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Investor Presentation | Asia Pacific

Greater China Semis: Build for Future AI Infrastructure; GPU and XPUs, Who Are the Winners in AI?

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GREATER CHINA TECHNOLOGY SEMICONDUCTORS

Asia Pacific
Industry View **Attractive**

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Strong AI Semi Outlook

- Top ideas:
  - **OW:**
    - **AI:** MediaTek(Top Pick), TSMC, SMIC, Aspeed, Alchip, KYEC, ASE, FOCI, ASMPT, AllRing
    - **Memory:** Macronix (Top Pick), AP Memory, Nanya Tech, Winbond, GigaDevice
    - **China AI/ Semis/WFE**: Iluvatar, Cambricon, NAURA Tech, AMEC, USI
    - **Testing Equipment and Consumables:** Winway, MPI, Hon Precision, Gudeng
    - **Mature nodes:** UMC
  - **EW:** GUC, OmniVision, Phison, MetaX, Realtek
  - **UW:**, WIN Semi, Silergy, GlobalWafers, ASMedia,

Long-term demand drivers:

- **Chip inflation:** We expect “price elasticity” to affect demand for tech products. Rising wafer, OSAT and memory costs create more margin headwinds for chip designers in 2026.
- **AI cannibalization:** Besides demand weakness (AI to replace some human jobs), we see the semi supply chain also prioritizing AI semis over non-AI semis, e.g., T-Glass and memory shortage.
- **China AI: DeepSeek is triggering inferencing AI demand:** DeepSeek has demonstrated cheaper inferencing. Local foundry supply chain also getting more capable for AI GPU production.

Valuation Comparison: Foundry, Back-end, Memory, IDM and Semi Cap

Ticker	Company	Price 6/24/2026	Currency	Price Target	Upside/ Downside	Rating	Dividend Yield (%)	FCF Yield (%)	Market Cap (US$M)	3M Avg. Daily Trading (US$M)	P/E Ratio (x) 2026e	P/E Ratio (x) 2027e	P/E Ratio (x) 2028e	EPS Growth 2026e	EPS Growth 2027e	EPS Growth 2028e	ROAE 2026e	ROAE 2027e	ROAE 2028e	P/B Ratio (x) 2026e	P/B Ratio (x) 2027e	P/B Ratio (x) 2028e
Foundry																						
2330.TW	TSMC	2,390.0	TWD	2,588.0	8%	O	1.4%	1.8%	1,956,701	2,907.9	23.1	18.5	15.1	56%	25%	23%	41%	38%	35%	8.2	6.1	4.7
2303.TW	UMC	178.5	TWD	138.0	-23%	O	5.1%	5.3%	71,156	792.5	39.7	31.5	25.8	35%	26%	22%	14%	17%	19%	5.4	5.1	4.7
0981.HK	SMIC	85.7	HKD	85.0	-1%	O	0.0%	-5.0%	76,261	1,034.5	NM	NM	NM	142%	45%	20%	7%	10%	11%	NM	NM	NM
5347.TWO	Vanguard	220.0	TWD	180.0	-18%	E	4.9%	3.1%	12,910	166.7	40.3	32.6	26.4	31%	24%	23%	12%	14%	17%	4.8	4.5	4.2
1347.HK	Hua Hong	193.4	HKD	118.0	-39%	E	0.1%	-4.6%	42,973	532.6	NM	NM	NM	584%	55%	27%	5%	7%	8%	NM	NM	NM
6770.TW	PSMC	83.2	TWD	88.0	6%	O	0.0%	5.6%	11,097	417.7	NM	NM	NM	-136%	259%	18%	3%	8%	7%	1.8	1.5	1.2
3105.TWO	WIN Semi	463.0	TWD	300.0	-35%	U	0.5%	-3.8%	2,264	510.0	NM	52.1	36.0	59%	40%	45%	6%	9%	12%	4.6	4.5	4.3
8086.TWO	AWSC	150.5	TWD	130.0	-14%	U	1.1%	-3.9%	934	37.3	23.8	21.1	17.0	89%	13%	24%	14%	14%	16%	3.2	2.8	2.5
Mean:							**1.6%**	**-0.2%**			**32.0**	**35.2**	**26.5**	**108%**	**61%**	**25%**	**13%**	**14%**	**16%**	**4.7**	**4.1**	**3.6**
Median:							**0.8%**	**-1.0%**			**31.7**	**31.5**	**25.8**	**58%**	**33%**	**23%**	**10%**	**12%**	**14%**	**4.7**	**4.5**	**4.3**
Memory																						
603986.SS	Giga Device	764.7	CNY	585.0	-23%	O	0.3%	4.1%	70,946	2,609.5	59.7	36.9	33.1	417%	62%	11%	37%	42%	35%	18.7	13.2	10.2
2408.TW	Nanya Tech	477.0	TWD	380.0	-20%	O	0.0%	13.6%	46,423	1,212.0	7.8	5.9	10.7	NM	NM	NM	74%	53%	21%	4.0	2.3	1.9
2344.TW	Winbond	219.5	TWD	222.0	1%	O	0.0%	16.6%	31,190	883.6	10.8	6.7	6.3	NM	NM	NM	64%	59%	46%	5.6	3.1	2.7
8299.TWO	Phison	2,475.0	TWD	2,248.0	-9%	E	1.5%	1.6%	17,034	554.3	12.4	21.1	48.0	402%	-41%	-56%	55%	25%	11%	5.4	5.2	5.3
SIMO.O	Silicon Motion	321.7	USD	155.0	-52%	O	1.1%	2.1%	10,807	213.3	49.2	29.6	NM	106%	66%	NA	24%	32%	NA	10.6	8.4	NA
