

China Semiconductor Sector

Foundry: China's AI build and localisation drive sustained growth; upgrade SMIC to a Buy

Equities

China
Semiconductors

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We are more positive on China leading edge logic foundry

We upgrade SMIC to a Buy rating ([link](#)) and maintain our Neutral on Hua Hong-H. In addition to solid industry supply/demand fundamentals, we flag two additional structural drivers to drive tier-1 Chinese foundries' revenue growth: 1) China catching up in AI build out and capex; and 2) accelerating localisation of advanced logic, mainly via SMIC, with improved technology readiness and more manageable export controls. Based on our updated forecasts, our net profit forecasts for SMIC are now 29%/30% higher than Reuters consensus in 2027/28, as we are more bullish on its leading edge node revenue contribution and profitability, while we are largely in line with consensus on Hua Hong's net profit in the same period. SMIC-H's share price is down 6% YTD (underperforming Hua Hong-H and listed foundries' average performance by 96ppt and 71ppt, respectively). SMIC-H's 2027E P/BV is at a c50% discount to A/H-share foundry peers with a higher ROE of 8.3% in 2028E vs. peer average of 6.6%. We view Hua Hong-H's 3.9x 2027E P/BV on a 4.3% 2028E ROE as fairly valued.

Two secular drivers: China AI build-out and leading edge localisation

As China catches up in AI capex (e.g. [Bytedance](#)) and [its pursuit of self-sufficiency in advanced semiconductors](#), we believe that AI chip fabrication demand will soon emerge as a secular driver of tier-1 Chinese foundry (e.g. SMIC) with a possible TAM far north of US\$10bn. We view SMIC as the major beneficiary and expect it to maintain its leading market share in advanced logic in the next three years. We forecast SMIC's FinFET node revenue to reach US\$6bn in 2028, representing 55% CAGR in 2025-28E and contributing 34% of total revenue in 2028E (up 15ppt from 18% in 2025E).

Mature nodes: high UTR and price hikes to drive sustained margin improvement

SMIC and Hua Hong guide for higher GPM in Q226 (the mid point of GPM guidance in Q2 up 0.9ppt/2ppt QoQ), as utilisation rate remained high in Q1 despite the low season. Due to strong demand and tighter supply, [Hua Hong's management expects 10-15% price hikes in 2026](#). We expect SMIC/Hua Hong's blended GPM to improve to 26%/30% and 22%/26% in 2027/28E from 22%/16% in 2026E, respectively, mainly due to: 1) a [stronger semi cycle](#); 2) improved product mix; and 3) normalised depreciation ratio to sales (39%/39% and 24%/24% in 2027/28E).

Stock picks: upgrade SMIC to a Buy; reiterate Buy on CR Micro

We cut SMIC and Hua Hong's 2026-28E EPS to factor in share dilution and our lower non-operating gain assumptions. SMIC is our preferred pick within Chinese foundry given its leading position in 7nm node and higher direct exposure to AI. We raise Hua Hong's PT from HKD104.00 to HKD148.00, and maintain our Neutral rating, as we think the valuation is fair.

Figure 1: China foundry rating and estimate changes

Company	Ticker	Mkt cap (US\$ bn)	Rating		Price target (LC)		EPS change			P/BV		P/E		ROE		EPS YoY growth	
			New	Old	New	Old	26E	27E	28E	27E	28E	27E	28E	27E	28E	27E	28E
SMIC-H	0981.HK	68.3	Buy	Neutral	HKD\$96.20	HK\$76.00	-16.8%	-19.4%	-17.8%	2.4	2.2	37.2	27.5	6.6	8.3	47%	35%
Hua Hong-H	1347.HK	31.3	Neutral	Neutral	HKD\$148.00	HK\$104.00	-24.8%	-10.7%	-10.9%	3.9	3.7	124.4	89.2	3.2	4.3	45%	39%
CR Micro	688396.SS	12.0	Buy	Buy	NA	Rmb83.40	0%	0%	0%	3.1	2.9	41.6	31.1	7.8	9.6	54%	34%

Source: Wind, UBS-S estimates. Note: Priced as of 7 Aug 2026

China foundry fundamentals update

Figure 2: Global semis revenue (ex memory, Sell-in basis) to rise 28.5%/11.7% YoY in 2026/27E

Revenues (US\$bn)	2019	2020	2021	2022	2023	2024	2025	2026E	2027E
MPU	48.0	51.8	57.8	50.8	45.5	54.2	60.2	75.3	96.4
% YoY	2.3%	8.0%	11.5%	-12.0%	-10.5%	19.1%	11.2%	25.0%	28.0%
MCU	15.8	15.5	19.6	25.0	27.9	22.5	21.6	25.5	29.3
% YoY	-7.4%	-2.0%	26.7%	27.5%	11.4%	-19.4%	-4.0%	18.0%	15.0%
Analog	53.9	55.7	74.1	89.0	81.1	79.5	86.5	100.4	115.4
% YoY	-8.3%	3.3%	33.1%	20.1%	-8.8%	-2.0%	8.8%	16.0%	15.0%
CMOS Logic	109.0	120.8	157.7	178.1	176.3	189.9	252.8	362.5	392.9
% YoY	-3.1%	10.8%	30.5%	12.9%	-1.0%	7.7%	33.1%	43.4%	8.4%
Memory	106.4	117.5	153.8	129.8	92.3	165.1	230.0	961.1	1,637.7
% YoY	-32.6%	10.4%	30.9%	-15.6%	-28.9%	78.8%	39.3%	317.8%	70.4%
Total IC	333.2	361.2	463.0	472.7	423.1	511.1	651.1	1,524.7	2,271.7
% YoY	-15.3%	8.4%	28.2%	2.1%	-10.5%	20.8%	27.4%	134.2%	49.0%
Discrete, Opto & Passives	78.9	79.2	92.9	99.7	98.4	91.0	94.7	99.4	106.4
% YoY	4.6%	0.3%	17.3%	7.3%	-1.3%	-7.5%	4.0%	5.0%	7.0%
Total Semiconductors	412.1	440.4	555.9	572.4	521.5	602.2	745.8	1,624.1	2,378.1
% YoY	-12.1%	6.9%	26.2%	3.0%	-8.9%	15.5%	23.9%	117.8%	46.4%
Semis ex memory	305.7	322.9	402.1	442.6	429.2	437.1	515.8	663.0	740.4
% YoY	-1.7%	5.6%	24.5%	10.1%	-3.0%	1.8%	18.0%	28.5%	11.7%
Semis ex memory ex CPU	257.7	271.1	344.3	391.8	383.7	382.9	455.5	587.7	644.0
% YoY	-2.4%	5.2%	27.0%	13.8%	-2.1%	-0.2%	19.0%	29.0%	9.6%

Source: SIA, Company data, UBS estimates. Note: More detail in our [Cycle Update](#) note

Foundry supply/demand fundamentals

We highlighted solid supply and demand fundamentals for the mature node cycle and pricing outlook in our April update note ([UBS global foundry sector note](#)). Based on the latest Taiwanese foundry company results, we flag a stronger industry cycle for leading edge foundry (e.g. [TSMC](#)) and mature node foundry ([UMC](#), [Vanguard](#), and [Powerchip](#)). We think the positive results for peers likely point to continued good supply and demand fundamentals for Chinese foundries.

