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Semiconductors

Foundry – AI-driven super cycle reshapes market dynamics

The global foundry industry has shifted decisively from a cyclical, inventory-driven model to a structural, AI-powered super cycle. AI demand now serves as the dominant growth engine, against a backdrop of supportive inventory normalization. **We forecast the pure play foundry market to reach ~US$171bn in 2025, a 25.6% increase YoY**, with sustained growth driven by: 1) continued AI infrastructure investment, 2) recovery in broader electronics demand, 3) technology node advancement, and 4) strategic regional capacity expansion.

- **Revenue of the pure play foundry market is expected to remain elevated in 4Q25, in our view.** The market reached US$136bn in 2024 (+16.3% YoY), and is accelerating significantly. In 2025, the sector has delivered strong double-digit year-over-year growth in the first three quarters, fueled by surging AI-related demand and seasonal pre-holiday inventory builds. We expect 4Q25 revenue to remain elevated near 3Q levels (approximately US$46bn), consistent with TSMC's 4Q guidance of roughly -1% QoQ at the midpoint.
- **Geopolitical fragmentation is accelerating supply chain reconfiguration, as major economies invest heavily in domestic fabrication for de-risking.** Local champions are positioned to benefit from strong government support, reshaping the competitive landscape over the medium term.
- **While global wafer shipments have recovered steadily (+14% YoY in 9M25), ASP trends reveal a stark divergence.** TSMC's blended ASP rose 15% YoY in 3Q25, propelled by its AI-driven technology mix—a momentum we expect to continue amid tight supply. In contrast, ASP recovery for foundries less exposed to AI remains subdued, as players prioritize utilization over pricing amid tepid non-AI demand—a dynamic delaying broader market recovery.
- **Competitive concentration around TSMC is pronounced** (71% share in 2Q25, up from 63% in 1Q24), a trend likely to deepen under the "Foundry 2.0" paradigm integrating full stack manufacturing. **Other leading foundries face share pressure, although SMIC (981 HK, NR) and Hua Hong (1347 HK, Hold) remain key beneficiaries of China's supply chain localization**, supported by demand recovery, ASP improvement, technological progress, and policy tailwinds.
- **While we maintain a positive long-term view for Hua Hong's strategic position and capacity expansion, current valuation appears to fairly reflect near-term prospects.** We therefore maintain our Hold rating with a target price of HK$68. Upside catalysts: stronger-than-expected demand or further ASP increases. Downside risks: weaker end markets, renewed pricing pressure, and geopolitical tensions.

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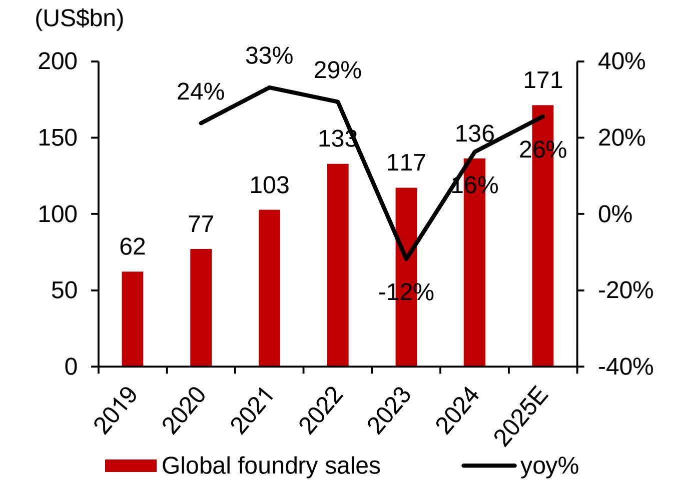
Pure-play foundry sector: AI-driven super cycle redefines growth trajectory

Foundries in the AI age: riding on the structural super cycle amid geopolitical fragmentation

The global foundry industry has shifted from a cyclical inventory-driven model to a structural, AI-powered super cycle. While gradual inventory normalization provides a supportive backdrop, AI demand is now the dominant growth engine. The market reached US$136bn in 2024 (+16.3% YoY), and is accelerating significantly.

