	Mkt Cap USDmn	12-mth Target Price LCY	Performance (%) 3 mth	12 mth	Rating
Foundries						
SMIC	40.55	53,295	53.20	-24.3	145.2	BUY
Hua Hong Semiconductor	31.60	7,855	17.00	-7.9	62.9	HOLD
Equipment Makers						
NAURA	418.5	30,875	550.0	-6.4	42.7	NR
AMEC	175.0	15,194	216.0	-14.3	34.9	NR
ACM Research	22.55	1,440	30.00	-13.1	4.4	NR

Source: DBS, Bloomberg
Closing price as of 30 May 2025

2024 semiconductor equipment market share by country



Source: SEMI, DBS

ed: JS/ sa: AS, PY, CS

China powers global chips as the biggest buyer and key maker

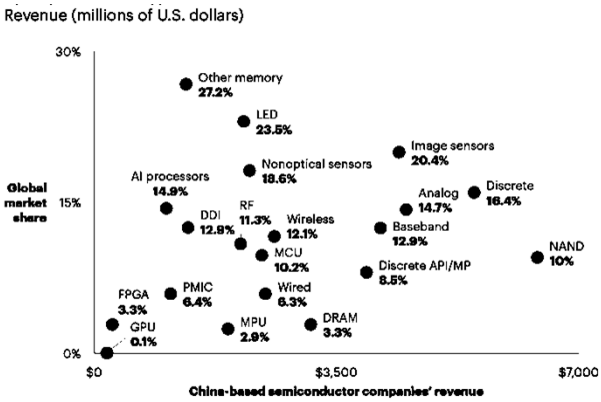
China is one of the key anchors for both global semiconductor consumption and production. China is a critical player in the global semiconductor supply chain, serving as both a major consumer and a key manufacturing hub. As the world's largest electronics producer, China contributes roughly one-third of global output in products such as computers, smartphones, and other consumer electronics. In 2024, it accounted for 42% of global semiconductor equipment spending, the highest globally, with y/y growth of 35%. Semiconductors sold into China are embedded into a wide range of products including electronics, vehicles, and appliances, which are then sold both within China and overseas. From a production perspective, China holds more than 25% of foundry capacity and over 30% of back-end capacity across assembly, packaging, and testing.

China's role in the global semiconductor supply chain

Category	China's Share*	Description
Global Electronics Production Share	c.33%	China is the world's largest electronics producer, contributing roughly one-third of global output.
Global Foundry Capacity Share	>25%	China accounts for over a quarter of global foundry (chip manufacturing) capacity.
Global Back-End Capacity Share (Assembly, Packaging, Testing)	>30%	China holds over 30% of global capacity in back-end semiconductor operations.
Semiconductor equipment spending	42%	China leads with the strongest y/y growth of 35% in semiconductor equipment investment

*Source: World Semiconductor Trade Statistics (WSTS), SIA, SEMI and others *Includes global companies in China*

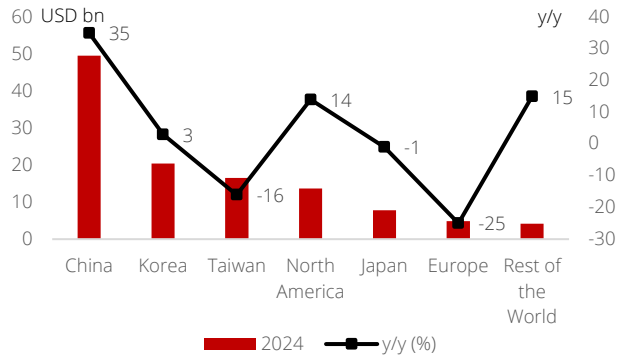
Global market share of China-based semiconductor companies by major product type, 2024



Source: Gartner; DBS

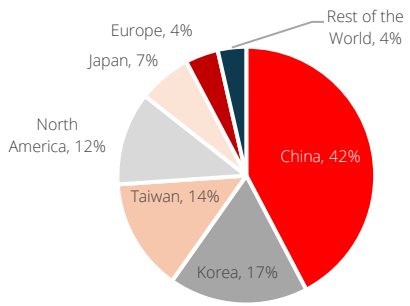
China leads in global semiconductor equipment spending. China, Korea, and Taiwan remain the top three semiconductor equipment markets, making up 74% of global spending. In 2024, China led equipment spending demand with a 35%y/y increase to USD49.6bn, driven by capacity expansion and policy support. Korea spending rose 3% to USD20.5bn, supported by stabilising memory markets and robust demand for high-bandwidth memory. Taiwan's spending fell 16% to USD16.6bn amid weaker demand. Outside Asia, North America grew 14% to USD13.7bn, driven by local manufacturing efforts. The Rest of the World rose 15% to USD4.2bn, while Europe declined 25% to USD4.9bn due to weak automotive and industrial demand. Japan saw a marginal 1% dip to USD7.8bn.