2337.TW	Macronix	161.5	TWD	202.0	25%	O	4.6%	17.2%	9,462	630.4	NM	NM	NM	-513%	183%	3%	28%	53%	35%	5.3	3.1	2.1
Mean:							**1.3%**	**9.2%**			**28.0**	**20.0**	**24.5**	**103%**	**67%**	**-14%**	**47%**	**44%**	**30%**	**8.3**	**5.9**	**4.5**
Median:							**0.7%**	**8.8%**			**12.4**	**21.1**	**21.9**	**254%**	**64%**	**3%**	**46%**	**47%**	**35%**	**5.5**	**4.1**	**2.7**
Backend																						
3711.TW	ASEH	641.0	TWD	558.0	-13%	O	2.2%	6.0%	88,314	402.8	38.1	23.8	15.7	83%	60%	52%	19%	26%	33%	6.6	5.6	4.6
600584.SS	JCET	104.2	CNY	50.0	-52%	E	0.3%	5.7%	25,896	1,310.3	72.1	52.1	43.7	65%	38%	19%	8%	11%	11%	5.8	5.3	4.8
601231.SS	USI	36.0	CNY	45.4	26%	O	1.4%	-7.4%	11,400	296.9	30.3	20.5	17.6	42%	48%	17%	13%	17%	17%	3.7	3.2	2.9
2449.TW	KYEC	334.5	TWD	388.0	16%	O	1.8%	1.6%	12,915	341.8	33.6	22.2	16.7	11%	51%	33%	23%	29%	32%	7.2	5.9	4.8
3363.TWO	FOCI	629.0	TWD	708.0	13%	O	0.2%	4.8%	2,089	73.8	NM	NM	NM	NM	NM	NM	3%	56%	78%	NM	NM	NM
Mean:							**1.4%**	**1.5%**			**32.0**	**21.3**	**17.1**	**50%**	**49%**	**30%**	**16%**	**21%**	**23%**	**5.8**	**5.0**	**4.3**
Median:							**1.6%**	**3.7%**			**32.0**	**21.3**	**17.1**	**54%**	**50%**	**26%**	**16%**	**21%**	**25%**	**6.2**	**5.4**	**4.7**
Power Semis/ IDM																						
688396.SS	CR Micro	84.5	CNY	51.6	-39%	U	0.2%	1.6%	15,409	284.7	71.0	47.6	34.3	138%	49%	39%	6%	9%	11%	4.2	3.9	3.5
600460.SS	Silan Micro	49.7	CNY	26.9	-46%	U	0.5%	2.1%	11,490	331.2	60.3	40.5	31.6	244%	49%	28%	10%	14%	15%	5.9	5.2	4.6
603290.SS	StarPower	138.1	CNY	120.0	-13%	E	1.0%	0.0%	4,595	166.9	88.2	51.8	34.6	-7%	70%	50%	5%	8%	12%	4.5	4.2	3.8
300373.SZ	Yangjie	136.6	CNY	136.0	0%	O	1.4%	-2.8%	10,243	297.4	46.6	33.2	24.8	27%	40%	34%	15%	18%	21%	6.6	5.6	4.7
Mean:							**0.8%**	**0.2%**			**66.5**	**43.3**	**31.3**	**100%**	**52%**	**38%**	**9%**	**12%**	**15%**	**5.3**	**4.7**	**4.2**
Median:							**0.7%**	**0.8%**			**65.6**	**44.0**	**33.0**	**82%**	**49%**	**36%**	**8%**	**11%**	**14%**	**5.2**	**4.7**	**4.2**
Semicap / Equipment/ Materials/ Supply Chain																						
002371.SZ	NAURA	800.7	CNY	818.0	2%	O	0.6%	-0.9%	80,601	977.4	63.0	43.0	33.8	45%	46%	27%	19%	24%	25%	11.3	9.3	7.7
688012.SS	AMEC	399.0	CNY	550.0	38%	O	0.0%	17.6%	34,816	1,027.0	65.3	47.9	34.9	90%	37%	37%	16%	18%	20%	9.4	7.8	6.4
7769.TW	Hon Precision	6,920.0	TWD	10,008.0	45%	O	2.5%	NA	39,311	198.9	53.6	31.1	18.6	69%	72%	67%	37%	53%	65%	NM	14.4	10.4
6223.TWO	MPI	6,905.0	TWD	7,500.0	9%	O	0.0%	-5.4%	21,364	213.5	100.7	48.2	23.9	109%	109%	101%	38%	54%	69%	NM	NM	NM
6515.TW	Winway	9,100.0	TWD	15,000.0	65%	O	0.9%	1.3%	10,273	110.8	NM	44.4	20.8	104%	116%	113%	45%	67%	84%	NM	NM	NM
6488.TWO	GlobalWafers	1,040.0	TWD	750.0	-28%	E	2.7%	1.7%	15,701	154.6	46.6	31.1	24.5	46%	50%	27%	11%	15%	18%	5.0	4.6	4.1
0522.HK	ASM Pacific	200.8	HKD	188.0	-6%	O	1.8%	6.5%	10,210	85.1	54.7	32.7	23.4	69%	67%	40%	9%	14%	18%	4.5	4.1	3.7
688234.SS	SICC	178.9	CNY	112.1	-37%	O	0.6%	NA	12,044	296.4	NM	NM	NM	NM	NM	NM	1%	3%	3%	12.0	11.7	11.3
ACMR.O	ACM Research	101.6	USD	130.0	28%	O	1.1%	-0.7%	6,666	97.7	35.0	22.5	17.7	109%	56%	27%	10%	14%	16%	3.2	2.8	2.5
3680.TWO	Gudeng Precision	505.0	TWD	648.0	28%	O	0.0%	-6.1%	1,531	46.2	26.0	18.4	13.3	106%	42%	38%	15%	19%	22%	3.7	3.2	2.7
6187.TWO	AllRing Tech	1,105.0	TWD	1,580.0	43%	O	2.8%	1.1%	3,358	118.9	50.2	28.2	24.6	42%	78%	15%	27%	39%	36%	NM	NM	NM
Mean:							**1.2%**	**1.7%**			**55.0**	**34.7**	**23.6**	**79%**	**67%**	**49%**	**21%**	**29%**	**34%**	**7.0**	**7.2**	**6.1**
Median:							**0.9%**	**1.1%**			**53.6**	**31.9**	**23.7**	**80%**	**61%**	**38%**	**16%**	**19%**	**22%**	**5.0**	**6.2**	**5.3**