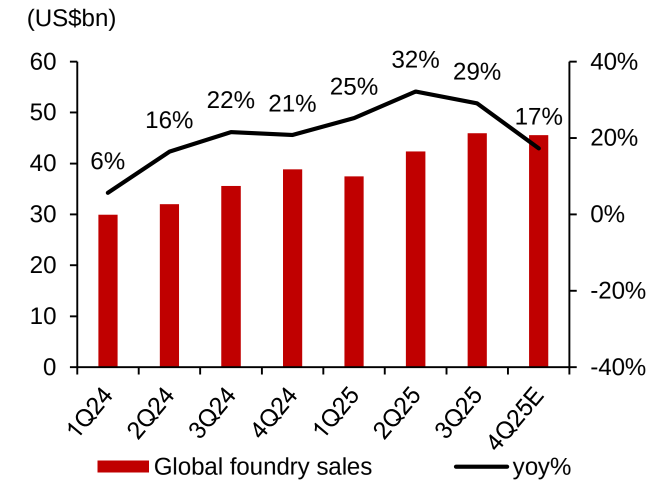
In 2025, the sector has delivered strong double-digit year-over-year growth in the first three quarters, fueled by surging AI-related demand and seasonal pre-holiday inventory builds. **We expect 4Q25 revenue to remain elevated near 3Q levels** (approximately US$46bn), consistent with TSMC's 4Q guidance of roughly -1% QoQ at the midpoint. **For full year of 2025, we forecast the pure-play foundry market to grow 25.6% YoY to ~US$171bn.** Such growth is expected to remain robust beyond 2025, driven by: 1) sustained AI infrastructure investment, 2) recovering demand for broader electronics, 3) continued technology advancement, and 4) strategic regional capacity builds.

Figure 1: Global foundry market share to grow 25.6% YoY in 2025



Source: Counterpoint, CMBIGM estimates

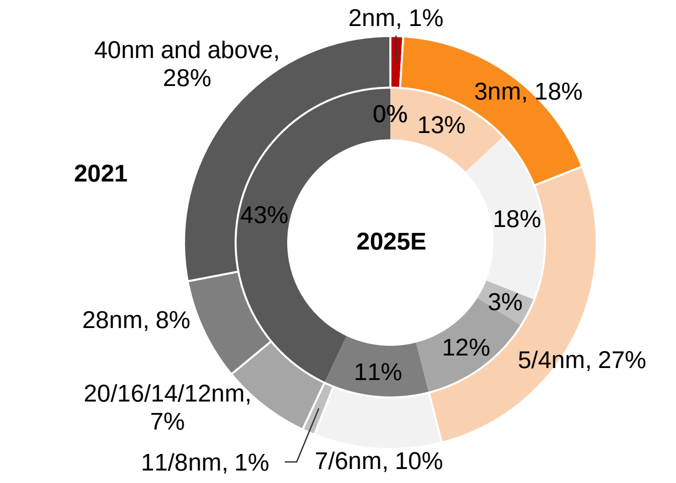
Figure 2: 4Q25 foundry market revenue to remain elevated at 3Q's level (US$46bn)