Figure 3: Summary of major foundry company results (UTR, blended ASP, outlook)

Company	Analyst	2Q26 revenue QoQ growth	2Q26 UTR	2Q26 GPM	3Q26 outlook
TSMC	Sunny Lin	12% (6ppts higher than past 5 years avg.)	91% (+2ppts QoQ)	67.7% (+1.5ppts QoQ)	Supply: are executing well on our global plan to add three additional 3-nanometerfabs, will continued to convert 5-nanometer tools to support 3-nanometer capacity in Taiwan; now continue to increase our mature node capacity in the higher value-added segment; TSMC's CapEx in the next three years will be even more significantly higher than the past three years. Demand: sees continuous strong demand for our leading-edge process technologies; AI-related demand continues to be extremely robust; sees the acceleration of agentic AI. Pricing: mature node pricing is very favorable or strong.
UMC	Sunny Lin	13% (6ppts higher than past 5 years avg.)	87% (+7ppts QoQ)	32.5% (+3.3ppts QoQ)	Supply: guides Q3 utilization rate to exceed 90%; guides 8-inch portfolio rebounding, with utilization improving to 85%. Uplift Capex guidance for FY2026. Demand: stays upbeat on AI-related demand Pricing: guides ASP in USD to remain firm, with price hike in 2H26.
Vanguard	Sunny Lin	14% (2ppts higher than past 5 years avg.)	86% (+5ppts QoQ)	32.3% (+3.0ppts QoQ)	Management expects supply-demand to further tighten into 2027. Demand: The company expects AI-related sales to more than double YoY in 2026, and the absolute sales increase should be more significant in 2027 UTR: Utilisation is guided to reach 90% in Q3 from close to 90% in Q2, and should further improve in Q426.

Source: Company data, UBS-S

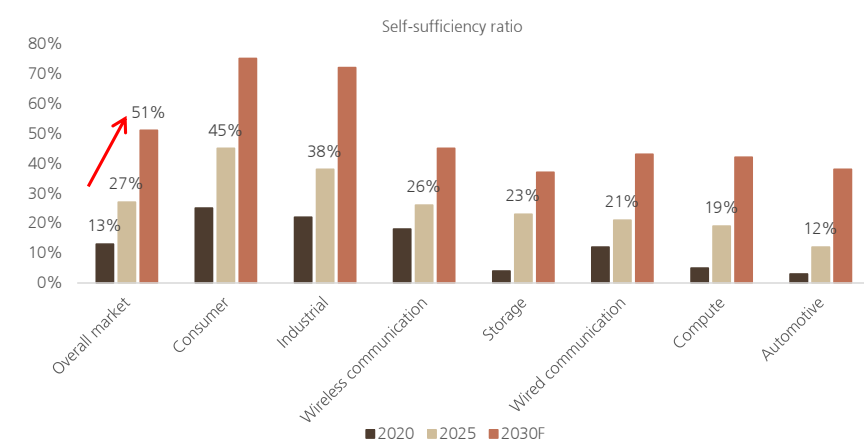
China's pursuit of localisation remains a structural driver

Figure 4: Summary of media reports on China's self-sufficiency goal in the next five years

Date	Type	Content	Application	Self-sufficiency ratio
3/12/2026	15th Five Year Plan	Significant improvement of scientific and technological self-reliance and advancement; Promotes decisive core technology breakthroughs in Semi supply chain	All	NA
5/5/2026	News (NIKKEI Asia)	China has set goal of sourcing more than 70% of silicon wafers from domestic suppliers in YE2026	All	70%
11/5/2025	News (Reuters)	Government requires state-funded new data centre projects to only use domestically-made AI chips. Data centres that are less than 30 % complete are ordered to remove all installed foreign chips.	AI accelerator	100%
8/20/2025	News (NIKKEI Asia)	Leading municipalities in China set targets to achieve at least 70% self-sufficiency in AI chips by 2027	AI accelerator	70%
6/17/2025	News (NIKKEI Asia)	China's automakers like BYD, Geely and SAIC aim for cars with 100% domestic chip by 2027	Automotive	100%

Source: Government websites, Reuters, *Nikkei Asia*

Figure 5: Gartner expects China semiconductor self-sufficiency to reach 50%+ by 2030F



Source: Gartner

Figure 6: Overview of major Chinese semiconductor fabless companies

Electronic equipment end-market	Major OEMs in China	Example China chip vendors	Major chip types	Global vendors challenged	TAM (2025,USD m)
Consumer	TCL, HiSense, Xiaomi	Amlogic, HiSilicon, UniSoC, Rockchip Silergy, Silan Micro, Injoinic, Southchip Goertek, AAC GigaDevice, Puya, XTX BES, Jieli, Espressif	Application processor Analog MEMS sensor MCU, NOR Wireless connectivity	MediaTek, Qualcomm, Novatek TI, ST Micro, ADI Syntiant STMicro, TI, NXP, Infineon, Winbond NORDIC, Qualcomm, Synaptics	
Total Consumer					88,829
Industrial	HikVision, Dahua, Huawei	HiSilicon, SigmaStar, Fullhan MLS, Nationstar HiSilicon, UniSoC, ASR OMNIVISION, Smartsens BYD, CRRC Times, Yangjie, Silan Micro	Application processor LED Cellular baseband Image sensors Discrete	TI, NVIDIA, Ambarella ams OSRAM, Lumileds, Nichia Qualcomm, MediaTek Sony, Samsung, Onsemi Infineon, STMicro, Vishay	
Total Industrial					79,988
Wireless Communication	Xiaomi, Oppo, Vivo, Huawei	HiSilicon, UniSoC OMNIVISION, Smartsens, Galaxycore CXMT, YMTC Maxscend, Lansus, Vanchip, OnMicro Awinic, Southchip, SGMICRO Chipone, Silicon Magic	Cellular baseband Image sensors Memory RF front-end Analog DDI	Qualcomm, MediaTek Sony, Samsung Samsung, SK hynix, Micron Skyworks, Qorvo, Qualcomm TI, ADI, STMicro, Cirrus Logic Samsung, Novatek	
Total Wireless communication					250,849
Storage	Huawei, Longsys, Biwin	YMTC	Memory	Samsung, SK hynix, Kioxia	
Total Storage					52,747
Wired communication	Huawei, ZTE, H3C, Ruijie	Sanechips, HiSilicon, Centec Networks	Wired connectivity	Broadcom, Marvell, NVIDIA	
Total wired communication					67,210
Compute	Lenovo, Inspur, Huawei	Hygon, HiSilicon, Phytium, Loongson HiSilicon, Hygon, Cambricon, MetaX, Moore Threads CXMT, YMTC HiSilicon, Rockchip	Microprocessor AI accelerators Memory Application processor	Intel, AMD NVIDIA, Broadcom, AMD Samsung, SK hynix, Micron Qualcomm, MediaTek	
Total Compute					499,217
Automotive	BYD, Huawei, Xiaomi, Xpeng, NIO, Li Auto	HiSilicon, Horizon Robotics, Black Sesame OMNIVISION, Smartsens BYD, Yangjie, NCE Power, CRRC Times, Starpower Novosense, SGMICRO, Silergy GigaDevice, BYD, SemiDrive	Application processor Image sensors Discrete Analog MCU	NVIDIA, Qualcomm, NXP Sony, Onsemi, STMicro, Denso TI, ADI, NXP, Infineon, STMicro TI, ADI, NXP, Infineon, STMicro TI, NXP, Infineon, STMicro, Renesas	
Total Automotive					117,333

