

April 8, 2025 09:00 PM GMT

SMIC | Asia Pacific

Domestic AI GPU demand and supply larger than expected; Upgrade to EW

WHAT'S CHANGED		
SMIC (0981.HK)	From	То
Rating	Underweight	Equal-weight
Price Target	HK\$38.00	HK\$40.00

Rising AI inference demand and SMIC's capability to source bottlenecked equipment have led to strong revenue growth for its advanced nodes. Move SMIC to EW from UW.

Rigid demand for AI chip localization: Driven by DeepSeek, we expect rising demand for AI chips along with surging AI inference needs (Looking for Beneficiaries of China's Cloud Capex). Given limited supply from US AI GPUs, demand for domestic chips has surged and we expect SMIC to be the main supporter for local AI chip designers.

We might be underestimating advanced node capacity in China: In our view, SMIC's capacity is also limited by equipment bottlenecks (lithography tools for capacity limit and inspection tools for yield rate improvement). Our industry checks suggest that there may have been ~190 ASML immersion scanners in China at the end of 2024, including NTX2100/2050/2000/1980, which support 28nm and under chip manufacturers. We also learned from our industry checks that SMIC owns ~35 DUVs, which leads us to forecast a 50kwpm 14nm/10nm/7nm FinFET node capacity by the end of 2025. Based on our supply chain checks, SiGe EPI tools (key for FinFET structure) should be well supplied by local equipment vendors such as Naura. And inspection demand is covered by a group of local vendors to replace KLA, but it may take 2-3 years to complete the displacement.

We estimate there should be ~20 good dies of Huawei 910B per 12-inch wafer given 30-35% yield (Semicon China Key Takeaways). Assuming SMIC can assign 15kwpm advanced node capacity for Huawei AI chip with equivalent 7nm technology, we believe SMIC could produce 3.6mn units of AI GPUs per year, which may fulfill the domestic demand.

Raise PT to HK\$40, from HK\$38; move to EW from UW. Our new price target of HK\$40 reflects our higher EPS estimates for 2025-2027, implying 1.9x our 2025e P/B. Since the stock is trading +2sd of its historical average P/B, the valuation does not look attractive to us. We may turn even more positive on SMIC if sales of Nvidia's H20/B30 were to be banned in the future.

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SMIC (0981.HK, 981 HK)

Greater China Technology Semiconductors | China

Stock Rating Industry View	Equal-weight In-Line
Price target	HK\$40.00
Up/downside to price target (%)	2
Shr price, close (Apr 8, 2025)	HK\$39.15
52-Week Range	HK\$59.70-14.02
Sh out, dil, curr (mn)	7,048
Mkt cap, curr (mn)	US\$35,491
EV, curr (mn)	US\$51,722
Avg daily trading value (mn)	HK\$2,686.98

Fiscal Year Ending	12/24	12/25e	12/26e	12/27e
EPS (US\$)**	0.062	0.158	0.206	0.248
Prior EPS (US\$)**	-	0.151	0.195	0.246
EPS (US\$)§	0.081	0.114	0.137	0.174
Revenue, net (US\$ mn)	8,030	10,155	11,620	12,505
EBITDA (US\$ mn)	3,418	4,745	5,560	6,108
ModelWare net inc (US	493	1,263	1,644	1,981
\$ mn)				
P/E	66.3	31.9	24.5	20.3
P/BV	1.6	1.8	1.7	1.6
RNOA (%)	1.5	3.7	4.3	5.0
ROE (%)	2.4	6.1	7.5	8.4
EV/EBITDA	14.3	11.6	9.9	8.7
Div yld (%)	0.0	0.0	0.0	0.0
FCF yld ratio (%)	(3.9)	(8.2)	0.1	4.3
Leverage (EOP) (%)	24.1	36.0	31.7	20.9

Unless otherwise noted, all metrics are based on Morgan Stanley ModelWare framework

- ** = Based on consensus methodology
- § = Consensus data is provided by Refinitiv Estimates
- e = Morgan Stanley Research estimates

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Robust Al inference demand in China

The rise of DeepSeek spiked demand for AI LLM development and inference in China

Around the SEMICON China 2025 trade show (Semicon China Key Takeaways), we met with Chinese AI data center and graphic card distributors to try and gain an understanding of the demand for AI computing. Feedback from the server distributors indicated that apart from major domestic cloud service providers (CSPs), AI developers' spending on foundation model training was conservative, whereas for small models for verticals it was strong. For example, by using Retrieval-Augmented Generation (RAG) techniques, there were many vertical AI applications based on DeepSeek's foundation models.

Feedback from server distributors also indicated that the dependency on local GPUs did not appear to be high except for government usage – the software optimization for Huawei's 910B may require more technical support. We checked with several vendors who indicated that Huawei's new generation 910C was not yet available for large commercial usage.