Source: Counterpoint, CMBIGM estimates

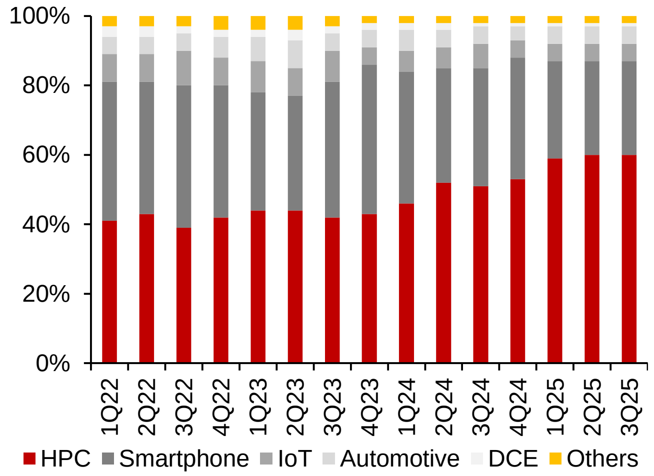
This expansion is increasingly concentrated in AI and driven by leading-edge technology. TSMC's revenue mix illustrates this shift: its High-Performance Computing (HPC) segment contribution rose from 42% in 3Q23 to 51% in 3Q24, and further expanded to 60% in 3Q25. Concurrently, the migration to advanced nodes is a primary driver of industry value expansion, alongside the increase in wafer shipment. By 2025, sub-7nm processes are projected to capture ~56% of total foundry revenue per Counterpoint, a significant increase from ~31% in 2021. The technology race continues unabated, with leaders like TSMC on track to begin 2nm (N2) production before year-end, further solidifying the technological moat for next-generation AI hardware.

Figure 3: Global foundry (pure-play) advancing toward 2/3nm nodes



Source: Counterpoint, CMBIGM estimates

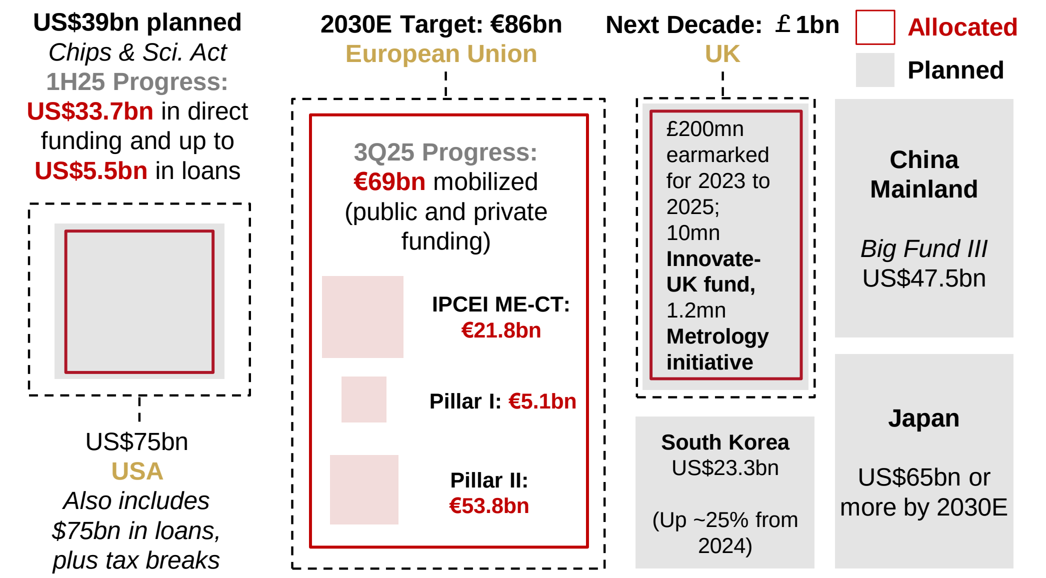
Figure 4: TSMC's revenue breakdown by applications: rising contribution from HPC



Source: Counterpoint, CMBIGM

Geopolitical fragmentation is concurrently driving a global reconfiguration of semiconductor supply chains, as major economies prioritize de-risking through substantial domestic fabrication investments. In China, the push for supply chain localization is accelerating technological advancement and import substitution, with SMIC and Hua Hong positioned as key beneficiaries. Similar trends are gaining momentum in other regions (e.g., the US, EU, Japan), heavily supported by government subsidies, which are set to reshape the global competitive landscape over the medium term.