For valuation methodology and risks associated with any price targets above, please email morganstanley.research@morganstanley.com with a request for valuation methodology and risks on a particular stock. Source: Company data, Morgan Stanley Research. E = Morgan Stanley Research estimates. Note: Data as of June 24, 2026.

Valuation Comparison: Fabless, Power Semis, FPGA and Analog

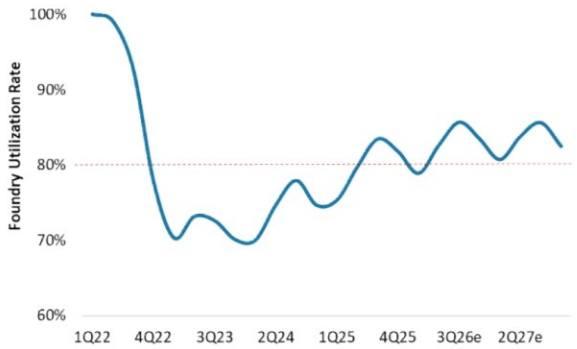
Ticker	Company	Price 6/24/2026	Curr ency	Price Target	Upside/ Downside	Rating	Dividend Yield (%)	FCF Yield (%)	Market Cap (US$M)	3M Avg. Daily Trading (US$M)	P/E Ratio (x)			EPS Growth			ROAE			P/B Ratio (x)		
											2026e	2027e	2028e	2026e	2027e	2028e	2026e	2027e	2028e	2026e	2027e	2028e
Fabless																						
AI accelerators																						
688256.SS	Cambricon	1,505.1	RMB	1,528.0	2%	O	0.0%	-2.2%	131,366	2,292.9	119.0	77.4	56.6	160%	54%	37%	48%	51%	46%	50.6	32.1	21.6
9903.HK	Iluvatar	814.0	HKD	688.0	-15%	O	NA	NA	26,473	76.5	NM	126.4	70.9	-83%	-805%	78%	-6%	26%	34%	37.9	29.2	20.7
688802.SS	MetaX	773.4	RMB	758.0	-2%	E	0.0%	NA	42,989	262.4	NM	557.5	310.3	-103%	2214%	80%	0%	4%	7%	23.5	22.5	21.0
Smartphone/Wireless Semis																						
2454.TW	MediaTek	4,310.0	TWD	5,588.0	30%	O	17.3%	0.9%	213,014	1,343.5	61.6	29.5	14.0	12%	109%	111%	25%	40%	55%	14.1	9.7	6.3
603501.SS	OmniVision	89.5	CNY	111.0	24%	E	0.5%	2.1%	14,995	378.7	26.9	18.5	15.0	0%	45%	23%	14%	18%	19%	3.4	2.9	2.5
300782.SZ	Maxscend	111.2	CNY	48.00	-57%	U	0.1%	-2.2%	8,247	439.9	NM	58.5	NM	-485%	85%	NA	5%	9%	NA	5.6	5.2	NA
603160.SS	Goodix	59.7	CNY	58.0	-3%	U	0.7%	-1.4%	3,816	62.9	50.0	44.2	40.0	-35%	13%	11%	6%	6%	7%	2.8	2.7	2.6
6462.TWO	Egis	124.5	TWD	105.0	-16%	E	1.0%	-16.3%	359	10.0	NM	23.2	NM	-88%	-462%	NA	-1%	5%	NA	1.3	1.2	NA
IP/Design Service																						
3661.TW	Alchip	4,230.0	TWD	5,088.0	20%	O	1.0%	5.1%	10,890	295.5	27.9	23.4	19.4	124%	19%	21%	28%	28%	30%	NM	NM	NM
301269.SZ	Empyrean Technology	109.6	CNY	95.0	-13%	E	0.1%	NA	8,306	181.0	NM	NM	NM	283%	136%	70%	4%	10%	15%	NM	NM	NM
3443.TW	GUC	4,850.0	TWD	5,688.0	17%	O	0.8%	4.7%	20,523	327.0	110.1	39.0	25.6	58%	182%	52%	40%	71%	66%	NM	NM	NM
6531.TW	AP Memory	1,100.0	TWD	1,555.0	41%	O	1.2%	4.1%	5,621	178.3	62.3	32.0	18.1	128%	95%	77%	22%	35%	47%	12.5	9.9	7.4
PC/Cloud/Display Semis																						
3034.TW	Novatek	561.0	TWD	414.0	-26%	U	6.1%	14.3%	10,779	84.5	16.2	15.9	18.6	29%	2%	-15%	30%	28%	23%	4.6	4.4	4.4
2379.TW	Realtek	814.0	TWD	570.0	-30%	E	4.8%	5.0%	13,114	89.0	23.0	25.0	23.9	23%	-8%	5%	33%	28%	28%	7.1	6.9	6.5
5269.TW	ASMedia	1,435.0	TWD	1,482.0	3%	U	4.1%	0.9%	3,383	74.1	15.6	16.1	15.1	25%	-3%	6%	18%	16%	15%	2.6	2.4	2.1
5274.TWO	Aspeed	17,425.0	TWD	23,456.0	35%	O	1.2%	1.3%	20,800	146.4	75.1	53.2	37.7	123%	41%	41%	85%	79%	81%	NM	NM	NM
4966.TWO	Parade	658.0	TWD	1,000.0	52%	O	2.9%	1.6%	1,617	55.2	21.6	13.0	11.2	-11%	66%	16%	11%	16%	17%	2.2	2.0	1.8
2458.TW	Elan Micro	180.0	TWD	180.0	0%	O	4.8%	9.6%	1,627	20.0	18.9	17.3	17.2	13%	9%	0%	25%	25%	23%	4.5	4.1	3.8
HIMX.O	Himax	15.7	TWD	17.4	11%	E	2.7%	8.3%	2,682	63.4	39.5	21.7	10.8	65%	82%	102%	8%	14%	26%	3.2	3.0	2.6
Analog IC																						
6415.TW	Silergy	615.0	TWD	388.0	-37%	U	1.4%	4.8%	7,536	105.3	60.6	37.3	29.0	59%	62%	29%	10%	15%	17%	5.9	5.2	4.6
300661.SZ	SG Micro	138.2	CNY	82.0	-41%	E	0.3%	1.1%	11,908	402.3	101.4	71.0	56.9	49%	43%	25%	15%	18%	20%	NM	NM	NM
MCU																						
4919.TW	Nuvoton	177.5	TWD	98.0	-45%	U	0.8%	14.5%	2,353	103.0	NM	40.2	22.5	-69%	-457%	79%	-4%	14%	21%	5.9	5.2	4.2
688018.SS	Espressif	124.0	CNY	125.0	1%	O	NA	NA	4,010	122.3	NM	NM	NM	NA	NA	NA	12%	14%	15%	NM	NM	NM
FPGA																						
002049.SZ	Unigroup Guoxin	87.5	CNY	57.0	-35%	U	0.4%	1.5%	10,330	332.2	35.9	27.7	23.7	44%	30%	17%	14%	16%	16			
1385.HK	Shanghai Fudan	28.1	HKD	47.3	68%	O	0.1%	0.1%	6,905	27.6	21.8	18.0	16.0	353%	22%	12%	16%	16%	16			
IC distributor																						
3702.TW	WPG	107.0	TWD	160.0	50%	O	7.2%	-27.2%	5,673	53.0	8.3	8.6	8.1	115%	-2%	5%	24%	21%	20			
3036.TW	WT Micro	217.5	TWD	349.0	60%	O	4.4%	-21.4%	8,691	92.6	8.8	7.7	6.9	107%	13%	13%	25%	25%	24			

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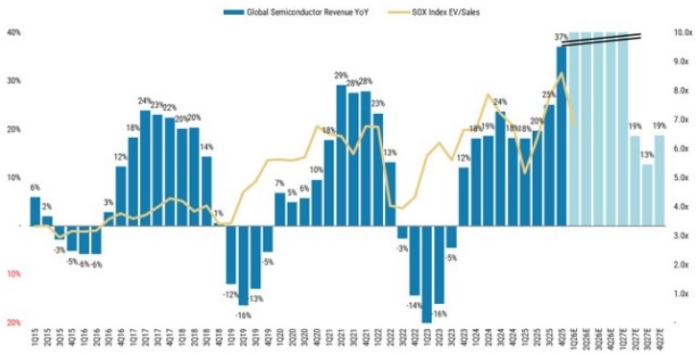


Broader Semiconductor Cycle

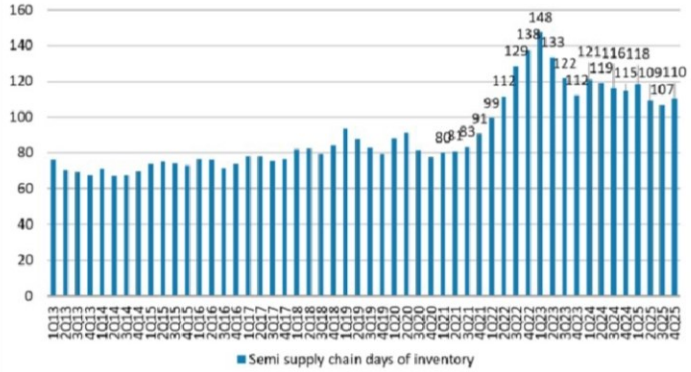
Logic semi foundry utilization could reach 80% in 2H26