Depending on the AI scale demand, some participants said they were still buying Hopper products from NVIDIA (covered by Joe Moore), but said that demand could be fulfilled by using gaming graphics cards, such as NVIDIA's 4090 and 5090, which has driven up retail prices of graphics cards in China. Of note, our checks with the domestic server supply chain suggest that 5090 gaming graphics cards can be used in AI workstations.

Exhibit 1: Nvidia's RTX 4090 gaming graphics card price surged after the rise of DeepSeek



Source: Taobao, Morgan Stanley Research

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Where can Chinese CSPs allocate AI capex to buy GPUs?

According to our Internet analyst for China, Gary Yu, Chinese CSPs may devote up to Rmb300bn to AI capex, most of which could be used to acquire AI servers. AI accelerators (or GPUs) should be the major cost item. Assuming US\$15k per chip, Rmb300bn of capex could buy 3mn units of H2O, (costing around US\$200bn), while the rest of the Rmb100bn budget is for data center infrastructure, networking, and other required system components to make them AI server clusters. The 3nm units of H2O chips can provide 50% of computing capacity if linked as clusters. That should be equivalent to the computing capacity of around 7.5mn Huawei 910B chips, for which the performance is similar to Nvidia's A100, or 40% of H2O in a cluster format (China – domestic GPU updates).

However, we think the procurement could be a mix of US chips and domestic chips, for three reasons:

Given the US policy uncertainty, Taiwan's supply chain may see only around 1.5mn units of H2O production according to our supply chain check, and whether B3O (the China version of B3OO) can be produced in 2H25 is still unknown. We therefore would assume 2mn units of Nvidia H2O (or the coming B3O, if that would be allowed) and AMD's MI3O8 chips, costing ~Rmb2OObn.

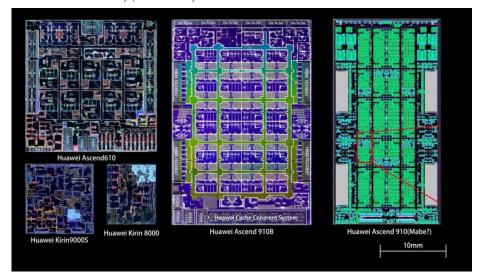
We would assume ~1.5 units of Huawei chips or other local GPUs, costing around Rmb100bn, assuming China's government reserves some GPU supply for national security purposes.

Realistically, SMIC's capacity is also limited by equipment bottlenecks (lithography tools for capacity limit and inspection tools for yield rate improvement). See our analysis in the next paragraph.

How many domestic GPUs can SMIC's fab supply in 2025?

Demand for China's local Al/GPUs appears strong. According to an industry website, Tom's Hardware (link), "[Huawei's Al chip] Ascend 910B is made by SMIC using its N+1 fabrication technology, which is believed to be a 7nm-class production node." Based on the die shot, 910B's die size is 665.61 mm². We calculate that each 12-inch wafer can produce 70-75 gross dies. Given the large die size, we estimate the yield is likely to be only 30-35% given the ongoing development of multiple patterning technology (MPT), or ~20 good dies for local GPUs. If so, we calculate that 10kwpm could produce 200k units of domestic GPUs. Our industry checks indicate that the 910B's performance should be comparable to that of Nvidia's previous A100 GPU. If so, we think the computing capacity of 3-4nm domestic GPUs could be similar to 1-2mn units of H20.

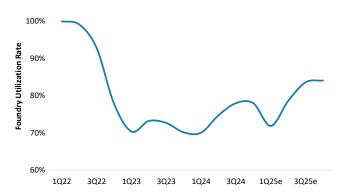
Exhibit 2: Huawei 910B die size is much bigger than Kirin 9000 5G smartphone SoC, and hence the foundry production yield is lower.



Source: Tom's hardware

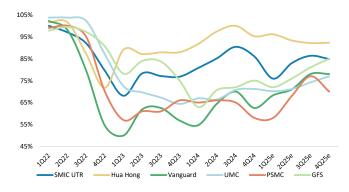
China's local demand has shown recovery

Exhibit 3: Logic semi foundry utilization at 70-80% – recovery still weak



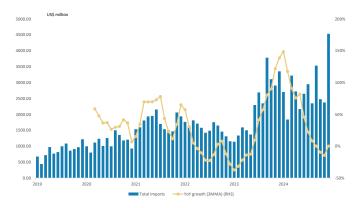
Source: Company data, Refinitiv, Morgan Stanley Research estimates Note: Including Greater China Foundry and GFS

Exhibit 4: SMIC and Hua Hong's utilization is higher than that of Taiwanese peers given high utilization of 12-inch production



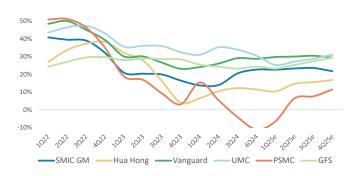
Source: Company data, Morgan Stanley Research estimates

Exhibit 5: China's semi equipment imports have grown in 2024 – fab capacity expansion in China looks set to continue in 2025