Semiconductor equipment market 2024 revenue by region



Source: SEMI, DBS

2024 semiconductor equipment market share by country



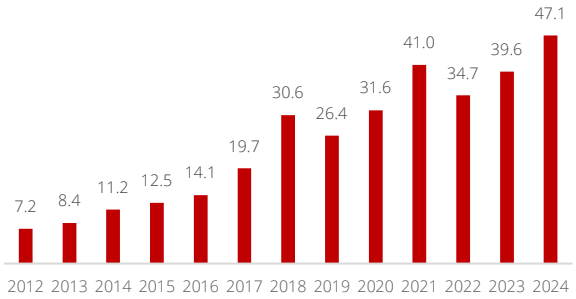
Source: SEMI, DBS

China's AI boom, data localisation mandates, and cloud infrastructure expansion set to anchor long term semiconductor demand across domestic semiconductor ecosystems. The rapid advancement of homegrown large language models such as DeepSeek is intensifying requirements for high performance compute, prompting leading hyperscalers like Alibaba and Tencent to aggressively scale AI infrastructure. While much of this buildout still relies on imported GPUs, escalating compute intensity is accelerating the case for domestic accelerator development, positioning local chipmakers to benefit from future substitution. Concurrently, regulatory enforcement around data localization is expected to drive a multi year upgrade cycle for domestic data centers and storage infrastructure, lifting demand for China made semiconductors and underpinning a structurally rising trajectory for China's semiconductor self-sufficiency and ecosystem resilience.

Changing landscape in China – "Made in China, for China" theme emerges on geopolitical tensions

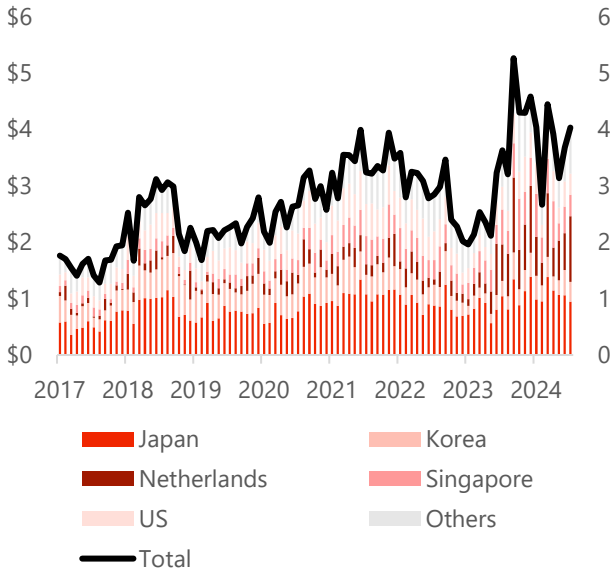
"Made elsewhere, for China" stands strong for now but that is expected to erode. China remains heavily reliant on imported semiconductor manufacturing equipment, though domestic production is gradually increasing. The bulk of China's semiconductor equipment imports currently come from Japan and the Netherlands. The United States now accounts for a smaller share than in previous years, particularly compared to 2021–2022. Imports surged in 2024 as China continued to stockpile in anticipation of further trade restrictions.

Semiconductor equipment imports to China (USD bn)



Source: China Customs, Trade Map

Monthly imports of semiconductor equipment to China continue to be elevated (USD bn)

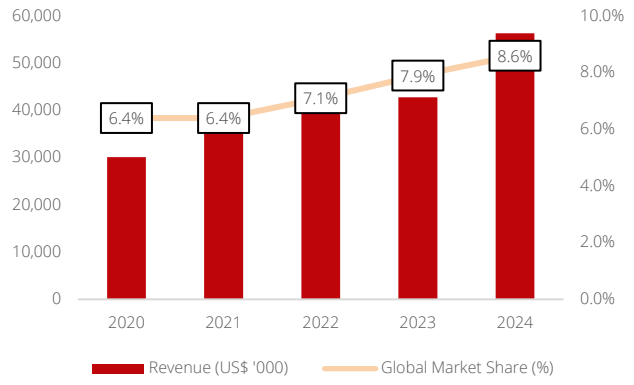


Source: China's General Administration of Customs, Bloomberg, DBS. Note: refers to imports under HS#8486