Figure 5: Global chips subsidy programs update (2024-3Q25)

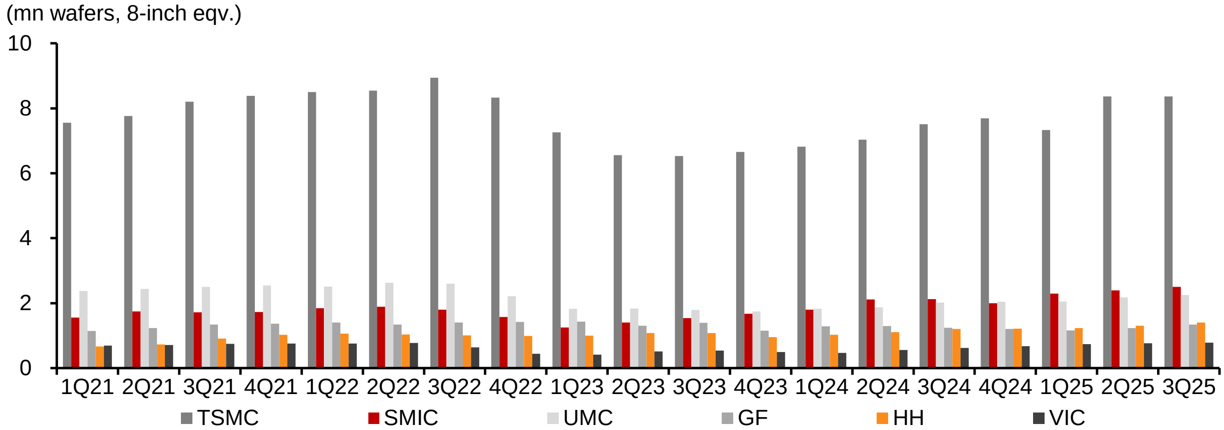


Source: Gov.uk, US DoC, SIA, SEMI, Reuters, Bloomberg, CMBIGM

ASP divergence highlights bifurcated market dynamics

A steady recovery in global wafer shipments has been underway since early 2024, with aggregated major foundry shipments growing 10% YoY in 2024 and 14% YoY in 9M25. This improvement has been supported not only by inventory normalization but also by structurally higher AI infrastructure demand, which is pulling through peripheral IC demand on mature nodes.

Figure 6: Global wafer shipment (8-inch equivalent) has been recovering steadily since early 2024

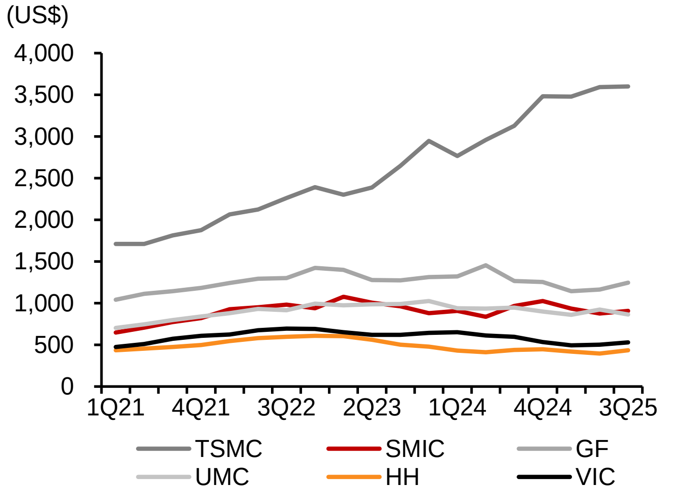


Source: Company info, CMBIGM estimates

However, ASP trends reveal a stark divergence between AI-driven and non-AI foundry businesses. TSMC's blended ASP grew 15% YoY in 3Q25, largely driven by its advancing technology mix which is propelled by AI, as its HPC revenue share rose from ~50% in 3Q24 to 60% in 3Q25. **We expect TSMC's ASP momentum to continue**, supported by sustained AI demand (the company targets a mid-40% or higher AI revenue CAGR through 2029), ongoing node advancement (N2 ramp in 2026, with wafer prices ~50% higher than prior generations per TrendForce), and a tight supply-demand balance.