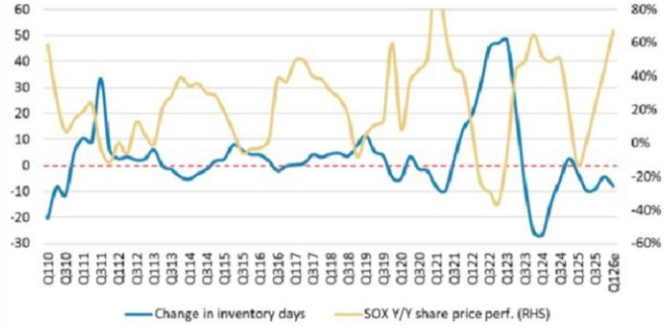
Excluding memory and NVIDIA's AI GPU revenue, non-AI semi growth is expected to decline in 2026



Semi supply chain days of inventory as of 4Q25



Historically, when inventory days fell, semi stock index rose

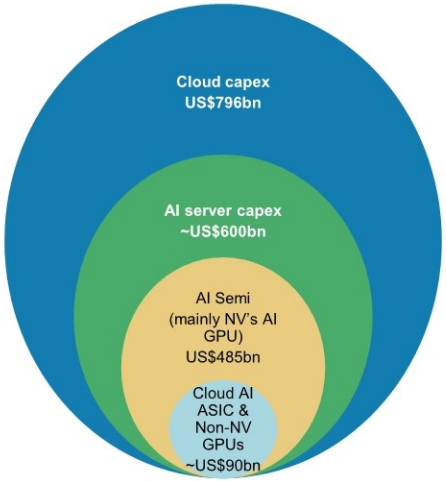


Source: SIA, FactSet, company data, Morgan Stanley Research. e = Morgan Stanley Research estimates.

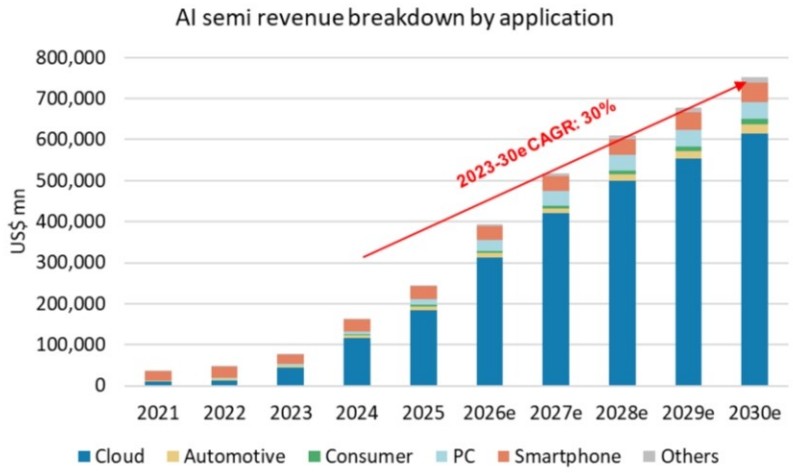
AI Semi Supply Chain and Niche Memory

Global Semi Industry Market Could Reach US$1.5tn by 2030, with AI Semis Contributing Half

Our supply chain data-driven bull case assumes cloud AI Semi TAM could grow to US$485bn in 2026e



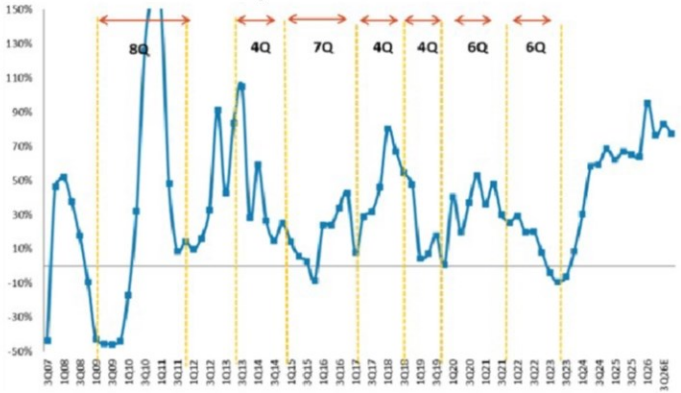
We expect AI semi TAM to reach ~US$753bn by 2030



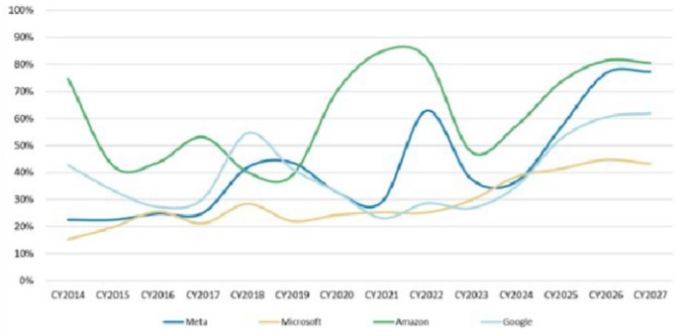
Source: Nvidia, Morgan Stanley Research. e = Morgan Stanley Research estimates.

Cloud Semis: Brighter Outlook

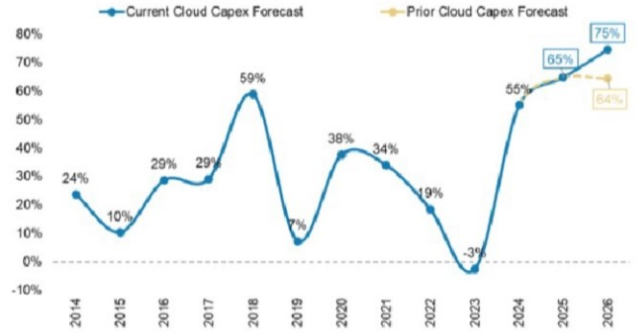
Top 4 CSPs (Amazon, Google, Microsoft and Meta) capex was up 95% Y/Y in 1Q26



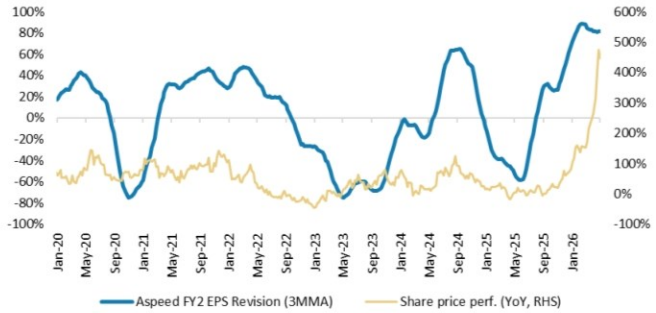
Capex-to-EBITDA ratio should remain stable at around 50%