The global semiconductor value chain is entering a structurally bifurcated phase. As US-China tensions deepen over export controls and market access, the industry is increasingly splitting along geopolitical lines. While multinational chipmakers can still sell into China, restrictions on advanced chips such as GPUs for AI have significantly limited access to critical segments. This is driving global players to adapt and develop new products that meet the export compliance requirements. In response, Chinese firms are accelerating localisation out of necessity and the need for long term strategic resilience. For advanced tools that are no longer accessible, companies have little choice but to develop or source them domestically. In contrast, more mature nodes face less import restrictions, but localisation is still advancing to strengthen supply chain resilience. The result is an increasingly split ecosystem, with China building greater self-sufficiency while global suppliers adjust to structurally lower exposure to the Chinese market in the long term.

Renewed US tariffs and ongoing export controls are accelerating China's self-sufficiency agenda, particularly in segments where substitution is feasible. Geopolitical tensions, national security, and technological sovereignty are driving a faster shift toward domestic alternatives and compressing China's technology catch-up timeline, especially in legacy nodes and tool categories that are commercially viable today. Evidently, the global market share of China-based semiconductor companies has increased from 6.4% in 2020 to 8.6% in 2024. This uptrend is expected to continue, supported by domestic substitution efforts in China. Nonetheless, we note structural gaps remain in critical areas such as EUV lithography, where China's technologies still lag global peers.

Global market share of China-based semiconductor companies on an uptrend



Source: Gartner, DBS

Why was localisation slow to take off previously?

China's localisation in semiconductor equipment was historically constrained by technical limitations and low adoption rates. The semiconductor equipment sector has long faced high technical entry barriers, which slowed the localization pace. Over the past few years, China's domestic equipment adoption rate has remained relatively low, estimated at just 10% to 20%, due to gaps in technological sophistication, reliability, and performance compared to established global players. Of note, there was comparatively higher local substitution in processes for more mature nodes. Despite being around 20 percent cheaper than imported alternatives, local tools were often seen as less efficient over the long term, limiting broader commercial adoption.

EUV Lithography remains the most significant bottleneck in China's semiconductor ambitions. Access to extreme ultraviolet lithography (EUV) remains restricted due to export controls, limiting China's ability to efficiently produce chips at 7 nanometers and below. ASML is the sole global supplier of EUV tools, and exports of this technology to China are currently prohibited. Access to advanced lithography tools has long been a structural hurdle for China's localisation efforts, with the situation worsening in 2024 after access to ASML's advanced immersion DUV machines was also denied.

Localisation set to accelerate as key chokepoints recede, although friction remains

China's semiconductor localisation push is entering a self-reinforcing phase and could reach 50-60% by 2030, driven by volume-led yield learning and intensifying domestic competition. Stricter chip export bans have amplified the push toward domestic substitution. As domestic fabs scale up, accumulated wafer runs are improving yield learning curves, driving faster process maturity and higher equipment reliability. This volume effect reduces the risk of using local tools, creating stickier demand for domestic equipment makers such as NAURA, AMEC, and ACM Research. At the same time, a growing number of domestic competitors across etch, deposition, and cleaning tools is driving innovation and closing performance gaps versus foreign players. Backed by policy support de-risking capital outlays and rising scalability of local players, China's localisation momentum is no longer just politically driven but commercially self-sustaining, accelerating localisation tailwinds. By 2030, we believe that local tools could account for 50 to 60% of total equipment used in Chinese fabs, particularly in mature nodes >28nm. This structural shift is positioning domestic players to become central to China's semiconductor supply chain, reducing dependence on

foreign suppliers and capturing a greater share of capital investment.

Government funding and policy alignment are reinforcing the commercial scalability of local players, with the third phase of the National Integrated Circuit Industry Investment Fund allocating USD 47.5 bn to chip development and equipment manufacturing. This follows earlier rounds totaling USD 39 bn, with roughly 70% focused on front-end manufacturing. This coordinated funding ecosystem is removing capital bottlenecks and de-risking tool development, enabling domestic players to expand faster and more confidently.