Source: Gartner, UBS-S

Figure 7: Major listed Chinese fabless companies combined revenue and YoY/QoQ performance (Rmb m)

	1Q23	2Q23	3Q23	4Q23	1Q24	2Q24	3Q24	4Q24	1Q25	2Q25	3Q25	4Q25	1Q26	2-yr CAGR (TTM)	YoY (TTM)	Trend
CIS	5,643	6,240	8,216	8,476	7,771	9,568	10,332	10,412	9,746	11,633	12,444	11,845	10,406	13%	16%	
YoY	-27%	-19%	32%	23%	38%	53%	26%	23%	25%	22%	20%	14%	7%			
QoQ	-18%	11%	32%	3%	-8%	23%	8%	1%	-6%	19%	7%	-5%	-12%			
RFFE	1,210	1,765	2,390	2,963	1,838	1,996	1,786	2,016	1,537	1,836	2,050	2,115	1,708	-13%	5%	
YoY	-47%	21%	70%	114%	52%	13%	-25%	-32%	-16%	-8%	15%	5%	11%			
QoQ	-13%	46%	35%	24%	-38%	9%	-11%	13%	-24%	19%	12%	3%	-19%			
MCU	10,171	10,014	9,872	10,319	10,246	10,953	10,907	11,600	10,202	11,257	7,177	7,376	7,754	-19%	23%	
YoY	-2%	-10%	-11%	-7%	1%	9%	10%	12%	0%	3%	-34%	-36%	-24%			
QoQ	-8%	-2%	-1%	5%	-1%	7%	0%	6%	-12%	10%	-36%	3%	5%			
Analog and mixed signal	6,458	7,661	8,129	9,111	7,646	9,217	9,502	9,859	9,004	11,209	11,156	12,197	11,724	9%	23%	
YoY	-19%	-10%	6%	14%	18%	20%	17%	8%	18%	22%	17%	24%	30%			
QoQ	-19%	19%	6%	12%	-16%	21%	3%	4%	-9%	24%	0%	9%	-4%			
Niche memory	5,244	6,623	7,122	7,631	8,819	9,584	9,246	8,819	8,998	11,434	12,839	12,359	19,114	25%	52%	
YoY	-31%	-22%	3%	32%	68%	45%	30%	16%	2%	19%	39%	40%	112%			
QoQ	-10%	26%	8%	7%	16%	9%	-4%	-5%	2%	27%	12%	-4%	55%			
Power discrete	3,775	4,074	4,165	4,416	3,653	4,454	4,654	5,083	4,361	5,449	5,376	5,388	5,211	3%	15%	
YoY	9%	5%	3%	14%	-3%	9%	12%	15%	19%	22%	16%	6%	19%			
QoQ	-2%	8%	2%	6%	-17%	22%	4%	9%	-14%	25%	-1%	0%	-3%			
TDDI DDIC	623	728	749	890	764	963	1,077	1,148	1,024	1,122	955	986	1,014	4%	-3%	
YoY	-27%	-21%	0%	26%	23%	32%	44%	29%	34%	17%	-11%	-14%	-1%			
QoQ	-12%	17%	3%	19%	-14%	26%	12%	7%	-11%	10%	-15%	3%	3%			
Accelerator/xPU	3,110	3,764	3,334	4,521	3,230	4,317	4,554	6,806	5,772	7,824	9,038	10,440	10,489	45%	76%	
YoY	11%	2%	-8%	8%	4%	15%	37%	51%	79%	81%	98%	53%	82%			
QoQ	-26%	21%	-11%	36%	-29%	34%	5%	49%	-15%	36%	16%	16%	0%			
Multimedia SoC	3,742	3,561	3,670	4,260	3,031	3,947	4,011	4,130	3,658	4,484	4,543	4,828	5,205	2%	21%	
YoY	8%	-22%	-3%	41%	-19%	11%	9%	-3%	21%	14%	13%	17%	42%			
QoQ	24%	-5%	3%	16%	-29%	30%	2%	3%	-11%	23%	1%	6%	8%			
Wireless connectivity	996	1,223	1,391	1,354	1,346	1,681	1,858	1,870	1,757	1,872	1,997	1,674	1,620	7%	0%	
YoY	35%	42%	42%	38%	35%	37%	34%	38%	31%	11%	7%	-10%	-8%			
QoQ	2%	23%	14%	-3%	-1%	25%	11%	1%	-6%	7%	7%	-16%	-3%			
Sensor	2,317	2,801	2,720	2,926	2,889	3,009	3,112	3,462	3,331	4,022	4,230	4,998	4,396	14%	37%	
YoY	20%	15%	23%	17%	25%	7%	14%	18%	15%	34%	36%	44%	32%			
QoQ	-8%	21%	-3%	8%	-1%	4%	3%	11%	-4%	21%	5%	18%	-12%			
Smart security	2,816	3,732	3,469	3,426	2,620	3,323	2,969	2,930	2,570	3,804	3,864	3,075	3,312	-6%	19%	
YoY	3%	20%	-7%	-8%	-7%	-11%	-14%	-14%	-2%	14%	30%	5%	29%			
QoQ	-24%	33%	-7%	-1%	-24%	27%	-11%	-1%	-12%	48%	2%	-20%	8%			
Interconnect	714	857	831	1,269	1,208	1,516	1,479	1,691	1,686	2,065	2,059	2,124	2,064	31%	30%	
YoY	-21%	-17%	-28%	26%	69%	77%	78%	33%	40%	36%	39%	26%	22%			
QoQ	-29%	20%	-3%	53%	-5%	25%	-2%	14%	0%	22%	0%	3%	-3%			
Edge AI	2,339	2,988	3,260	3,361	3,000	3,870	4,110	3,928	4,117	4,699	4,768	4,487	4,994	13%	18%	
YoY	-21%	-8%	12%	28%	28%	30%	26%	17%	37%	21%	16%	14%	21%			
QoQ	-11%	28%	9%	3%	-11%	29%	6%	-4%	5%	14%	1%	-6%	11%			
Total revenue	49,156	56,030	59,318	64,922	58,061	68,397	69,596	73,754	67,766	82,710	82,496	83,892	89,013	8%	21%	
Total YoY	-12%	-8%	5%	16%	18%	22%	17%	14%	17%	21%	19%	14%	31%			
Total QoQ	-12%	14%	6%	9%	-11%	18%	2%	6%	-8%	22%	0%	2%	6%			