Top 4 Cloud Providers: Cloud CAPEX Y/Y GROWTH



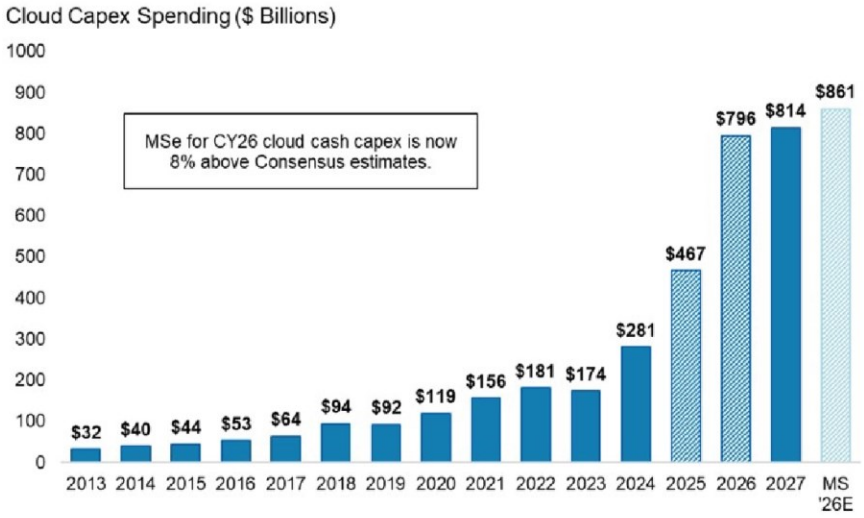
Aspeed earnings revision breadth



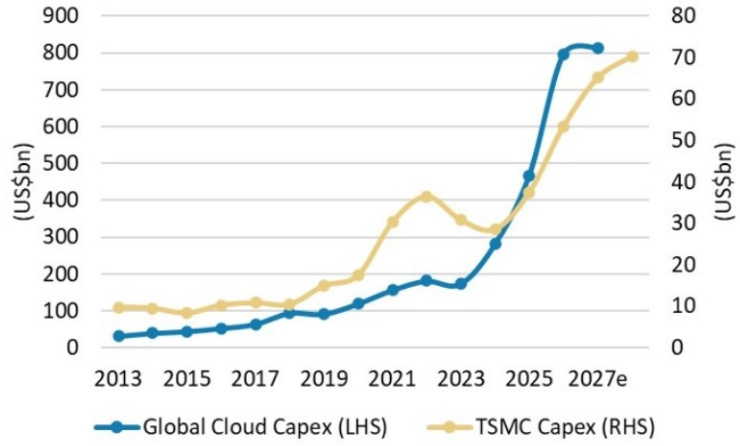
Source: Company data, Morgan Stanley Research. e = Morgan Stanley Research estimates.

Cloud Capex Remains Robust Among Major CSPs

Morgan Stanley cloud capex tracker estimates nearly US$811bn of cloud capex spending in 2026 (Top 11 listed global CSPs; no sovereign AI)



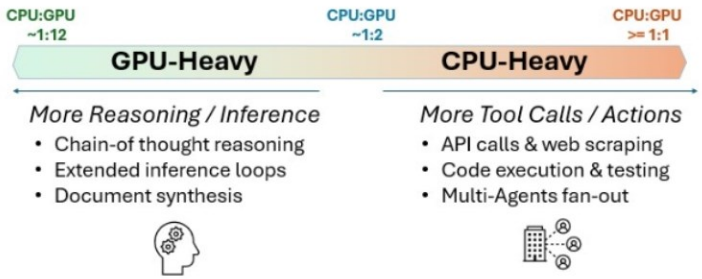
Global cloud capex vs. TSMC capex



Source: FactSet, company data, Morgan Stanley Research. E = Morgan Stanley Research estimates. Note: Estimates are top-down and from our US tech team.

Agentic AI – Growing CPU Opportunities

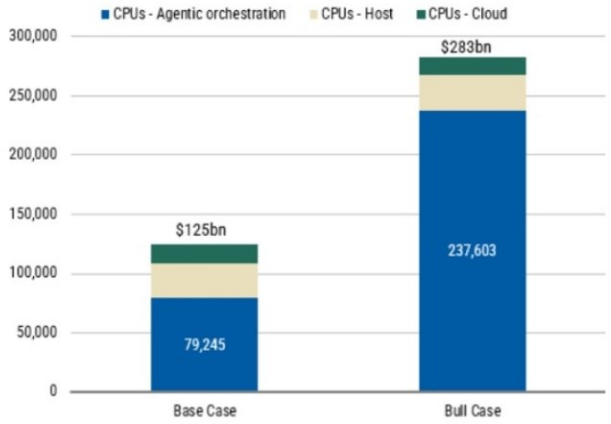
Cluster-level CPU: GPU intensity rises as AI moves from reasoning to action



We lift our base-case Orchestration CPU TAM to US$79bn (prior US$60bn)…

TAM 2030 ($bn)	Orch.	Host + cloud	Total
Bear Case	32	45	**77**
Base (current) model	60	45	**105**
Base (new) Bottom-Up model	79	45	**125**
Bull Top-Down model	238	45	**283**

… and our bull case implies a US$238bn CPU orchestration TAM



Source: Morgan Stanley Research (e) estimates

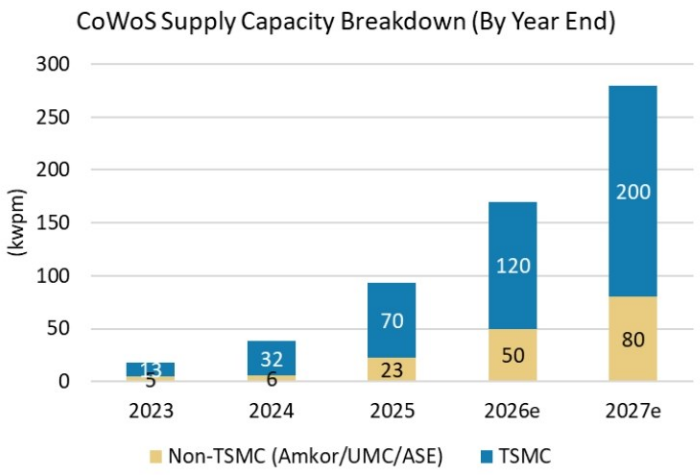
Announced Power Deployment Implications for TSMC

	Announced Power Deployment Implication for TSMC			
GPU/ASIC Vendor	NVIDIA (Top US AI firm)	AMD (Top US AI firm)	Broadcom	AWS (Top US AI firm)
Power Deployed (GW)	10	6	3.5	2
Rack name	Vera Rubin NVL144	Helios	TPU	Trainium3 UltraServers
Power consumption per Rack (kW)	220	220	63	144
Rack Number (k units)	45	27	56	14
Chip Name	Rubin GPU	MI455 GPU	TPUv7 (Ironwood) TPUv8i (Sunfish)	Trainium3 (4)
Chip Volume (k units)	3,273	1,964	3,571	2,000
Life Cycle for the project	3	3	5	8
Implied life-cycle CoWoS Volume (k wafers)	409	166	260	118
Implied life-cycle 2/3nm wafer Volume (k wafers)	260	95	190	107
2027 annual CoWoS demand (k wafers)	136	55	52	15