Challenges in localisation

Technology gaps and ecosystem maturity remain key structural barriers to full localisation. Domestic equipment manufacturers face challenges in scalability, field reliability, and global service support, which are essential for broader adoption. We acknowledge that lithography technology in China, a key bottleneck, continues to lag global standards in terms of technological advancements and throughput and production reliability at more advanced nodes. Producing local EUV systems capable of high-volume manufacturing remains a longer-term effort, given the sheer technological complexity of EUV tools, as well as the number of tools, components, and subsystems. Nonetheless, China has made domestic progress. Shanghai Micro Electronics Equipment (SMEE) reportedly developed its first 28 nanometer-capable DUV system, marking a major upgrade from its earlier 90 nanometer tools, though commercial viability remains uncertain. Apart from its progress in DUV, China also has strong ambitions in EUV, with SMEE reportedly filing a patent for EUV chipmaking tools. Research efforts in EUV also underway, led by institutions such as the Chinese Academy of Sciences and Harbin Institute of Technology.

US export controls have worsened China's technology gaps by cutting off access to critical tools and materials, but they are also accelerating the pace of innovation. While the restrictions limit China's ability to source from leading global suppliers, they have become a catalyst for self-sufficiency. The inability to import key tools or chips has pushed domestic firms to adopt more aggressive R&D timelines and build substitute capabilities from the ground up. The challenge lies not only in replicating existing technologies, but in developing commercially viable alternatives that can perform reliably at scale. This dual pressure to innovate quickly while scaling consistently remain as constraints in China's path to localisation.

Overcapacity and front-loaded procurement have created a near term cap on domestic equipment demand, despite long-term localisation tailwinds. China's semiconductor firms aggressively accelerated equipment purchases in recent years in anticipation of tighter export controls. As a result, many fabs are now operating with stockpiled foreign tools, dampening short-term demand for domestically produced alternatives.

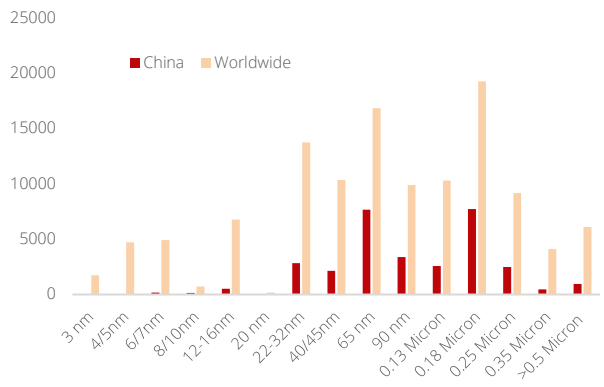
How far can China push localisation across the chip value chain?

FOUNDRY

China's foundries should scale up albeit still expected to lag at the leading edge without access to EUV. SMIC and HuaHong are mainly involved in mature nodes, particularly 28nm and above, which remain critical for automotive, industrial, and embedded applications. In China's push for self-sufficiency, Chinese foundries are expected to channel more investments to leading-edge chips, narrowing the technological gap with its global peers. Notably, SMIC has climbed up two spots and is now ranked third, behind TSMC and Samsung Electronics. Its production of a 7nm chip for Huawei using only deep ultraviolet (DUV) lithography highlights engineering resourcefulness under export constraints. The next-generation AI chips (Ascend 920) fabricated by SMIC for Huawei are projected to deliver substantial performance improvements, increasingly approaching Nvidia's previous flagship GPU, the H100, in both AI model training and inference tasks, significantly reducing gap computing power with world-class, advanced-grade AI chips.

However, it also reveals the trade-off of operating without access to EUV tools, such as reduced yields and greater manufacturing complexity, evident in yields for 7nm chips <50% vs the industry standard >90%.

Foundry capacity by technology node (2024)



Source: Gartner, DBS

Top 10 companies' sales revenue from shipments of foundry wafers to external customers, worldwide (USD mn)

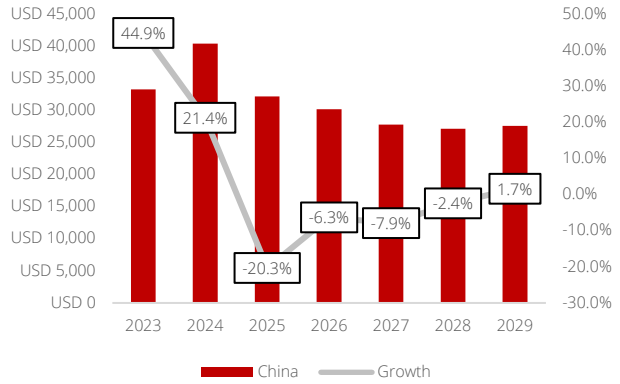
Rank			Revenue		Share %		
2023	2024		2023 YR	2024 YR	2023 YR	2024 YR	Change
1	1	TSMC	69,293	90,047	60.4%	65.5%	30.0%
2	2	Samsung Electronics	8,500	9,569	7.4%	7.0%	12.6%
5	3	SMIC	6,322	8,030	5.5%	5.8%	27.0%
4	4	UMC	7,144	7,233	6.2%	5.3%	1.2%
3	5	GLOBALFOUNDRIES	7,392	6,750	6.4%	4.9%	-8.7%
6	6	Shanghai Huahong Grace Semiconductor Manufacturing	2,286	2,004	2.0%	1.5%	-12.3%
7	7	Shanghai Huali Microelectronics	1,600	1,591	1.4%	1.2%	-0.6%
8	8	TowerJazz Semiconductor	1,423	1,436	1.2%	1.0%	0.9%
9	9	PSMC (PowerChip Semiconductor Manufacturing Corp)	1,414	1,393	1.2%	1.0%	-1.5%
10	10	Vanguard International	1,227	1,371	1.1%	1.0%	11.7%