Source: Wind, company data

China's AI build to drive demand upside for domestic foundries

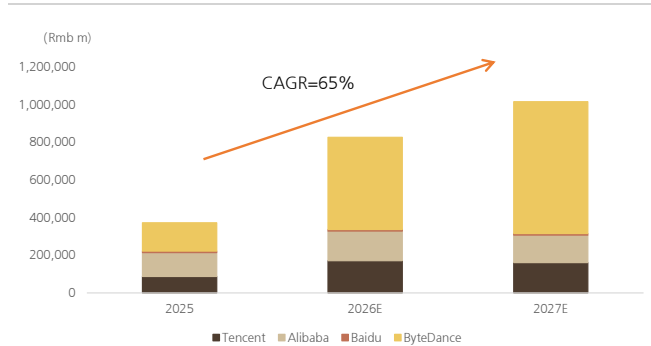
China's AI investment cycle continues to accelerate, with both policymakers and leading technology companies increasing spend on AI infrastructure. Reportedly, China is contemplating a nationwide AI computing infrastructure plan involving up to Rmb2trn in investment over the next five years and focussing on expanding compute capacity, data centres and domestic AI ecosystems ([see our note](#)).

At the corporate level, Alibaba, Tencent, ByteDance and Baidu have all stepped up AI-related capital expenditure, driven by growing demand for large model training and inference workloads. According to Bloomberg, ByteDance is weighing up as much as US \$70bn in capex in 2026, mainly for AI development ([link](#)). According to our industry discussions, ByteDance's capex in 2027E could be US\$100bn. In addition, based on the UBS forecasts, the combined capex of Alibaba, Tencent and Baidu could reach

Rmb316bn in 2027E, a 19% CAGR from 2025.

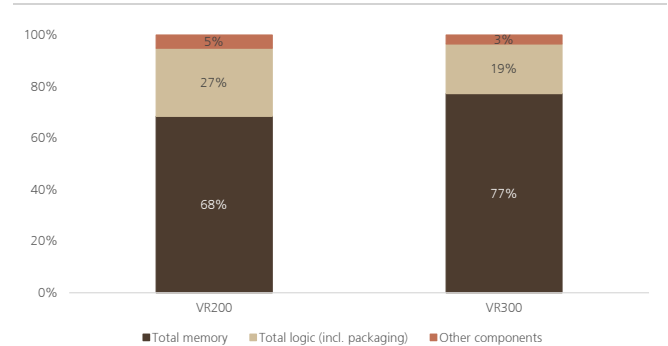
For logic content within an AI infrastructure build, UBS estimates logic content amounted to US\$5,132 and US\$5,075 for GB200 and GB300, respectively, increasing to US\$10,016 for VR200 ([see report](#)). We believe a similar trend is likely in domestic AI accelerators/GPUs, which should significantly increase TAM for SMIC's leading edge logic fabrication business.

Figure 8: Chinese CSPs capex



Source: Company data, Bloomberg, UBS estimates, UBS-S estimates

Figure 9: Semiconductor content in AI rack forecast

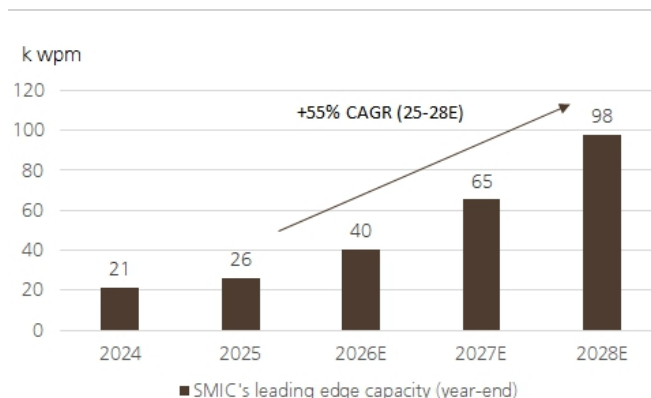


Source: Company data, UBS estimates

Benefits of China's rising AI build-out demand

- SMIC.** As China's only domestic foundry with the technology capability and mass production experience of 7nm ("N+2", based on SMIC's definition) node, we view SMIC as best positioned to benefit from the structural demand for AI and leading edge localisation. With export controls becoming more manageable and domestic equipment and related supply chains maturing, we expect SMIC's leading edge logic capacity to reach 98k wpm at end-2028 (mainly through SMIC's "South" and "East" subsidiaries). As supply of leading edge logic should remain tight in the next one to two years, we expect SMIC's capacity to be largely fully utilised and for modest ASP hikes in the near term. Therefore, we expect leading edge logic revenue to reach US\$6bn in 2028E from US\$1.6bn in 2025, representing a 55% CAGR.

Figure 10: SMIC's leading edge logic capacity (FinFET and more advanced)



Source: Company data, UBS-S estimates

Figure 11: SMIC's leading edge logic revenue



Source: UBS-S estimates

We think AI accelerators are likely the most important application for leading edge fabrication. Based on our sensitivity analysis, assuming the average die size of an AI accelerator at 700mm² and a 20-40% yield rate, each 12-inch wafer could produce 14-28 good dies. And assuming 6-10m die units for an AI accelerator in China would translate to 17.7-29.5k wpm (using a 40% yield rate assumption) to 35.4-59.0k wpm (20% yield rate assumption) capacity demand for domestic leading edge logic foundry. This would translate to a US\$2.1-7.1bn TAM, assuming a conservative US\$10k/wafer fabrication cost assumption.