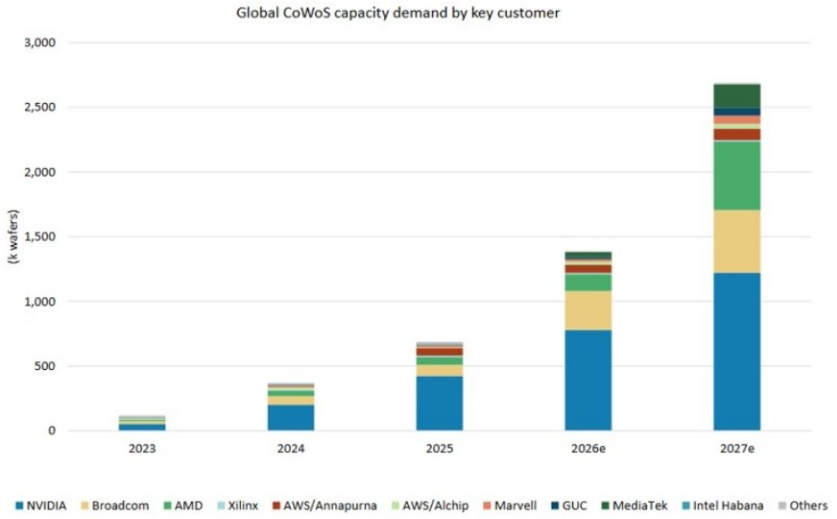
Source: Company data, Morgan Stanley Research; Note: Estimates are compiled using our Asia supply-chain checks. Note: We assume 64 units of TPU chips per rack with TPUv7 and v8i per chip TDP being ~980W.

TSMC May Expand CoWoS Capacity to 200kwpm by 2027 Given Continual Strong AI Demand

Global CoWoS capacity expansion by year-end and by vendor

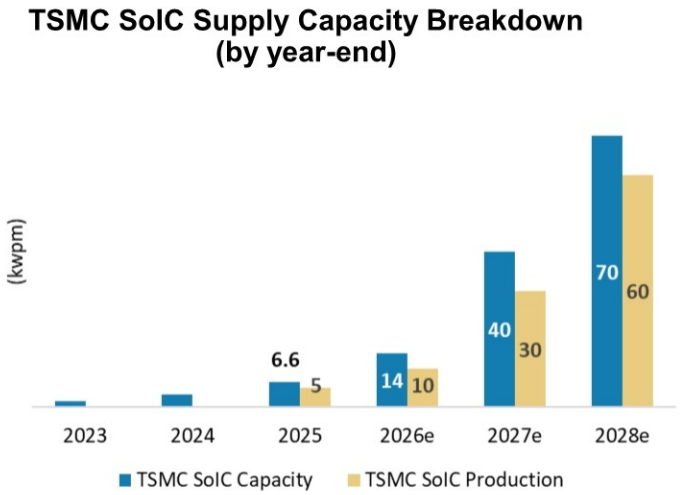


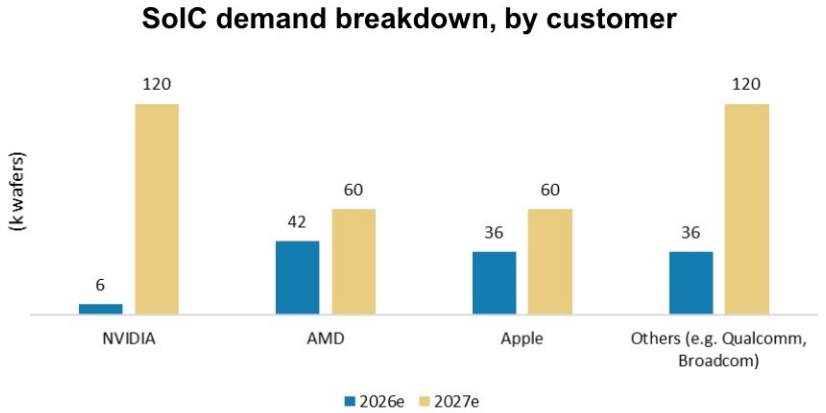
Global CoWoS consumption, by customer

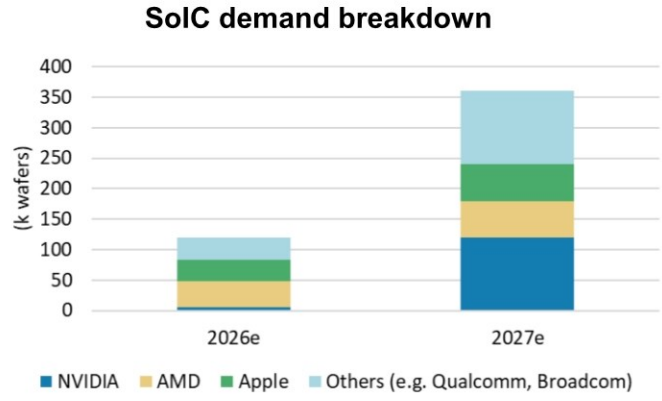


Source: Company data, Morgan Stanley Research. E = Morgan Stanley Research estimates.

SoIC Expansion Expected To Be a Key Focus Area for TSMC in the Coming Years



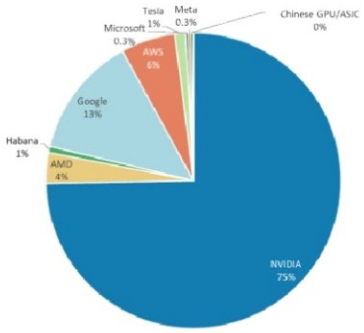




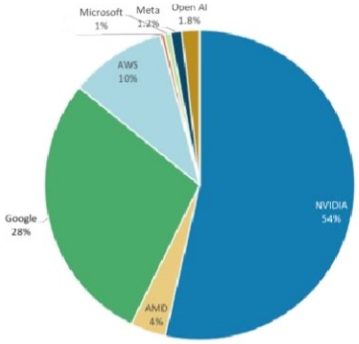
Source: Company data, Morgan Stanley Research. e = Morgan Stanley Research estimates.

AI Computing Wafer Consumption Could Reach US$27bn in 2026, with NVIDIA Accounting for the Majority

AI semi wafer consumption, by customer, 2025e



AI semi wafer consumption, by customer, 2026e



AI chip vendor	Product name	CoWoS capacity allocation (k wafers)	Chips per CoWoS wafer	Implied shipments (k)	Compute die size	Geometry	Compute die units	Wafer consumption (k wafers)	Wafer price (US$)	Wafer revenue TAM (US$ mn)
AI GPU (2026e)										
NVIDIA	B300	390	14	5,460	850	4nm	2	433	21,945	9,510
	Vera CPU	90	23	2,070		3nm				
	Spectrum/CPX	60		-						
	Rubin R200	260	8	2,080	850	3nm	2	165	26,000	4,292
	H200	20	27	540	814	4nm	1	15	21,945	331
AMD	MI300	3	12	36	110	5nm	8	1	18,000	19
	MI350/375	7	12	84	110	3nm	8	2	26,000	64
	MI400	65	10	650	110	2nm	8	32	28,125	886
	Venice	50	25	1,250						
AI ASIC (2026e)										
Google	TPU v7p (Ironwood; AVGO)	145	16	2,320	700	3nm	2	152	26,000	3,942
	TPU v8i (Sunfish; AVGO)	80	12	960	800	3nm	2	72	26,000	1,864
	TPU v8t (Zebrafish; MediaTek)	40	20	800	800	3nm	2	60	26,000	1,554
AWS	Trainium 3	100	17	1,700	700	3nm	2	91	26,000	2,357
GUC's customers		10	20	200	645	4nm	1	5	21,945	107
Microsoft	Maia 200	4	29	116	700	3nm	1	3.0	26,000	79
	Maia 300	5	11	55	850	2nm	1	2.9	28,125	82
Meta	MTIA 3 (Iris)	15	10	150	850	3nm	2	11.9	26,000	310
Total		**1,424**						**1,075**		**26,107**

Source: Company data, Morgan Stanley Research. E = Morgan Stanley Research estimates. Note: Estimates are compiled using our supply-chain checks.