Source: Gartner, DBS (China headquartered companies highlighted in pink)

EQUIPMENT

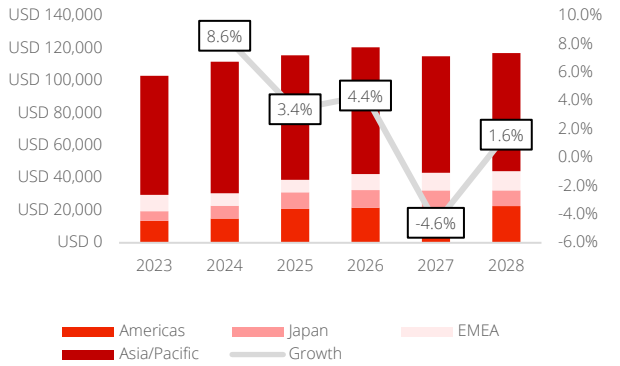
China's WFE spending is expected to pull back in 2025-2026, reflecting normalisation after front-loaded demand wanes, contrasting with more resilient global WFE growth. China's WFE market is expected to decline sharply by 24% in 2025 following a 47.4% surge in 2023 and 11.5% in 2024, as early demand tapers off. This contrasts with global WFE spending which is expected to grow by 3-5% annually through 2026, before entering a digestion phase after recent peak investments and accelerated capex cycles.

China WFE market on a decline as front-loading demand wanes (USDmn)



Source: Gartner, DBS

Global WFE spend continues to be buoyed by secular tailwinds



Source: Gartner, DBS

Domestic WFE makers are set to thrive despite headline declines in China's WFE spending, as the industry enters a transitional phase. Despite the headline weakness in China's WFE spending, we believe the pullback marks a transition toward domestically focused players. Most of the demand drop-off is likely concentrated among non-China-based WFE suppliers, which had previously benefited from front-loaded procurement amid tightening export restrictions. As the pace of China's self-sufficiency agenda accelerates, WFE spending on domestic equipment is expected to remain elevated, driven by the government's prioritisation of control over strategic technologies although progress will continue to be constrained by limited access to advanced foreign tools.

Chinese equipment makers are steadily gaining share, though meaningful gaps in technology and scalability remain. NAURA, AMEC, and ACM Research have seen increasing adoption in etch, cleaning, and deposition tools, supported by China's broader push for supply chain self-sufficiency and reduced reliance on foreign vendors. Progress has been most visible in mature node applications, where performance requirements are more attainable and domestic customers are more willing to qualify local tools. That said, China-based equipment players remain primarily focused on mature nodes (>28nm), where most local production is concentrated, and continue to lag global peers in leading-edge technologies. Future market share gains will hinge on their ability to scale manufacturing, enhance tool reliability, and consistently meet qualification standards at high-volume fabs.