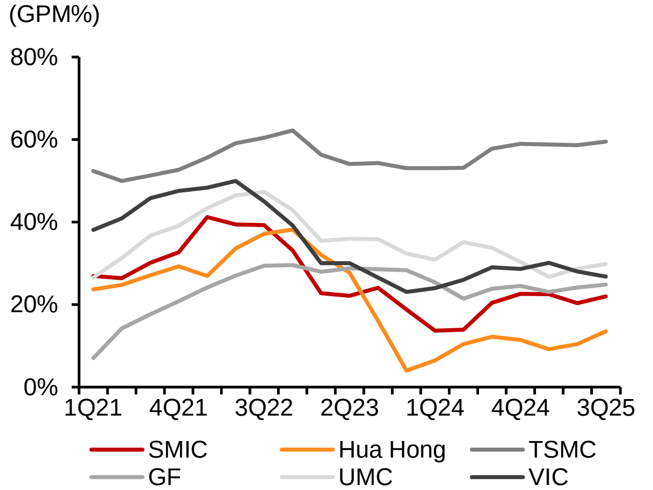
In contrast, ASP recovery for foundries less exposed to AI is still weak in 2025. These players remain cautious in raising prices amid a lukewarm recovery in non-AI end markets, prioritizing high utilization rates instead, a trend we highlighted in our prior research (report). We see blended ASP declined 6%/2%/9%/1% for SMIC/GlobalFoundries/UMC/Hua Hong from 3Q24 to 3Q25. This dynamic is contributing to a slower demand recovery across non-AI markets.

Figure 7: Global wafer ASP (8-inch equivalent)



Source: Company data, CMBIGM estimates

Figure 8: Major foundries GPM



Source: Company data, CMBIGM estimates

Figure 9: Major foundries' 3Q25 earnings summary

Foundry	3Q performance	Overall demand	AI-related demand	Outlook
TSMC	**US$33.1bn** (40.8% YoY, 10.1% QoQ)	Broad-based strength with advanced nodes (7nm and below) contributing ~74% of wafer revenue; HPC ~57% and smartphones ~30% of net revenue. Utilization for 3/5nm and CoWoS remains very tight.	AI accelerators remained the main growth driver offsetting weakness in legacy consumer products.	4Q revenue guided US$32.2–33.4bn, w/GPM 59 - 61%; AI expected to keep advanced-node capacity tight into 2026. Capex for 2025 maintained at US$40–42bn, focused on 3/2nm and CoWoS.
Samsung (foundry)	**2Q25:** US$3.2bn	Achieved record-high customer orders esp. on advanced nodes, with 1st Gen 2nm entering mass production. Fab utilization rate also improved sequentially.	Per Reuters, Samsung's new chip factory in Texas would be supplying Tesla's next-generation AI6 chip.	Expect 4Q to see continuous earning improvement driven by 2nm ramp and better fab loading
GFS	**US$1.69bn** (-3% YoY, flat QoQ)	Utilization in the mid-80% range; smartphones still soft but auto and communications infra/data-center posted strong double-digit YoY growth and now account for ~28% of revenue.	AI is a major growth engine, driving strong demand in physical-AI chips, e.g., power, RF-SOI, SiGe, optical connectivity, and accelerating DC and industrial/automotive orders.	4Q revenue guided ~US$1.8bn with better earnings driven by auto, industrial, and DC. Capex will remain disciplined.
Hua Hong	**US$635m** (20.7% YoY, 12.2% QoQ)	Overall industry recovery in addition to continuous ASP recovery. Utilization rate maintained at high levels (100%+) on strong demand for memory and PMIC products, driven by sector movement and AI infrastructure buildout.	Mgmt. estimated ~12% revenue generated by AI-server power chips in 3Q25.	4Q revenue guided ~US$650-660mn with GPM 12-14%.
SMIC	**US$2.38bn** (9.7% YoY, 7.8% QoQ)	Wafer shipment increased with utilization ~96%. Growth came from consumer (ex-smartphone), auto and industrial. Mgmt. notes uncertainties in smartphone inventory restocking due to fluctuation in memory product pricing.	Advanced node capacity is still limited but seeing improving yield and has largely been allocated to advance China's AI accelerator domestication scheme, per AnySilicon.	4Q revenue expected to be 0-2% QoQ with GPM expected to be 18-20%.
VIS	**US$413mn** (13% YoY, 8.7% QoQ)	Shipment volume grew ~7% QoQ, with some ASP rising ~2%. Gross margin declined by 1.2 ppts to 26.8% with rising demand for power management products.	Being a subsidiary of TSMC, VIS indirectly benefits from the AI boom with steady demand for PMIC in AI server and DC markets.	4Q shipments expected to decline 6-8% QoQ in Q4, with GPM to be ~27%
UMC	**US$1.98bn** (5.4% YoY, 3.5% QoQ)	Overall demand recovered modestly; 22/28nm accounted for ~35% of revenue with utilization at ~78%. Smartphone and PC demand recovered, prompting customers to restock. New 55nm BCD platform is also ready for mass production.	UMC links its AI participation mainly to 22nm ISP/connectivity, RF-SOI, and its ramping AI-driven advanced packaging, expecting meaningful AI-related contribution starting late 2026–2027.	4Q shipments expected to remain flat with ASPs to hold firm and capacity to sequentially improve ~mid-to-high 70s.