Source: China's General Administration of Customs, Morgan Stanley Research

Exhibit 7: We expect SMIC's gross margin to be stable in 2025



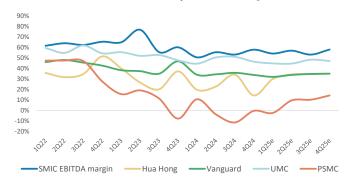
Source: Company data, Morgan Stanley Research estimates

Exhibit 6: We expect Greater China foundry quarterly capacity to increase



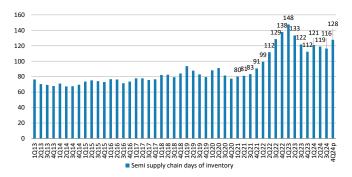
Source: Company Data, Gartner, Morgan Stanley Research (e) estimates

Exhibit 8: Greater China foundry: EBITDA margin trend



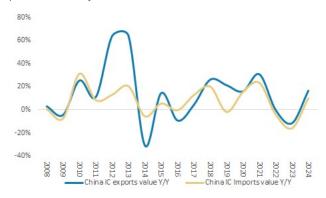
Source: Company data, Morgan Stanley Research (e) estimates

Exhibit 9: Global semi inventory has shown recovery in response to tariff worries



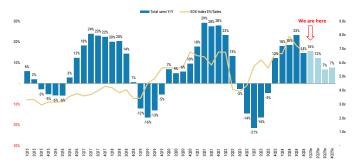
Source: Company data, FactSet, Morgan Stanley Research

Exhibit 11: China's IC export and import growth returned to positive territory in 2024



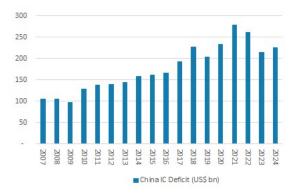
Source: China Customs, Morgan Stanley Research.

Exhibit 10: By excluding NVIDIA's AI GPU revenue, non-AI semi growth is slowing down



Source: Company data, SIA, Morgan Stanley Research

Exhibit 12: China's IC deficit rebounded slightly in 2024



Source: China Customs, Morgan Stanley Research.

SMIC: Earnings estimates revisions

We raise our 2025/26/27 EPS estimates by 5%, 5% and 1%, respectively: After factoring in the strong demand for SMIC's advanced node production from local AI chip designers, as well as expanding capacity for leading edge chip production, we raise our 2025/26/27 revenue forecasts by 3%, 8% and 7%, respectively, and our gross margin assumptions by 0.7ppts/0.7ppts/0.3ppts, given high UTR and potential increase in price.

Exhibit 13: SMIC: Earnings estimate revisions – summary table

	New 2025e	Old 2025e	Diff.%	New 2026e	Old 2026e	Diff.%	New 2027e	Old 2027e	Diff.%
Net sales	10,155	9,839	3%	11,620	10,780	8%	12,505	11,732	7%
Gross profit	2,177	2,036	7%	2,643	2,373	11%	3,064	2,844	8%
Operating profit	1,111	1,051	6%	1,461	1,354	8%	1,773	1,717	3%
Pretax income	1,645	1,585	4%	2,067	1,960	5%	2,444	2,387	2%
Net income to shareholders	1,263	1,206	5%	1,644	1,562	5%	1,981	1,968	1%
EPS for Consensus (US\$ cent)	15.80	15.09	5%	20.57	19.54	5%	24.79	24.62	1%
Margins									
Gross margin	21.4%	20.7%		22.7%	22.0%		24.5%	24.2%	
Operating margin	10.9%	10.7%		12.6%	12.6%		14.2%	14.6%	
Pretax margin	16.2%	16.1%		17.8%	18.2%		19.5%	20.3%	
Net margin	12.4%	12.3%		14.1%	14.5%		15.8%	16.8%	