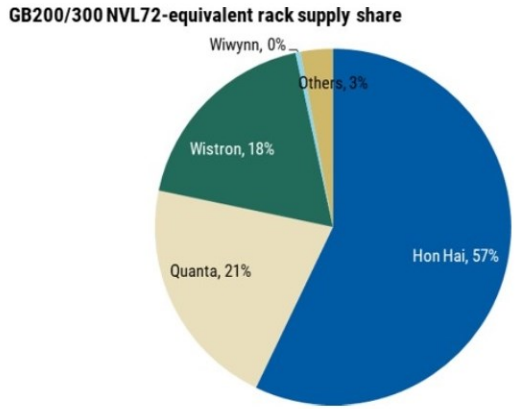
Global Cowos Breakdown

(k wafer)	2023	2024	2025	2026e	2027e	2023	2024	2025e	2026e	2027e
NVIDIA	53	200	425	780	1,222	45%	54%	62%	56%	45%
TSMC			390	680	1,090					
CoWoS-L			390	650	910					
CoWoS-S			0	20	50					
CoWoS-R			0	10	130					
Non-TSMC			35	100	132					
Amkor			35	100	132					
CoWoS-S			20	20	12					
CoWoS-R			15	80	120					
ASE/SPIL			0	0	0					
CoWoS-S			0	0	0					
CoWoS-R			0	0	0					
Broadcom	23	68	85	300	484	20%	18%	12%	22%	18%
TSMC			83	260	420					
CoWoS-L			0	15	55					
CoWoS-S			83	245	365					
ASE/SPIL			2	30	40					
CoWoS-L			0	0	0					
CoWoS-S			2	30	40					
Amkor				10	24					
CoWoS-S				10	24					
AMD	7	40	60	130	530	6%	11%	9%	9%	20%
TSMC			60	80	240					
CoWoS-L			0	70	230					
CoWoS-S			60	10	10					
ASE/SPIL			0	50	170					
CoWoS-L			0	50	170					
Amkor				0	120					
CoWoS-S				0	120					
Xilinx	3	10	10	10	10	3%	3%	1%	1%	0%
MediaTek				40	180				3%	7%
TSMC				40	180					
CoWoS-S				40	180					
AWS/Annapurna			60	62	90				4%	3%
TSMC			60	32	54					
CoWoS-R			60	32	54					
ASE/SPIL				30	36					
CoWoS-R				30	36					
AWS/Alchip	9	16	5	26	36	8%	4%	1%	2%	1%
Intel Habana	0	7	9	0	0	0%	2%	1%	0%	0%
Marvell	1	18	15	17	64	1%	5%	2%	1%	2%
TSMC				5	50					
CoWoS-L				5	50					
CoWoS-R			15	0	0					
ASE/SPIL				12	14					
CoWoS-R				12	14					
GUC	1	1	2	14	60	1%	0%	0%	1%	2%
Cisco		2	3	5	6		1%	0%	0%	0%
Others	20	10	15	10	12	17%	3%	2%	1%	0%
Total demand	117	372	689	1,394	2,694	100%	100%	100%	100%	100%

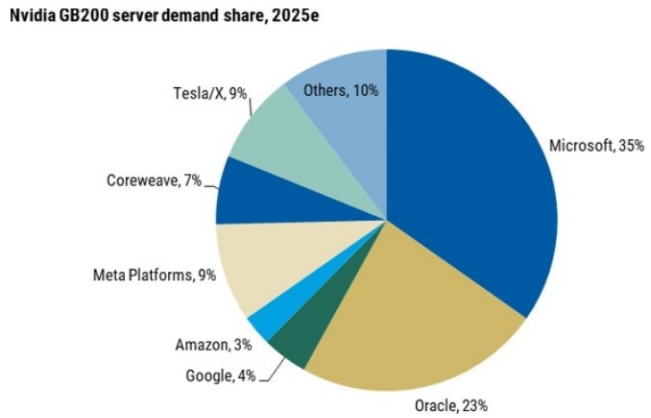
Source: Morgan Stanley Research. E = Morgan Stanley Research estimates. Note: Estimates are from our Asia Pacific tech team's downstream estimates.

NVIDIA GB200/300 Server Racks Supply/Demand Assumptions

NVIDIA GB200/300 rack supply share (2025)



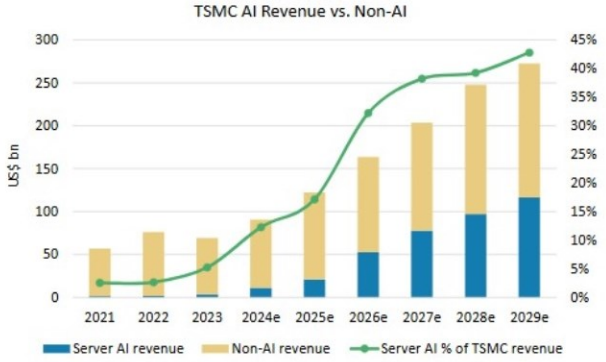
NVIDIA GB200/300 rack demand share (2025)



Source: Morgan Stanley Research. E = Morgan Stanley Research estimates. Note: Estimates are from our Asia Pacific tech team's downstream estimates.