Source: Company data, AnySilicon, Reuters, CMBIGM

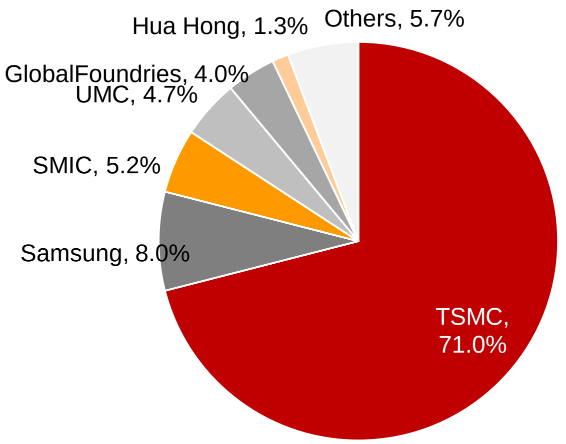
Pure-play foundry competitive landscape

The global foundry market continues to demonstrate pronounced economic concentration around TSMC. According to Counterpoint, TSMC's revenue share increased from 63% in 1Q24 to 71% in 2Q25, propelled by sustained demand for advanced nodes (3nm/5nm/7nm collectively represented 74% of its wafer revenue in 3Q25) and expanding CoWoS advanced packaging capacity. This trend underscores how AI accelerators and HBM-related logic are driving the majority of incremental industry value amid tight capacity conditions.

We expect TSMC's leadership to further solidify under the emerging "Foundry 2.0" paradigm, which extends the traditional foundry model into integrated, full-stack manufacturing platforms. Competitive execution now depends not only on leading-edge transistor performance but also on co-optimization across advanced packaging (CoWoS, 2.5D/3D), testing, mask technology, and system-level design. This broader scope concentrates value around vertically integrated players, with TSMC uniquely positioned through its control across sub-7nm logic and high-volume advanced packaging.

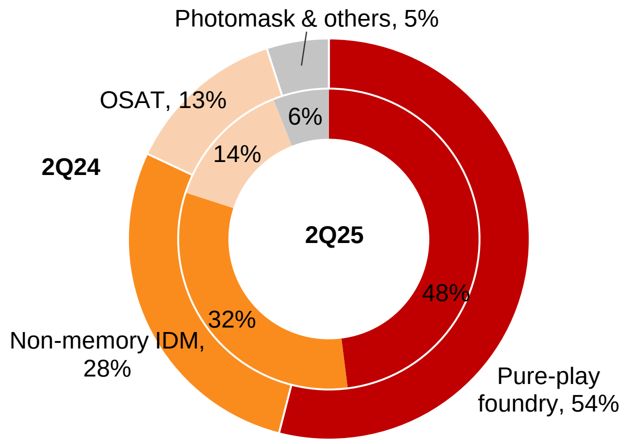
Consequently, pure-play foundries are capturing a growing proportion of total Foundry 2.0 revenue, increasing from ~48% in 2Q24 to ~54% in 2Q25, representing a ~6% gain largely at the expense of non-memory IDMs, which ceded ~4% of share over the same period.