Chinese-based companies are moving up the ranks

Rank			Revenue (USD mn)		Share %		Change %
2023 YR	2024 YR	Vendor	2023 YR	2024 YR	2023 YR	2024 YR	2024 YR
1	1	ASML	23,725	23,550	23.1%	21.1%	-0.7%
2	2	Applied Materials	20,352	21,439	19.8%	19.2%	5.3%
3	3	Lam Research	11,540	12,753	11.2%	11.4%	10.5%
4	4	Tokyo Electron	10,267	12,651	10.0%	11.3%	23.2%
5	5	KLA	7,646	8,529	7.4%	7.6%	11.6%
8	6	NAURA	1,974	2,927	1.9%	2.6%	48.3%
7	7	SCREEN Semiconductor Solutions	2,242	2,800	2.2%	2.5%	24.9%
6	8	ASM International	2,385	2,581	2.3%	2.3%	8.2%
9	9	Murata Machinery	1,436	1,445	1.4%	1.3%	0.6%
12	10	Daifuku	1,171	1,263	1.1%	1.1%	7.9%
14	11	Canon	1,024	1,245	1.0%	1.1%	21.5%
13	12	Lasertec	1,139	1,241	1.1%	1.1%	9.0%
11	13	Hitachi High-Tech	1,256	1,149	1.2%	1.0%	-8.5%
15	14	Kokusai Electric	976	1,118	0.9%	1.0%	14.5%
19	15	AMEC	729	1,086	0.7%	1.0%	48.9%
10	16	SEMES	1,383	963	1.3%	0.9%	-30.3%
17	17	Ebara	823	854	0.8%	0.8%	3.8%
20	18	Onto Innovation	619	815	0.6%	0.7%	31.7%
16	19	Axcelis Technologies	900	783	0.9%	0.7%	-13.0%
24	20	ACM Research	505	699	0.5%	0.6%	38.4%

Source: Gartner, DBS. Firms highlighted in pink are either headquartered in China or are heavily exposed to China

Which tools or technologies are Chinese companies showing the most promise in?

Equipment Category	Self-Sufficiency Rate	Chinese Companies	Global Companies
Photoresist Stripping	75%-90% (low-end) <30% (high-end)	BEST, NAURA, ACM, Zhejiang YuQian, JET PLASMA	Hitachi High-Tech, Lam Research
Cleaning	50%-60%	ACM, NAURA, PNC, Kingsemi, BEST	SCREEN, TEL, Lam Research
Etching	50%-60% (mature process) <15% (advanced process)	AMEC, NAURA, Joysingtech, BEST, Piotech, ACM, Kingsemi	AMAT, Lam Research, TEL
Thermal Processing	30%-40%	NAURA, JSG, AMEC, Piotech, Joysingtech	ASMI, AMAT, Lam Research, TEL
PVD	15%-20% (mature process) 10% (advanced process)	NAURA, SC, Joysingtech, CETC, HF Kejing	ASMI, AMAT, Lam Research, TEL
CVD/ALD	5%-10%	NAURA, JSG, AMEC, ACM, Piotech, Joysingtech	ASMI, AMAT, Lam Research, TEL
CMP	15%-25% (mature process) <10% (advanced process)	ACM, Hwatsing, CETC, Hubei Dinglong	DuPont, Thomas West, JSR
Coating and Developing	10%-15% (mature process) <10% (advanced process)	ACM, Kingsemi, NAURA, AMEC, Beijing Huafeng Test & Control	Dow Chemical, JSR, TOK America
Ion Implantation	10%-20% (mature process) <5% (advanced process)	Kingstone, CETC, NAURA, AMEC	AMAT, Axcelis Technologies
Metrology	10%-15% (mature process) <5% (advanced process)	SMEE, Skyverse Technology, Jingce, Hwatsing, NAURA	KLA, Santec Holdings
Lithography Equipment	10%-15% (mature process) 0%-1% (advanced process)	SMEE, CETC, NAURA	ASML, Canon, Nikon

Source: China Semiconductor Industry Association, corporate financial reports, and market information arranged by Trend Force as of Feb 2025, DBS

INVESTMENT IMPLICATIONS

Chinese firms are likely to emerge as long-term beneficiaries within their home market, especially in legacy nodes and back-end processes. However, global competitiveness, particularly at the leading edge, remains a medium to long-term ambition rather than an immediate reality. Hence, we are of the view that near-to-mid-term opportunities lie in firms aligned with domestic substitution themes, while longer-term upside depends on sustained execution and technological convergence.

Domestic players such as NAURA, AMEC, ACM Research, and SMIC stand to benefit directly from the localisation drive, with preferential access to subsidies, procurement contracts, and R&D support. Their growth is underpinned by rising domestic demand in foundry services and equipment categories where foreign alternatives are increasingly restricted. In the short to medium term, these companies are well positioned to gain share in cleaning, etch, and deposition tools.

Among the equipment makers, NAURA stands out as the most comprehensive domestic player and the only domestic player ranked among the world's top chip toolmakers. NAURA offers a comprehensive range of semiconductor manufacturing equipment, including deposition, etching, thermal processing, and cleaning tools. It serves both front-end and back-end semiconductor processes, positioning itself as a one-stop solution provider. AMEC specializes in advanced process technologies, particularly in dry etching and chemical vapor deposition (CVD) equipment. Its tools are utilized in manufacturing logic and memory chips at advanced nodes, with a growing presence in thin-film and epitaxy equipment. ACM focuses on wafer cleaning and surface preparation tools, such as single-wafer cleaning systems. The company is expanding into electroplating, thermal processing, and advanced packaging equipment, aiming to broaden its product portfolio.