Figure 12: Calculation of GPU die output per wafer

Die size (mm ²)	700
Wafer size	70,650
Effective area	70%
Yield	30%
#Die per wafer	21

Source: UBS-S estimates

Figure 13: Sensitivity analysis of die output per wafer

Assumption		Die size (mm ²)				
		600	650	700	750	800
Yield	50%	41	38	35	33	31
	40%	33	30	28	26	25
	30%	25	23	21	20	19
	20%	16	15	14	13	12
	10%	8	8	7	7	6

Source: UBS-S estimates

Figure 14: AI accelerator die size

Company	Huawei		MetaX		NVIDIA		Google
Product	910B	910C	C500	C600	A100	H100	TPU v5p
Die size (mm ²)	600-700*	~600*	600-700*	~500*	826	814	~600-700

Source: Company data, UBS-S estimates, * UBS-S estimates

Figure 15: Monthly wafer capacity required to meet different demands for AI accelerator fabrication

Parameter	GPU die demand (units)							
	1m	2m	4m	6m	8m	10m	15m	20m
700mm ² + 40% yield	2.9	5.9	11.8	17.7	23.6	29.5	44.2	59.0
700mm ² + 30% yield	3.9	7.9	15.7	23.6	31.5	39.3	59.0	78.6
700mm ² + 20% yield	5.9	11.8	23.6	35.4	47.2	59.0	88.5	118.0

Source: UBS-S estimates

- **Hua Hong.** Although Hua Hong (the listco) may not directly benefit from leading edge logic demand, it could benefit from mature node demand for AI PMIC, discrete, as well as other AI related chips.

Power semis content per rack rises along with power density and architecture changes:

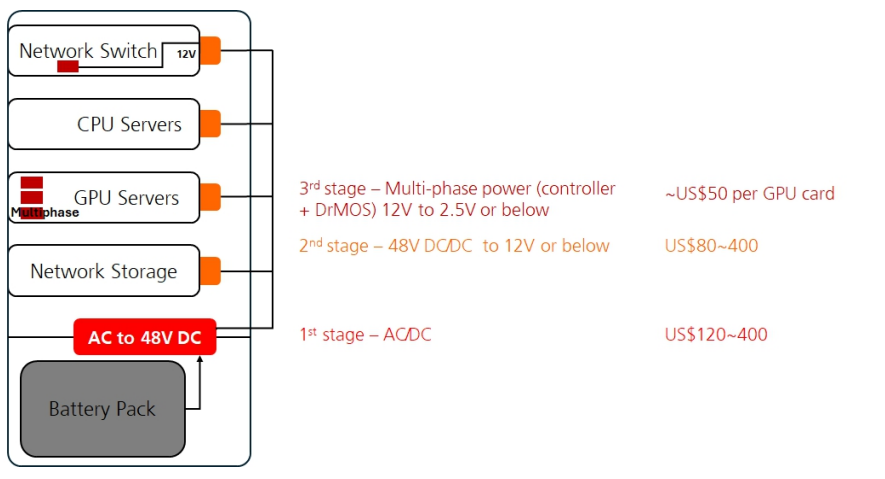
- **Core level.** MPS, Infineon and Renesas are global market leaders in V-core PMIC. MPS is a fabless IC designer, and works closely with foundries across the world. We believe domestic IC designers are focused on localisation given the large TAM and rising importance of AI servers.
- **Shelf/rack level and grid level.** We believe Chinese suppliers have stronger presence in discrete parts (NCE Power in MOS). Hua Hong is a global leader in power discrete manufacturing.

Figure 16: Power semis content per GW

Company	Nvidia	Nvidia	Nvidia	Nvidia	Nvidia	Nvidia	AMD	Google
GPU	Hopper	Blackwell	Blackwell Ultra	Rubin	Rubin Ultra	Feynman	MI450	TPUv7
Year of production	2023	2024	2025	2026	2027	2028	2026	2026
Power per rack (kW)	40	120	150	225	600	1,000	225	90
Rack architecture	HGX	Oberon	Oberon	Oberon	Kyber	Kyber	Helios	Ironwood
Power delivery	1-phase AC	1-phase AC	1-phase AC	1-phase AC	Power sidecar	Power sidecar	1-phase AC	1-phase AC
Power usage effectiveness	87%	87%	87%	87%	87%	87%	87%	87%
Racks per GW	21,750	7,250	5,800	3,867	1,450	870	3,867	9,667
Power semis per GW								
\$ content per rack	3,888	12,572	14,720	20,186	123,092	201,617	20,186	9,429
\$ content per GW	84,564,000	91,147,000	85,376,000	78,052,533	178,483,400	175,407,080	78,052,533	91,147,000

Source: Company data, UBS estimates

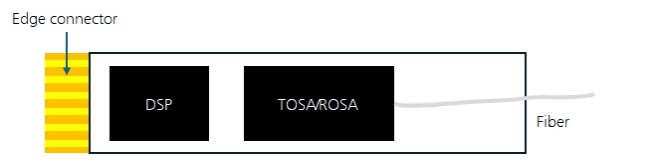
Figure 17: Power supply architecture in an AI server



Source: UBS-S

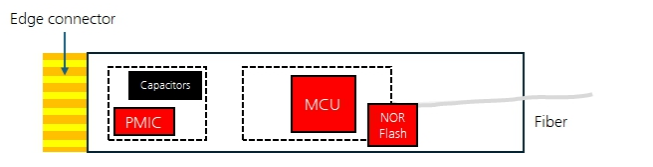
Chips like MCU and NOR Flash (one runs the firmware and the other stores the firmware code) are essential components that work together in optical module and AI server motherboards. Content value per box could range from US\$10+ to the hundreds of dollars, of which foundry cost normally accounts for 75% of total COGS, by our forecast. SMIC and Hua Hong are the key foundry suppliers of NVM(for NOR flash) and eNVM (for MCU) platforms, and we expect their revenue to grow along with their Chinese customers' share gains.

Figure 18: Front-side of an optical module



Source: UBS-S

Figure 19: Back-side of an optical module



Source: UBS-S

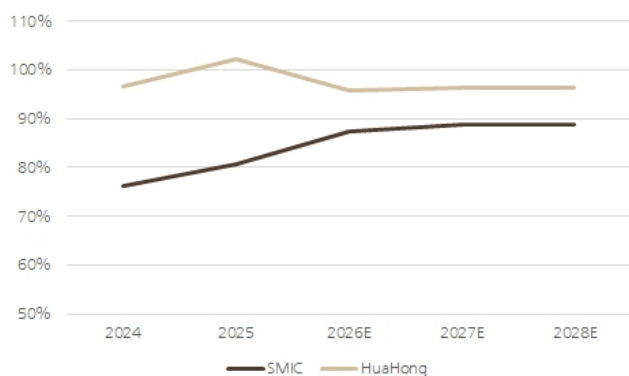
Chinese tier-1 foundry capacity, UTR and pricing trend