Source: Morgan Stanley Research (e) estimates

Exhibit 14: SMIC: Quarterly financials

(US\$ mn)	1Q24	2Q24	3Q24	4Q24	1Q25e	2Q25e	3Q25e	4Q25e	2024	2025e	2026e	2027e
Total Revenues Q/Q %	1,750 4.3%	1,901 8.6%	2,171 14.2%	2,207 1.7%	2,387 8.1%	2,529 5.9%	2,592 2.5%	2,648	8,030	10,155	11,620	12,505
Y/Y %	19.7%	21.8%	34.0%	31.5%	36.4%	33.0%	19.4%	20.0%	27.0%	26.5%	14.4%	7.6%
Cost of Sales	(1,510)	(1,636)	(1,727)	(1,708)	(1,900)	(1,970)	(2,022)	(2,086)	(6,582)	(7,978)	(8,977)	(9,440)
Gross Profit	240	265	444	499	487	559	569	562	1,448	2,177	2,643	3,064
Gross Margin	13.7%	13.9%	20.5%	22.6%	20.4%	22.1%	22.0%	21.2%	18.0%	21.4%	22.7%	24.5%
Total Opex Percent of Revenues	(237) 13.6%	(178) 9.4%	(274) 12.6%	(285) 12.9%	(281) 11.8%	(226) 9.0%	(312) 12.0%	(247) 9.3%	(974) 12.1%	(1,066) 10.5%	(1,182) 10.2%	(1,291) 10.3%
R&D Percent of Revenues	(111) 6.3%	(9) 0.5%	(128) 5.9%	(107) 4.8%	(120) 5.0%	(60) 2.4%	(140) 5.4%	(70) 2.6%	(765) 9.5%	(900) 8.9%	(1,040) 9.0%	(1,145) 9.2%
Sales and Marketing Percent of Revenues	(9) 0.5%	(10) 0.5%	(10) 0.4%	(11) 0.5%	(11) 0.5%	(11) 0.5%	(12) 0.5%	(12) 0.5%	(40) 0.5%	(46) 0.5%	(52) 0.5%	(56) 0.5%
General and Admin Percent of Revenues	(116) 6.6%	(161) 8.4%	(136) 6.3%	(167) 7.6%	(150) 6.3%	(155) 6.1%	(160) 6.2%	(165) 6.2%	(580) 7.2%	(630) 6.2%	(630) 5.4%	(630) 5.0%
Operating Income Percent of Revenues	2 0.1%	87 4.6%	170 7.8%	214 9.7%	207 8.7%	332 13.1%	258 9.9%	315 11.9%	474 5.9%	1,111 10.9%	1,461 12.6%	1,773 14.2%
Total Non-operating Income(Loss)	72	100	73	141	119	117	119	179	386	534	606	671
Profit Before Taxes Percent of Revenues	74 4.3%	187 9.8%	243 11.2%	355 16.1%	325 13.6%	450 17.8%	376 14.5%	494 18.7%	860 10.7%	1,645 16.2%	2,067 17.8%	2,444 19.5%
Taxes Tax Rate	(11) 14.6%	(15) 7.9%	(20) 8.1%	(84) 23.7%	(16) 5.0%	(22) 5.0%	(19) 5.0%	(25) 5.0%	(130) 15.1%	(82) 5.0%	(103) 5.0%	(122) 5.0%
Minority Interests Loss from equity investment	8	(8) 0	(74) 0	(163) 0	(75) 0	(75) 0	(75) 0	(75) 0	(237) 0	(300)	(320)	(340)
Net Income to Ordinary Shareholders Percent of Revenues Change vs Year Ago	72 4.1% -69%	165 8.7% -59%	149 6.9% 58%	108 4.9% -38%	9.8% 226%	352 13.9% 114%	283 10.9% 90%	394 14.9% 266%	493 6.1% -45.4%	1,263 12.4% 156.3%	1,644 14.1% 30.1%	1,981 15.8% 20.6%

Source: Company data, Morgan Stanley Research (e) estimates

We raise our price target to HK\$40 from HK\$38 and move SMIC to EW: This reflects the changes to our 2025-27 EPS estimates.

We continue to derive our price target through a residual income framework, which we believe best captures the value of the company.

We slightly lower our cash dividend payout ratio assumption to 62% from 66%.

We keep other key assumptions unchanged, including a cost of equity of 8.6% (beta 1.2, risk-free rate 2% and risk premium 5.5%), intermediate growth rate of 14% and a terminal growth rate of 5.0%.

We also raise our bull and bear case values to HK\$65 and HK\$27 from HK\$61.70 and HK \$26.10, implying 3.0x and 1.3x 2025e BVPS.

Exhibit 15: SMIC: Residual income model

(US\$ mn)	2025e	2026e	2027e	2028e	2029e	2030e	2031e	2032e	2033e	2034e	2035e	2036e
Total Equity	21,877	23,520	25,502	26,369	27,358	28,485	29,770	31,120	32,536	34,024	35,586	37,226
Net Profit	1,263	1,644	1,981	2,259	2,575	2,936	3,347	3,514	3,690	3,874	4,068	4,271
ROAE	5.9%	7.2%	8.1%	8.7%	9.6%	10.5%	11.5%	11.5%	11.6%	11.6%	11.7%	11.7%
Residual Income	(547)	(297)	(121)	28	260	523	823	876	931	989	1,050	1,114
Spread	-2.7%	-1.4%	-0.5%	0.1%	1.0%	1.9%	2.9%	2.9%	3.0%	3.0%	3.1%	3.1%
Ending Equity Capital	21,877											
PV of Forecast Period	2,584											
PV of Continuing Value	16,253											
Equity Value	40,714											
No. of Shares	7,992											
FX	0.127											
Price Target (HK\$)	40.0											

Source: Morgan Stanley Research (e) estimates

Upgrade SMIC to EW from UW - we think SMIC is positioning for topline growth and gross margin expansion.