All three companies—**NAURA (fair value RMB550), AMEC (RMB216), and ACM Research (USD30)**—are currently trading at high price-to-earnings (P/E) multiples, at above 30x, compared to the global semiconductor equipment peer average of around 20x. While these valuations may appear stretched on a headline basis, they are more compelling when viewed through the lens of the price-to-earnings growth (PEG) ratio. All three exhibit PEG ratios below 1x, versus global peers typically trading above 1x, reflecting the superior earnings growth outlook driven by China's aggressive localization push in semiconductor manufacturing. This growth-adjusted valuation highlights their attractiveness as structural beneficiaries of China's drive for technological self-sufficiency.

SMIC (BUY; TP53.20): holds the best chance to lead China's advanced chip substitution efforts and expand its domestic dominance, as demonstrated by continuous improvements in chip performance despite tightening U.S. restrictions. Its latest foundry product, Huawei's AI accelerator Ascend 910C, has already reached approximately 60% of Nvidia's H100 performance in DeepSeek model inference. The forthcoming Ascend 910D aims to match H100-level performance, while the next-generation Ascend 920 is designed to enhance training efficiency by around 30–40% compared to 910C-based platforms. These advancements strengthen SMIC's competitive moat, enabling entry into new market segments and supporting localised AI chip performance aligned with China's growing AI model requirements. We expect yield rates to gradually improve alongside expanded fabrication scale at advanced nodes, easing the critical bottleneck of low yields that currently hinder SMIC's profitability.

In contrast, major mature-node player **Hua Hong (HOLD; TP: HKD30)** may experience a slower recovery in gross margins due to elevated depreciation expenses resulting from its aggressive capacity expansion over the past two years.

SMIC currently trades at 2x forward P/B, compared to TSMC at 4.72x and UMC at 1.53x. Its PEG of <1x is also more attractive vs global peers. We maintain our BUY rating on SMIC H-shares, driven by our projected 71.3% earnings rebound in FY25F. Our TP remains HKD53.2, based on an unchanged valuation multiple of 2.5x FY25F P/B, reflecting sustained capital inflows into China's rapidly evolving advanced AI chip ecosystem and supporting valuation upside during the industry upcycle.

Peer comparison

Company	Price (LCY)	Mkt Cap (US$)	Earnings Gth (%) FY1	Earnings Gth (%) FY2	EBITDA Margin (%) FY1	EBITDA Margin (%) FY2	P/E (x) FY1	P/E (x) FY2	PEG (x) FY1	PEG (x) FY2	P/BV (x) FY1	P/BV (x) FY2	Net Debt/ Equity (x)
Equipment Makers													
China													
NAURA	431.57	32,028.0	34.8	28.0	23.9	24.5	30.4	23.7	0.9	0.8	6.1	4.9	-0.1
AMEC	174.49	15,160.7	49.3	41.5	22.5	24.1	45.0	31.8	0.9	0.8	4.9	4.3	-0.4
ACM Research Shanghai*	100.70	6,171.9	34.3	26.9	25.2	26.0	29.2	23.0	0.8	0.9	4.6	3.9	-0.2
ACM Research	22.41	1,431.2	42.6	-2.3	22.0	21.4	9.9	9.4	0.2	-4.0	1.4	1.1	-0.3
Global													
ASML HLDG (EUR)	654.00	292,095.8	21.1	10.7	36.5	37.6	27.8	24.3	1.3	2.3	13.7	11.9	-0.4
APPLIED MATERIAL	157.51	126,401.5	7.0	4.4	31.7	31.8	16.6	15.6	2.4	3.5	6.6	5.8	-0.2
LAM RESEARCH	81.06	103,685.3	35.2	-2.2	33.9	32.8	20.2	20.1	0.6	-9.2	10.5	8.9	-0.1
KLA CORP	757.17	100,617.9	56.8	0.1	45.4	44.9	23.4	22.8	0.4	280.9	23.5	20.8	0.6
Japan													
TOKYO ELECTRON	23355.00	77,298.1	1.3	17.2	30.9	32.8	19.7	16.7	15.0	1.0	5.1	4.4	-0.3
TERADYNE INC	76.98	12,349.2	-4.9	40.7	24.7	27.5	24.0	16.9	-4.9	0.4	4.3	4.1	-0.2
Screen	10515.00	7,496.2	-10.8	12.2	21.7	22.8	11.2	10.0	-1.0	0.8	2.1	1.8	-0.5
Foundries													
TSMC	967.00	774,376.7	31.8	15.4	68.1	67.5	16.3	14.1	0.5	0.9	4.6	3.7	-0.3
SMIC	40.55	54,016.1	67.8	25.3	50.5	50.7	52.3	39.9	0.8	1.6	1.9	1.8	0.0
GLOBALFOUNDRIES	36.91	20,475.2	n.m.	35.2	34.0	35.6	23.4	17.4	-	0.5	1.7	1.6	-0.1
UMC	46.75	18,127.1	-9.2	15.3	43.2	44.6	13.7	11.8	-1.5	0.8	1.5	1.5	-0.1
HUA HONG SEMI	31.60	8,072.7	89.7	98.7	30.0	37.8	62.8	32.3	0.7	0.3	1.1	1.1	-0.4