Figure 20: SMIC and Hua Hong's capacity forecasts

k wpm (8-inch eqv)	2024	2025	2026E	2027E	2028E
SMIC	947	1,059	1,174	1,275	1,387
<i>YoY (absolute volume)</i>	<i>142</i>	<i>112</i>	<i>115</i>	<i>101</i>	<i>113</i>
HuaHong	392	487	635*	707	786
<i>YoY (absolute volume)</i>		<i>95</i>	<i>148</i>	<i>72</i>	<i>79</i>

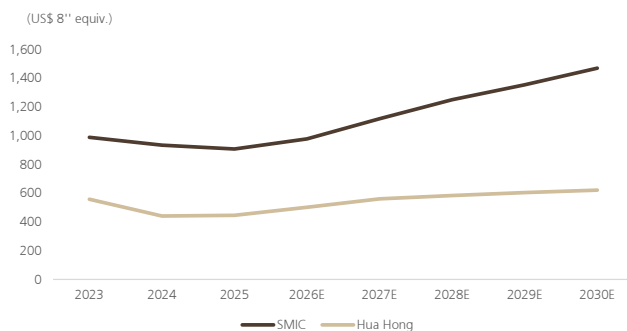
Source: Company data, UBS-S estimates. Note: Hua Hong's 2026 capacity addition was due to the acquisition of Huali fab 5 (38k wpm 12-inch capacity)

Figure 21: SMIC and Hua Hong's blended UTR forecasts



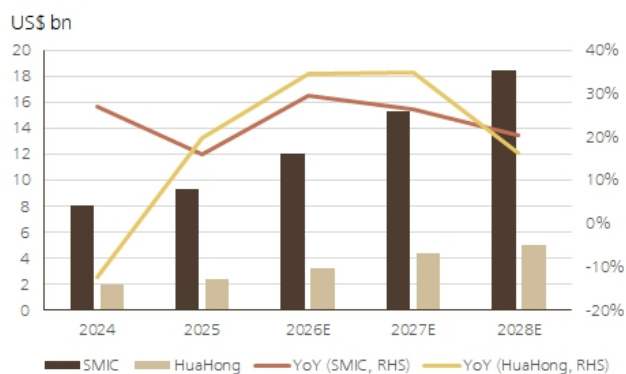
Source: Company data, UBS-S estimates

Figure 22: SMIC and Hua Hong's ASP forecasts



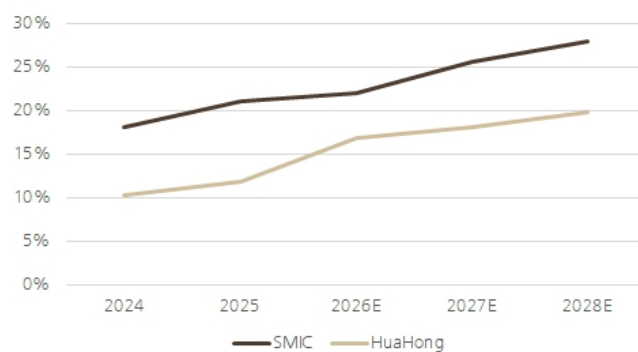
Source: Company data, UBS-S estimates

Figure 23: SMIC and Hua Hong's revenue forecasts



Source: Company data, UBS-S estimates

Figure 24: SMIC and Hua Hong's blended GPM forecasts



Source: Company data, UBS-S estimates

Earnings forecast change

SMIC

Please refer to our company report ([link](#)).

Hua Hong

We cut our net profit forecast 20% in 2026, but raise 2027/28 forecasts 5%/5%, mainly to reflect the mixed impact of: 1) our 90-301% higher operating profit assumptions in 2026-28E due to our higher revenue forecasts; and 2) 65-122% lower minority interest forecasts to reflect improved profitability at its 12-inch subsidiary, Wuxi.

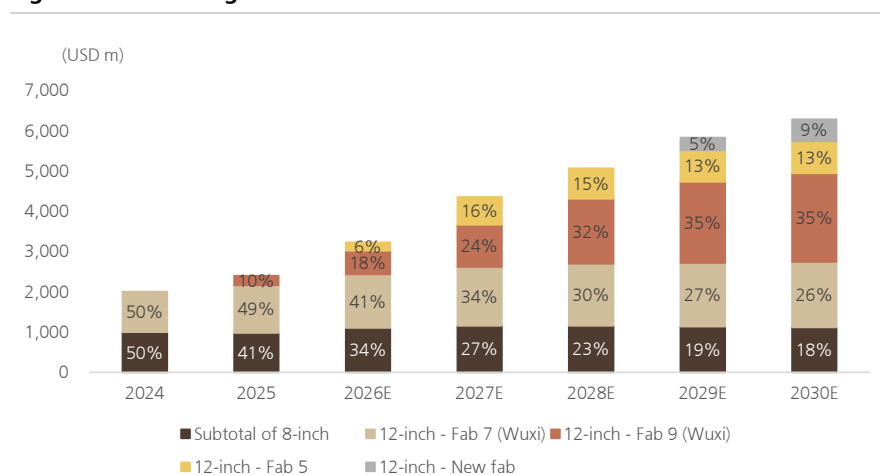
Figure 25: Hua Hong estimate changes

US\$ m	UBS-Se (new)			UBS-Se (old)			% chg		
	2026E	2027E	2028E	2026E	2027E	2028E	2026E	2027E	2028E
Revenue	3,231	4,357	5,069	3,020	3,318	3,850	7.0%	31.3%	31.7%
COGS	-2,685	-3,572	-4,065	-2,558	-2,751	-3,068	5.0%	29.9%	32.5%
Gross profit	545	785	1,004	462	567	782	18.1%	38.5%	28.4%
GPM	16.9%	18.0%	19.8%	15.3%	17.1%	20.3%	1.6%	0.9%	-0.5%
Sales and marketing expense	-13	-17	-20	-15	-17	-19	-14.4%	5.1%	5.3%
Admin expense	-436	-501	-558	-423	-464	-539	3.2%	7.9%	3.4%
Other income	0	0	0	0	0	0	n.a.	n.a.	n.a.
Operating profit	96	267	426	24	86	224	300.6%	210.6%	90.4%
Non-operating gain/losses	46	62	97	83	83	83	-45.1%	-25.1%	16.1%
Pre-tax profit	142	329	523	107	169	307	32.3%	94.6%	70.3%
Income tax	-7	-49	-78	-20	-32	-58	-65.2%	53.7%	34.4%
Minority interest	51	16	-32	144	144	144	-64.9%	-88.9%	-122.0%
Reported net profit	186	296	413	231	281	393	-19.8%	5.1%	5.0%
No. of shares	1,853	2,045	2,045	1,736	1,736	1,736	6.7%	17.8%	17.8%
EPS (US\$/share)	0.10	0.14	0.20	0.13	0.16	0.23	-24.8%	-10.7%	-10.9%

Source: Company data, UBS-S estimates

The Huali Fab 5 specialises in 65/55nm and 40nm with a 38kwpm 12" capacity. We expect positive synergies for Hua Hong to enhance scale, less competition in 65-40nm, and potential access to 28nm process.