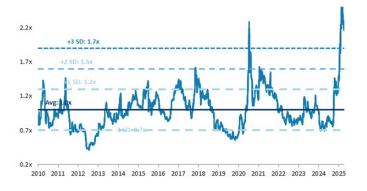
- Revenue growth should be driven by both rising shipments and ASP: Given
 continuous increase in yield after process maturation, we think that SMIC's
 advanced node shipments may be higher than market expectations. Besides, export
 controls and robust domestic AI chip demand may trigger steep price inflation for
 advanced-node manufacturing. 7nm equivalent wafer could sell at US\$10k per
 wafer, in our view, which would also drive up the blended ASP for SMIC and help
 margin expansion.
- We still have concerns on mature node oversupply: As management shared in the 4Q24 analyst meeting, SMIC may see intensified pricing competition in 2H25 (Subsidy and localization-driven growth amid rising depreciation), which leads to our EW rating on SMIC instead of OW.

Where we could be wrong: 1) China's demand for AI chips is weaker than expected; 2) SMIC's capacity can't expand further due to export control; 3) SMIC's yield remains low and is unable to climb; 4) SMIC decides not to raise the price of advanced node given non-commercial considerations.

SMIC: Relative valuation

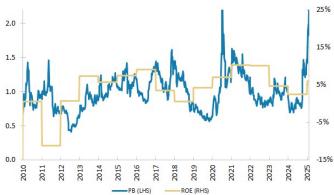
We upgrade SMIC to EW from UW. SMIC's one-year forward P/B is 1.8x 2025e BVPS, close to +2SD of its historical average P/B valuation. Our price target implies 1.9x our 2025e BVPS. We still think the stock is expensive now given the uncertainty in mature node. However, the AI and advanced node story may potentially bring a much higher valuation to the stock.

Exhibit 16: SMIC: One-year forward P/B



Source: Company data, FactSet, Morgan Stanley Research estimates

Exhibit 17: SMIC: One-year forward P/B vs. ROE trend



Source: Company data, FactSet, Morgan Stanley Research estimates

Risk Reward - SMIC (0981.HK)

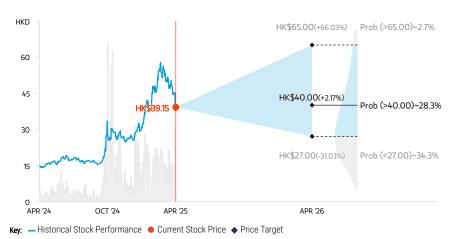
Capacity expansion for advanced node; Upgrade to EW

PRICE TARGET HK\$40.00

Base case, residual income model. Key assumptions: cost of equity 8.6% (beta 1.2, risk-free rate 2% and risk premium 5.5%), intermediate growth rate 14%, terminal growth rate 5%, and cash dividend payout ratio 62%.



RISK REWARD CHART AND OPTIONS IMPLIED PROBABILITIES (12M)



Source: Refinitiv, Morgan Stanley Research, Morgan Stanley Institutional Equities Division. The probabilities of our Bull, Base, and Bear case scenarios playing out were estimated with implied volatility data from the options market as of 8 Apr 2025. All figures are approximate risk-neutral probabilities of the stock reaching beyond the scenario price in either three-months' or one-years' time. View explanation of Options Probabilities methodology <a href="https://example.com/html/persearch/

EQUAL-WEIGHT THESIS

- SMIC appears well-positioned for localization demand, thanks to its location advantage and support from the government and Chinese chip companies.
- Given US export control and expanding capacity, we expect SMIC to receive more orders for advanced node manufacture, driving up revenue, but net margin may be affected given rising minority interest.
- Competition may intensify in 2H25, leading to pressure on mature node wafer prices and raising concerns about SMIC's gross margin profile.
- Following a sharp rally, valuation at 1.8x 2025e P/B vs. ROAE of 5.9%, looks fair to

Consensus Rating Distribution



Source: Refinitiv, Morgan Stanley Research

Risk Reward Themes

Pricing Power: Negative
Special Situation: Positive

View descriptions of Risk Rewards Themes here

BULL CASE

be >25%.

HK\$65.00

BASE CASE

HK\$40.00

BEAR CASE

HK\$27.00

3.0x 2025e BVPS

Better profits and growth than historical trends: 40nm and 28nm demand grows more strongly than expected, while SMIC gains share in the Chinese market, thanks to smooth capacity expansion and faster 28nm nodes development, given some leading-edge node equipment license approvals. Rising demand for advanced nodes leads to higher blended ASP and drives 2025 GM to

1.9x 2025e BVPS

Beneficiary of demand in China, but rising capex leads to higher depreciation: SMIC maintains its strategic position in China, especially with its advanced node offerings, along with the largest capacity in mature nodes domestically. Maintaining aggressive capex may lead to high depreciation, leading to a 2025 GM of 21.4%, given blended ASP increase with better product mix.

1.3x 2025e BVPS

Semi and smartphone demand slows down: The global economy deteriorates significantly, hurting global semi demand. China's consumption stimulus stops, resulting in demand that is not strong enough to boost 40nm demand, intensifying competition. 28nm overcapacity issue persists, while 28nm expansion faces serious challenges given difficulty sourcing critical tools required. 2025 GM drops to <15%.