*Update: 26 May 2025 Source: Refinitiv, DBS, *ACM Research is the parent company of ACM Research Shanghai*

SCENARIO ANALYSIS

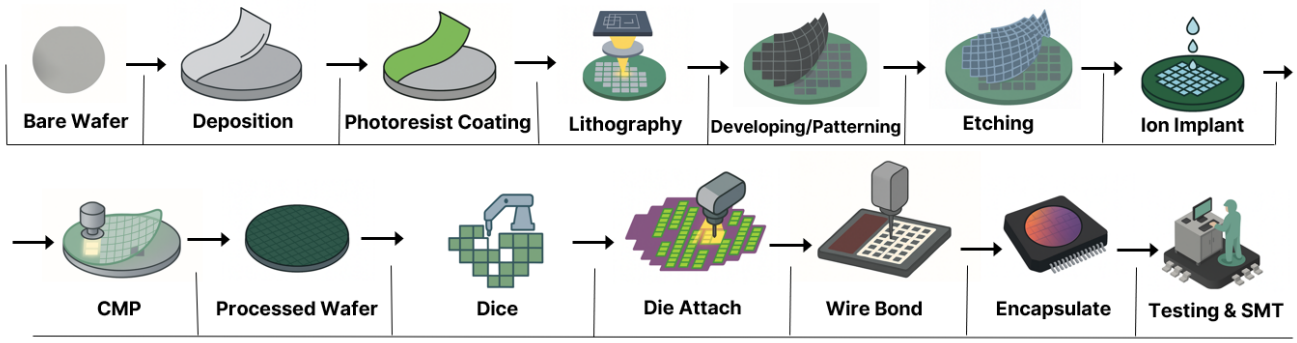
China's chip drive reshapes the global game. China's push for semiconductor self-sufficiency is transforming the global chip landscape, with implications for supply chains, capital allocation, and investor positioning. While challenges persist, particularly in advanced process technologies and equipment, China's strategic resolve, policy support, and captive domestic demand are laying a strong foundation for progress.

Base case: In our base case, we expect continued advancement in mature nodes (28nm and above) and selective front-end tooling such as etch, cleaning, and deposition. Domestic equipment suppliers are likely to gradually gain share, supported by state-led procurement and rising demand from AI applications. While reliance on imported tools will remain, particularly in metrology, testing, and lithography, incremental gains will continue to strengthen China's localisation ecosystem.

Bull case: In a bull case scenario, breakthroughs in immersion DUV and potentially EUV as well as advanced packaging could significantly accelerate China's technology catch-up timeline. This would expand the addressable market for domestic players and reduce reliance on foreign capital equipment in critical process steps, positioning Chinese firms for broader commercial adoption and export potential.

Bear case: In a bear case, policy missteps, poor capital discipline, or delays in tool qualification could stall momentum. Execution risk remains high, particularly for more advanced nodes. Without meaningful improvement in tool performance and reliability, domestic equipment makers may remain confined to low-value segments.

Appendix: Chip manufacturing process



Source: DBS

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BUY (>15% total return over the next 12 months for small caps, >10% for large caps)
HOLD (-10% to +15% total return over the next 12 months for small caps, -10% to +10% for large caps)
FULLY VALUED (negative total return, i.e., > -10% over the next 12 months)
SELL (negative total return of > -20% over the next 3 months, with identifiable share price catalysts within this time frame)

**Share price appreciation + dividends*

Completed Date: 3 Jun 2025 06:44:15 (SGT)
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