Figure 26: Hua Hong's revenue mix forecasts



Source: Company data, UBS-S estimates

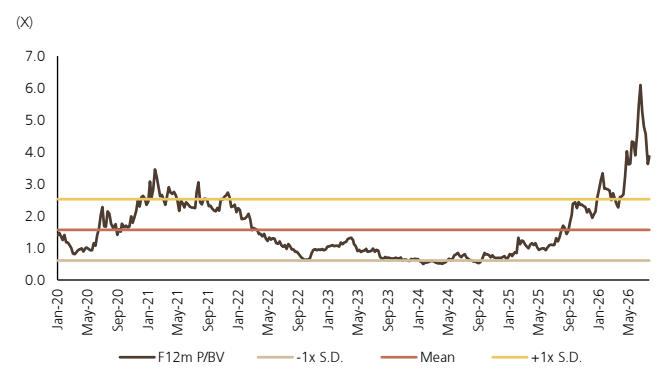
We raise our P/BV-based price target to HK\$148.00, mainly to reflect: 1) our lower EPS in 2026-28E; 2) rolling over to an average 2027-28E BVPS of US\$4.71 (US\$4.20 previously); 3) raising our target P/BV multiple from 3.3x to 4.0x, as we raise our long-term ROE forecasts, but still below the Hong Kong/China average of 5.1x.

Figure 27: Price target derivation

	New	Old
Valuation method	P/BV	P/BV
Base	27-28E avg	NTM
BVPS (US\$)	4.71	4.02
FX (HKD/USD)	7.83	7.83
BVPS (HK\$)	36.88	31.52
Target PB multiple (x)	4.0	3.3
Target Price (HKD)	148.00	104.00
Long-term ROE	5.4%	4.8%

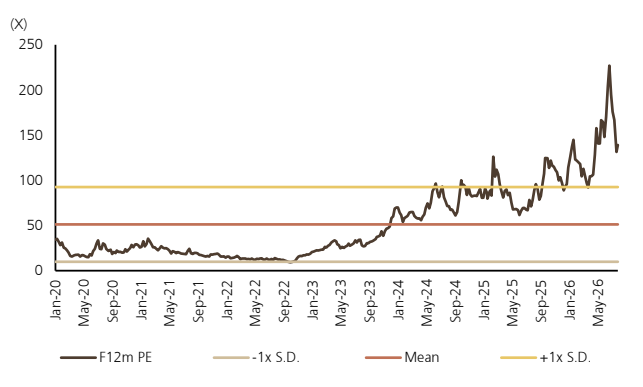
Source: UBS-S estimates

Figure 28: Hua Hong's forward 12m P/BV



Source: Wind, UBS-S estimates. Note: Priced as of 7 August 2026

Figure 29: Hua Hong's forward 12m PE



Source: Wind, UBS-S estimates. Note: Priced as of 7 August 2026

Figure 30: Comps comparison of SMIC and Hua Hong's closest peers

						PE (x)			P/BV (x)			EV/EBITDA				ROE (%)			EPS growth			EPS CAGR	PEG	PS			
Company	Ticker	Mkt cap (US\$ bn)	Stock price (LC)	2026E	2027E	2028E	2026E	2027E	2028E	2026E	2027E	2028E	2026E	2027E	2028E	2026E	2027E	2028E	2026E	2027E	2028E	2026-28E	2027E (vs. 28E EPS YoY)	2026E	2027E	2028E	
H-share foundry																											
SMIC-H	0981.HK	68.3	66.90	54.7	37.2	27.5	2.6	2.4	2.2	12.1	9.0	7.2	5.2	6.6	8.3	81%	47%	35%	41%	1.1x	5.8	4.8	4.0				
Huahong-H	1347.HK	31.3	141.2	179.7	124.4	89.2	4.0	3.9	3.7	31.9	22.7	18.2	2.4	3.2	4.3	215%	45%	39%	42%	3.2x	10.3	8.4	7.3				
Nexchip-H	2249.HK	8.9	31.5	39.8	24.4	14.3	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	89%	63%	71%	67%	0.3x	4.0	3.2	2.9				
H-share foundry average				91.4	62.0	43.6	3.3	3.1	3.0	22.0	15.8	12.7	3.8	4.9	6.3	128%	52%	49%	50%	1.3x	6.7	5.5	4.7				
A-share foundry																											
SMIC-A*	688981.SH	96.5	128.5	170.1	138.9	117.7	7.0	6.7	6.3	16.7	14.9	13.2	4.1	4.8	5.3	20%	22%	18%	20%	7.7x	14.1	12.1	10.6				
Hua Hong-A*	688347.SH	38.8	268.3	448.9	324.3	244.9	10.1	9.7	9.5	35.0	27.3	20.7	2.2	2.9	3.7	172%	38%	32%	35%	10.0x	21.5	17.8	15.6				
CR Micro	688396.SS	12.0	61.2	64.1	41.6	31.1	3.4	3.1	2.9	27.7	22.4	18.3	5.4	7.8	9.6	92%	54%	34%	43%	1.2x	6.2	5.2	4.4				
Nexchip-A*	688249.SH	12.6	41.0	96.4	68.0	46.6	4.0	3.8	3.5	12.1	11.8	10.9	4.2	5.6	7.6	18%	42%	46%	44%	1.5x	7.0	5.9	5.1				
United Nova*	688469.SH	10.3	8.6	249.7	113.8	n.a.	5.4	5.2	4.8	12.4	10.9	12.1	2.1	4.4	7.4	n.a.	119%	83%	100%	1.4x	6.8	5.5	4.5				
Yandong Micro*	688172.SH	11.5	56.5	n.a.	n.a.	n.a.	4.7	5.3	5.8	n.a.	136.1	46.5	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	30.2	21.4	15.4				
A-share foundry average				205.8	137.3	110.0	5.8	5.6	5.5	20.8	37.2	20.3	3.6	5.1	6.7	75%	55%	43%	49%	3.2x	14.3	11.3	9.3				
HK/CN foundry average				162.9	109.1	81.6	5.2	5.0	4.8	21.1	31.9	18.4	3.6	5.1	6.6	98%	54%	45%	49%	2.4x	11.8	9.4	7.7				
Overseas foundry																											
TSMC	2330.TW	1908.1	2370.0	21.8	15.9	12.0	8.1	5.9	4.3	10.7	14.6	10.3	35.1	39.4	37.6	64%	37%	33%	35%	0.5x	11.1	8.0	6.1				
UMC	2303.TW	45.3	116.0	15.0	14.6	9.7	3.0	2.8	2.4	4.3	9.3	6.4	22.3	19.9	26.9	131%	3%	51%	24%	0.3x	5.0	3.9	3.1				
Vanguard	5347.TWO	8.3	143.5	23.5	17.9	13.1	2.9	2.7	2.4	7.4	12.1	8.3	13.4	16.3	20.1	44%	31%	36%	34%	0.5x	4.7	3.3	2.5				
Powerchip	6770.TW	8.6	65.5	9.0	6.8	5.8	2.6	2.0	1.6	24.8	6.9	4.5	32.6	33.7	31.4	n.a.	34%	17%	25%	0.4x	3.5	2.3	2.1				
GlobalFoundries	GFS.O	28.0	50.4	26.2	20.2	16.1	2.3	2.2	2.1	7.9	10.6	8.9	8.9	11.2	13.3	11%	30%	25%	28%	0.8x	3.8	3.3	2.9				
Tower Semiconductor**	TSEM.O	25.4	224.7	62.3	36.6	23.6	7.6	6.2	4.6	10.3	6.9	4.8	n.a.	n.a.	n.a.	85%	70%	55%	33%	0.7x	13.1	9.9	7.4				
Overseas foundry average				26.3	18.7	13.4	4.4	3.6	2.9	10.9	10.0	7.2	22.5	24.1	25.9	67%	34%	36%	30%	0.5x	6.9	5.1	4.0				
Global average				104.4	70.3	50.1	4.8	4.4	4.0	16.4	22.5	13.6	11.5	13.0	14.6	85%	45%	41%	41%	1.7x	9.8	7.7	6.3				