Risk Reward – SMIC (0981.HK)

KEY EARNINGS INPUTS

Drivers	2024	2025e	2026e	2027e
Wafer shipment (k 8 inch equivalent)	8,020.8	9,781.8	11,361.6	2,758.9
Wafer ASP (USD) (US\$)	933	987	975	979
Utilization rate (%)	0.8	0.8	0.9	0.8

CATALYST CALENDAR

Date	Event	Source: Refinitiv, Morgan Stanle
27 Jun 2025 - 01 Jul 2025	Semiconductor Manufacturing I Shareholders Meeting	International Corp Annual

INVESTMENT DRIVERS

- · Global semi growth
- Market share in mature nodes, with semi demand from China
- IDM outsourcing

GLOBAL REVENUE EXPOSURE



Source: Morgan Stanley Research Estimate View explanation of regional hierarchies <u>here</u>

MS ALPHA MODELS



Source: Refinitiv, FactSet, Morgan Stanley Research; 1 is the highest favored Quintile and 5 is the least favored Quintile

RISKS TO PT/RATING

RISKS TO UPSIDE

- Global and Chinese semi demand strengthens.
- Pricing competition eases, helping margins.
- Technological breakthroughs come faster than expected, shortening transition period.

 | Compared to the c
- Utilization rate, product mix, and ASP are better than expected.

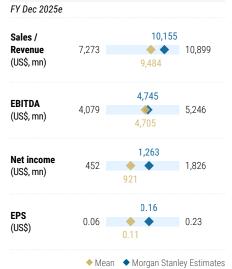
RISKS TO DOWNSIDE

- Global and Chinese semi demand weakens.
- Pricing competition intensifies, eroding margins.
- Utilization rate, product mix, and ASP trend are worse than expected.

OWNERSHIP POSITIONING



MS ESTIMATES VS. CONSENSUS



Source: Refinitiv, Morgan Stanley Research

SMIC: Financial summary

Exhibit 18: SMIC: Financial summary

(US\$ mn)	2024	2025e	2026e	2027e
Turnover	8,030	10,155	11,620	12,505
YoY Growth	27%	26%	14%	8%
Less: COGS	(6,582)	(7,978)	(8,977)	(9,440
Variable costs	(3775)	(4658)	(5270)	(5565
Depreciation & amort	(2807)	(3321)	(3706)	(3876
Gross profit	1448	2177	2643	3064
% margin	18%	21%	23%	25%
Operating Expenses:	(974)	(1066)	(1182)	(1291
R&D	(765)	(900)	(1040)	(1145
Sales and Marketing	(40)	(46)	(52)	(56
General and Admin	(580)	(630)	(630)	(630
Stock based compen	0	0	0	C
Other non-recurring charges	411	510	540	540
Operating Profit	474	1111	1461	1773
% margin	6%	11%	13%	14%
Forex gain	11	0	0	0
Interest expense	(297)	(297)	(298)	(299
Interest income	546	518	512	510
Other income (expense)	97	193	273	339
Pretax Profit	860	1645	2067	2444
% margin	11%	16%	18%	20%
Tax	(130)	(82)	(103)	(122
Net Income b/f div	493	1263	1644	1981
Deemed Dividend	0	0	0	0
Net Income a/f div	493	1263	1644	1981
EPS (US\$ cents)	6.18	15.80	20.57	24.79
EPS (HK\$ cents)	48.46	123.99	161.36	194.52
Key Operating Data				
Capacity Utilisation(%)	77%	80%	81%	83%
Blended ASP (US\$)	933	987	989	979

(US\$ mn)	2024	2025e	2026e	2027e
Pretax profit adjusted	860	1,645	2,067	2,444
Depreciation and amort	3,315	4,151	4,633	4,845
Tax	(130)	(82)	(103)	(122)
Others	3,922	0	0	0
Fund From Operations	7,729	5,414	6,277	6,826
(Inc)/dec in working capital	(1,551)	(973)	(658)	(445)
Operating Cash flow	6,178	4,441	5,618	6,381
Investing Activities	0	0	0	0
Net Fixed assets Additions	(7,326)	(7,651)	(5,490)	(4,545)
Investments	2,985	0	0	0
Net CF from investments	(4,341)	(7,651)	(5,490)	(4,545)
Change in capital	149	0	0	0
Dividend	0	0	0	0
Minorities & others	526	300	300	300
Increase/ (repayment) of debt	(2,284)	500	500	500
Net CF from finances	(1,608)	800	800	800
Change in Cash	229	(2,410)	928	2,636
Beginning Cash	6,275	6,386	3,976	4,904
Ending Cash	6,386	3,976	4,904	7,540