Figure 10: TSMC dominated the global foundry market with 71% share in 2Q25 (up 6% vs. one year ago)



Source: Counterpoint, CMBIGM estimates
Note: Samsung includes foundry service for its internal logic IC business.

Figure 11: Pure-play foundry's rising importance amid the AI super cycle



Source: Counterpoint, CMBIGM estimates

Amid this consolidation, other foundries face share pressure. Samsung Foundry's share (including internal logic) declined approximately 2% YoY in 2Q25. The company is focusing on its 2nm node, leveraging competitive pricing (reportedly 33% below TSMC's) alongside yield improvements toward 55–60%. GlobalFoundries' share fell ~1.8% YoY to ~4%, while UMC and SMIC each saw a decline of ~0.7%, reaching roughly 5% share. Hua Hong's share decreased slightly by 0.2% to ~1.3%, per our estimates.

Despite near-term share declines, we view SMIC and Hua Hong as primary beneficiaries of accelerating semiconductor supply-chain localization in China. Improving end-market demand, gradual ASP recovery, technological progress, and supportive policies should allow these players to regain traction over time.

Indeed, an ASP turnaround is already underway. Hua Hong reported record 3Q25 revenue of US$635mn (+21% YoY, +12% QoQ), driven by a 7% QoQ increase in wafer shipments and a 5% QoQ rise in blended ASP. Management attributed ~80% of the ASP improvement to pricing adjustments and ~20% to product-mix optimization, with utilization remaining elevated at 109.5% and gross margin recovering to 13.5%.

While we maintain a positive long-term view of Hua Hong's strategic position in China's localization drive and its ongoing capacity expansion, we believe current valuation fairly reflects near-term prospects. We therefore maintain our Hold rating with a target price of HK$68. Upside catalysts include stronger-than-expected demand or further ASP increases. Downside risks include weaker end-markets, renewed pricing pressure, and geopolitical tensions.

Figure 12: Peers comparison

		Mkt Cap	P/E (x)			P/S (x)			EPS (US$)		
Company	Ticker	US$(mn)	FY25E	FY26E	FY27E	FY25E	FY26E	FY27E	FY25E	FY26E	FY27E
Non-China mainland peers											
TSMC	2330 TT	1,192,072	16.0	14.6	13.0	19.1	8.1	6.8	2.0	2.4	2.9
UMC	2303 TT	19,200	14.4	13.5	12.1	2.5	2.4	2.2	0.1	0.1	0.1
ASE	3711 TT	32,146	26.0	17.2	13.7	1.6	1.4	1.2	0.3	0.4	0.5
VIS	5347 TT	5,454	21.0	19.9	19.5	3.5	3.2	2.8	0.1	0.1	0.2
GlobalFoundries	GFS US	21,137	23.3	20.4	16.4	3.1	2.9	2.7	1.6	1.9	2.3
Intel	INTC US	208,735	127.2	69.0	40.4	4.0	3.9	3.7	0.3	0.6	1.1
			38.0	***25.8***	***19.2***	***5.6***	***3.7***	***3.2***	***0.8***	***0.9***	***1.2***
China mainland peers											
Hua Hong Semi	1347 HK	18,709	235.0	73.6	43.7	6.8	5.1	4.5	0.0	0.1	0.2
SMIC	981 HK	83,345	100.6	66.0	50.3	9.0	7.5	6.5	0.1	0.1	0.2
			167.8	***69.8***	***47.0***	***7.9***	***6.3***	***5.5***	***0.1***	***0.1***	***0.2***

Source: Bloomberg, CMBIGM estimates

Note: Bloomberg data as of 4 Dec 2025, and Hua Hong Semi data is from CMBIGM estimates.

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