Source: Wind, Reuters, UBS estimates, UBS-S estimates. * Wind consensus, ** Reuters consensus. Note: Priced as of 7 August 2026



UBS Research THESIS MAP a guide to our thinking and what's where in this report**PIVOTAL QUESTIONS****Q: Will Hua Hong's revenue growth accelerate in 2026-28?**

Yes. We expect Hua Hong's 2026-28E revenue CAGR at 25% (vs. 20% in 2025 YoY), driven by: 1) rising localisation; 2) inventory restocking into the semis upcycle; 3) capacity ramp on a healthy utilisation rate; 4) improved blended ASP; and 5) a growing contribution from 12-inch wafers.

Q: Can Hua Hong's profitability improve from 2026?

Yes. Despite elevated depreciation costs, we expect Hua Hong to improve GM from 11.8% in 2025 to 16.9%/18.0%/19.8% in 2026/27/28E, mainly driven by rising ASP (on a better supply/demand dynamic) and potential positive synergies from the consolidation of the Huali Fab 5.

UBSVIEW

We are more constructive on Hua Hong's revenue growth over the next three years. We expect supply/demand for trailing nodes to improve further and potential positive synergies from the consolidation of Huali Fab 5 with increasing UTR and blended ASP, leading to a 2026-28E revenue CAGR of 25% (vs. 20% in 2025 YoY). We maintain our Neutral rating on Hua Hong as we think the multiple positives are fairly priced based on its higher than peer valuation (even on a pro-forma basis) and lower 2027-28E ROE vs. its closest peers.

EVIDENCE

1) UBS forecast global semi-ex memory revenue to grow 25%/16% YoY in 2026/27, while major China fabless companies delivered 31%/6% revenue YoY/QoQ growth in Q126; 2) TSMC is reallocating its mature node capacity to advanced packaging. In addition, Powerchip, another trailing edge foundry, sold the P5 Tongluo fab to Micron; 3) overseas vendors are looking at a "China-for-China" strategy; 4) power devices accounted for 28% of total revenue in Q126; 5) Hua Hong's Q226 revenue guidance is below trailing edge foundry peers; and 6) the Huali Fab 5 recorded a GM of 23.7% and opex ratio of 7% in 2025, compared with Hua Hong's GM of 11.8% and opex ratio of 18%.

WHAT'S PRICED IN?

SMIC-H's share price is up 90% YTD (vs. SMIC-H at -6%), and we think investors have priced in its: 1) growing revenue contribution from 12-inch wafers; 2) potential ASP hikes on continued supply/demand wafer tightness; and 3) the potential merger of Hua Hong Group's leading fabs based on its valuation multiple premium to history and SMIC-H. Hua Hong-H trades at 3.9x/3.7x 2027/2028E PE, largely in line with its HK/China domestic foundry peers (excluding SMIC-A and Hua Hong-A), on a 2027-28E ROE of 3.2%/4.3%, which is below the average of its closest peers. We think the multiple positives are fairly priced in.

UPSIDE/DOWNSIDE SPECTRUM

Value drivers (2027E)	Wafer shipment YoY growth	Blended UTR	Blended ASP YoY growth	Blended GPM	SG&A expense ratio
HK\$220.00 upside	25%	100%	20%	20%	10%
HK\$148.00 base	20%	96%	12%	18%	12%
HK\$40.00 downside	15%	90%	3%	15%	14%

Source: Wind, UBS-S estimates

COMPANY DESCRIPTION

Hua Hong Semiconductor (Hua Hong) is the second-largest foundry (by capacity) in China dedicated to IC manufacturing at both 8-inch and 12-inch wafer fabs. Its first 12-inch fab began mass production in Q419. Most of its revenue is from China (82% of 2025 revenue), followed by North America (10%). Its major products include power discrete products, micro-controller units (MCUs) and smart cards.

Valuation Method and Risk Statement

Our price targets for SMIC is based on a P/BV methodology.

Downside risks include: 1) rapidly changing technology; 2) intensifying competition; 3) high capital investments; and 4) cyclical demand.

Upside risks include: 1) a persistent shortage in trailing-edge foundry; 2) milder than expected competition in legacy 12-inch foundries, particularly in China; 3) better than expected strength in China semiconductor localisation demand for MCU and analog semis; and 4) a loosening of restrictions exerted by the US authorities.

Our price target for Hua Hong is based on a P/BV methodology.

Downside risks include: 1) rapidly changing technology; 2) intensifying competition; 3) high capital investments; and 4) cyclical demand.

Upside risks include: 1) a persistent shortage in trailing-edge foundry; 2) milder-than-expected competition in legacy 12-inch foundries, particularly in China; 3) better-than-expected strength in China semiconductor localisation demand for MCU and analog semis; and 4) a loosening of restrictions exerted by the US authorities.

We value CR Micro based on a relative P/BV multiple.

Downside risks: 1) slower-than-expected transition to EV and green energy; 2) weaker-than-expected demand from downstream applications; 3) more intense domestic competition; and 4) its products being unable to meet market needs.

Upside risks: 1) faster-than-expected transition to EV and green energy; 2) faster-than-expected recovery from downstream demand; 3) faster-than-expected progress in auto-grade IGBT design-in; and 4) major R&D breakthroughs for its products.