Source: Company data, Morgan Stanley Research (e) estimates

Balance sheet				
(US\$ mn)	2024	2025e	2026e	2027e
Assets	1000000			10/19/19/19
Cash & Cash Equivalent	6,364	3,976	4,904	7,540
Receivables	840	1,063	1,216	1,308
Inventories	2,958	3,586	4,035	4,243
Prepaid expenses	0	0	0	0
Other current assets	4,621	5,844	6,687	7,196
Total current assets	14,784	14,469	16,842	20,288
Acquired Intangible Assets	24	24	24	24
Land Use rights	0	0	0	0
Fixed assets	28,092	31,592	32,450	32,150
Total non-current assets	34,378	37,878	38,735	38,436
Total Assets	49,161	52,347	55,577	58,724
Liabilities and Shareholders' Equity				
Trades Payable	5,187	6,287	7,073	7,439
Current portion of capital lease	0	0	0	0
STB + Current portion of LTD	2,926	2,926	2,926	2,926
Accrued op. expenses	363	363	363	363
Other current liabilities	199	199	199	199
Total current liabilities	8,760	9,860	10,647	11,012
Long-term debts	8,038	8,538	9,038	9,538
Bond Payable	0	0	0	0
Other Loans	375	397	397	397
Other liabilities	119	119	119	119
Total non-current liabilities	8,532	9,054	9,554	10,054
Total Liabilities	17,292	18,914	20,201	21,066
Share capital	32	32	32	32
Subscription receivable	0	0	0	0
Paid in capital	14,266	14,266	14,266	14,266
Deferrred Stock Compensation	0	0	0	0
Accumulated other income	142	142	142	142
Retained income (deficit)	6,173	7,436	9,080	11,061
Total Equity	20,614	21,877	23,520	25,502
Total Liab. & Equity	49,161	52,347	55,577	58,724

	15550			
(US\$ mn)	2024	2025e	2026e	2027e
Return (%)	19.70-1		199	10.00
ROAA	1%	2%	3%	3%
ROAE	2%	6%	7%	8%
OP. ATO	0.2x	0.2x	0.3x	0.3x
Gearing (x)				
Net debt/ Equity	0.1x	0.2x	0.2x	0.1x
Current Ratio	1.7x	1.5x	1.6x	1.8x
Quick Ratio	0.8x	0.5x	0.6x	0.8x

Source: Company Data, Morgan Stanley Research; e = Morgan Stanley Research estimates

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Stock Rating Category	Count	% of Total	Count	% of Total IBC	% of Rating Category	Count	% of Total Other MISC
Overweight/Buy	1516	40%	387	46%	26%	694	40%
Equal-weight/Hold	1682	44%	380	45%	23%	805	47%
Not-Rated/Hold	3	0%	0	0%	0%	0	0%
Underweight/Sell	598	16%	81	10%	14%	227	13%
Total	3,799		848			1726	

Data include common stock and ADRs currently assigned ratings. Investment Banking Clients are companies from whom Morgan Stanley received investment banking compensation in the last 12 months. Due to rounding off of decimals, the percentages provided in the "% of total" column may not add up to exactly 100 percent.

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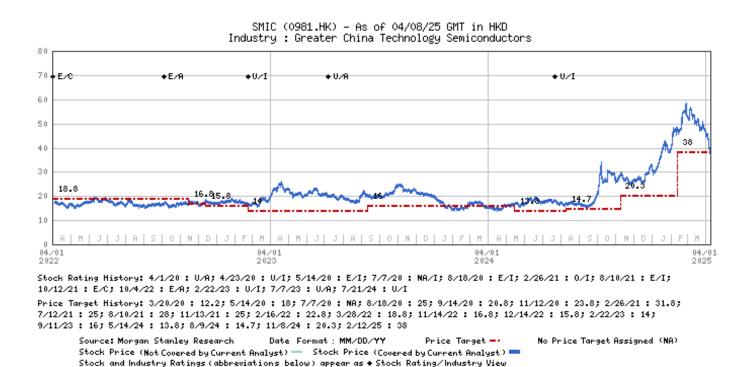
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INDUSTRY COVERAGE: Greater China Technology Semiconductors

COMPANY (TICKER)	RATING (AS OF)	PRICE* (04/08/2025)
Charlie Chan		
ACM Research Inc (ACMR.O)	0 (03/07/2023)	US\$19.15
Advanced Micro-Fabrication Equipment Inc (688012.SS)	O (11/06/2023)	Rmb176.14
Advanced Wireless Semiconductor Co (8086.TWO)	E (10/24/2024)	NT\$69.30
Alchip Technologies Ltd (3661.TW)	O (05/14/2021)	NT\$2,160.00
Andes Technology Corp (6533.TW)	O (08/04/2022)	NT\$267.50
ASE Technology Holding Co. Ltd. (3711.TW)	O (09/15/2024)	NT\$127.50
Global Unichip Corp (3443.TW)	O (07/27/2024)	NT\$900.00
GlobalWafers Co Ltd (6488.TWO)	E (02/22/2023)	NT\$283.50
Gudeng Precision (3680.TWO)	O (08/27/2024)	NT\$348.50
Hua Hong Semiconductor Ltd (1347.HK)	O (06/13/2024)	HK\$27.30
King Yuan Electronics Co Ltd (2449.TW)	O (03/03/2023)	NT\$74.70
M31 Technology Corp (6643.TWO)	E (09/23/2024)	NT\$482.50
Maxscend Microelectronics Co Ltd (300782.SZ)	U (01/11/2021)	Rmb72.30
MediaTek (2454.TW)	O (09/12/2023)	NT\$1,260.00
Nanya Technology Corp. (2408.TW)	U (11/06/2023)	NT\$33.55
NAURA Technology Group Co Ltd (002371.SZ)	O (11/06/2023)	Rmb431.01
Phison Electronics Corp (8299.TWO)	O (03/11/2025)	NT\$451.00
SG Micro Corp. (300661.SZ)	O (06/17/2024)	Rmb89.72
Silergy Corp. (6415.TW)	O (02/13/2025)	NT\$356.00
SMIC (0981.HK)	E (04/08/2025)	HK\$39.15
TSMC (2330.TW)	O (02/07/2022)	NT\$816.00
UMC (2303.TW)	E (10/28/2024)	NT\$41.70
Vanguard International Semiconductor (5347.TWO)	U (08/05/2024)	NT\$83.00
Will Semiconductor Co Ltd Shanghai (603501.SS)	E (10/28/2024)	Rmb115.15
WIN Semiconductors Corp (3105.TWO)	O (06/28/2024)	NT\$82.70
Daisy Dai, CFA		
ASMPT Ltd (0522.HK)	E (11/20/2024)	HK\$46.60
China Resources Microelectronics Limited (688396.SS)	U (09/02/2024)	Rmb41.80
Elan Microelectronics Corp (2458.TW)	E (04/08/2025)	NT\$112.50
Empyrean Technology Co Ltd (301269.SZ)	E (01/17/2025)	Rmb116.30
Hangzhou Silan Microelectronics Co. Ltd. (600460.SS)	E (04/09/2024)	Rmb21.51
JCET Group Co Ltd (600584.SS)	U (09/25/2024)	Rmb30.00

Shanghai Anlogic Infotech Co Ltd (688107.SS)	E (05/14/2024)	Rmb25.94
Shanghai Fudan Microelectronics (1385.HK)	O (03/07/2025)	HK\$23.90
SICC Co Ltd (688234.SS)	O (09/18/2023)	Rmb52.57
StarPower Semiconductor Ltd (603290.SS)	O (03/01/2022)	Rmb79.15
Unigroup Guoxin Microelectronics Co Ltd (002049.SZ)	U (01/10/2023)	Rmb62.78
Universal Scientific Ind. (Shanghai) (601231.SS)	E (10/23/2024)	Rmb12.56
Yangjie Technology (300373.SZ)	O (06/10/2022)	Rmb41.08
Daniel Yen, CFA		
AP Memory Technology Corp (6531.TW)	E (09/15/2024)	NT\$214.00
ASMedia Technology Inc (5269.TW)	E (04/08/2025)	NT\$1,460.00
Aspeed Technology (5274.TWO)	E (09/15/2024)	NT\$2,525.00
Egis Technology Inc (6462.TWO)	E (03/26/2024)	NT\$90.90
Espressif Systems (688018.SS)	O (05/15/2023)	Rmb174.80
GigaDevice Semiconductor Beijing Inc (603986.SS)	E (01/22/2025)	Rmb103.48
Macronix International Co Ltd (2337.TW)	U (10/19/2021)	NT\$18.10
Montage Technology Co Ltd (688008.SS)	O (11/08/2023)	Rmb65.80
Novatek (3034.TW)	O (03/18/2024)	NT\$475.00
Nuvoton Technology Corporation (4919.TW)	O (10/29/2024)	NT\$66.20
Parade Technologies Ltd (4966.TWO)	U (06/04/2024)	NT\$499.00
Powerchip Semiconductor Manufacturing Co (6770.TW)	E (06/13/2024)	NT\$13.25
Realtek Semiconductor (2379.TW)	U (09/15/2024)	NT\$450.50
Shenzhen Goodix Technology Co Ltd (603160.SS)	E (06/12/2024)	Rmb64.85
Sino Wealth Electronic (300327.SZ)	U (03/31/2025)	Rmb20.07
Winbond Electronics Corp (2344.TW)	O (03/11/2025)	NT\$15.20
WPG Holdings (3702.TW)	E (11/16/2023)	NT\$56.10
Duan Liu		
Dosilicon Co Ltd (688110.SS)	U (09/06/2024)	Rmb25.05
Shenzhen Longsys Electronics Co Ltd (301308.SZ)	0 (03/11/2025)	Rmb71.91
Tiffany Yeh		
AllRing Tech Co. (6187.TWO)	O (08/27/2024)	NT\$223.00
FOCI Fiber Optic Communications Inc (3363.TWO)	O (01/15/2025)	NT\$176.00
Silicon Motion (SIMO.0)	O (05/06/2024)	US\$41.79

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