TSMC AI Semis Revenue Could Reach 60% from 2024 to 2029e

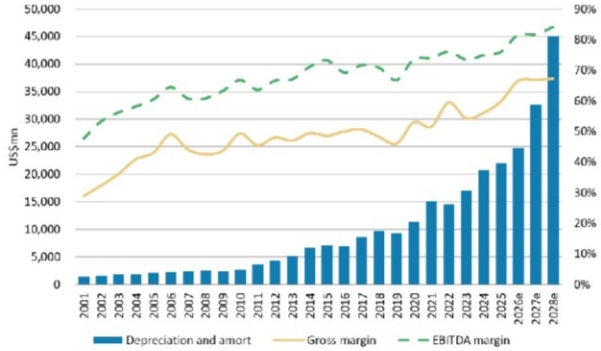
TSMC – AI semis revenue could account for >30% of 2026e revenue



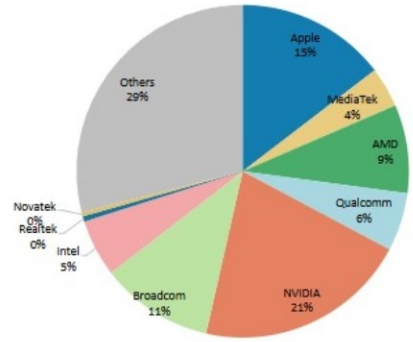
TSMC – AI semis revenue breakdown



TSMC – margin expansion



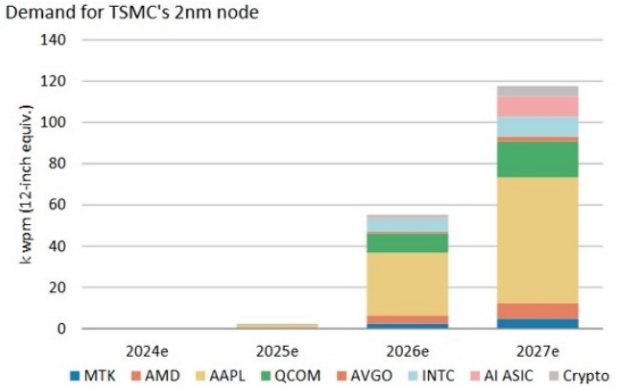
TSMC – 2026e revenue breakdown by customer



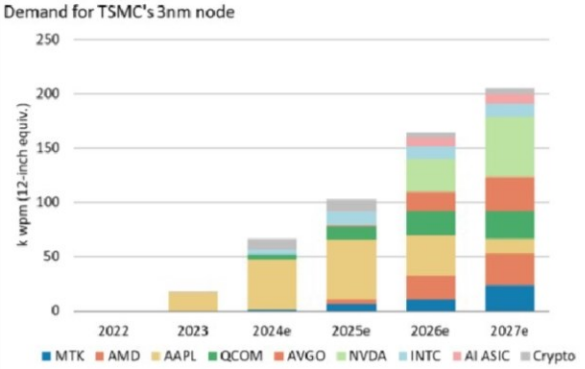
Source: Company data, Morgan Stanley Research (e) estimates

TSMC Leading-edge Wafer Demand Breakdown

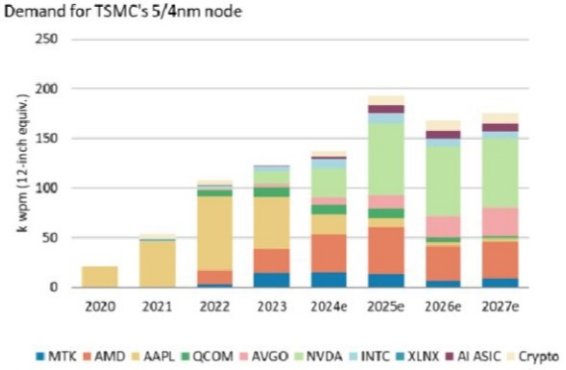
TSMC – 2nm customer demand breakdown



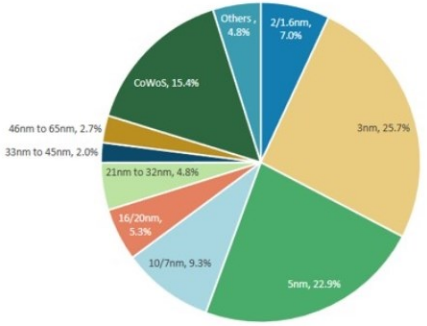
TSMC – 3nm customer demand breakdown



TSMC – 4/5nm customer demand breakdown



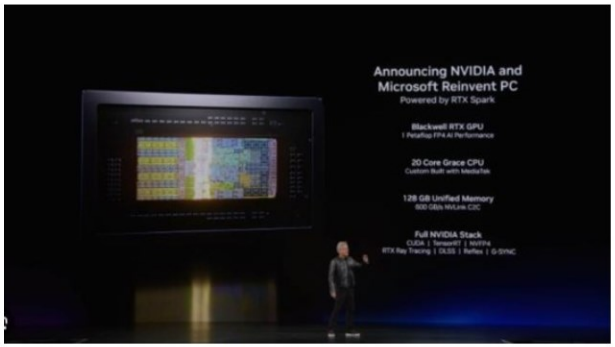
TSMC – 2026e revenue breakdown by nodes and CoWoS



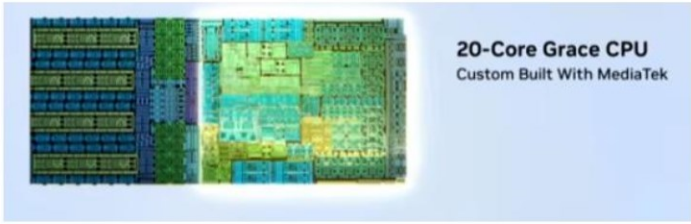
Source: Company data, Morgan Stanley Research (e) estimates

Nvidia/MediaTek New AI PC (RTX Spark) Could Trigger Potential Edge Device Replacement

New AI PC announced by Nvidia (N1X)



MediaTek provides 20-core customized Grace CPU for N1X



RTX Spark (N1X) provided by MSI (available in 3Q26)



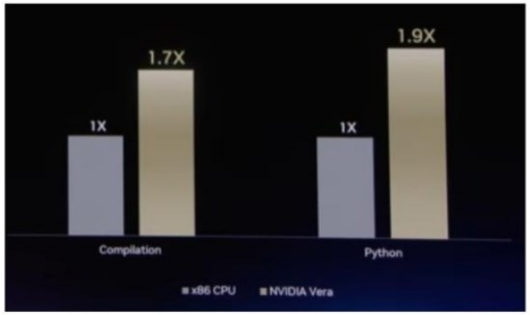
RTX Spark (N1X) provided by ASUS (available in 3Q26)



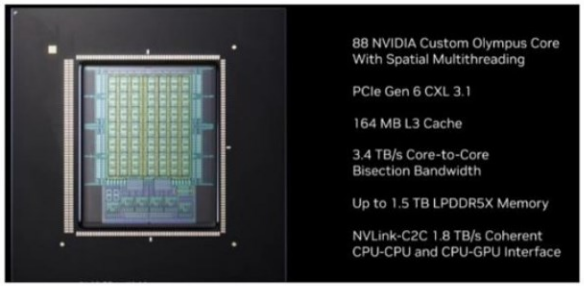
Source: Nvidia, MSI, ASUS

Nvidia Latest Vera CPU Could Support Robust Agentic CPU Demand

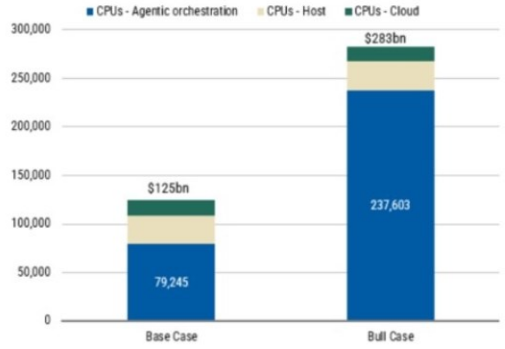
Vera performance could be 1.8x that of highest-performance x86 CPU



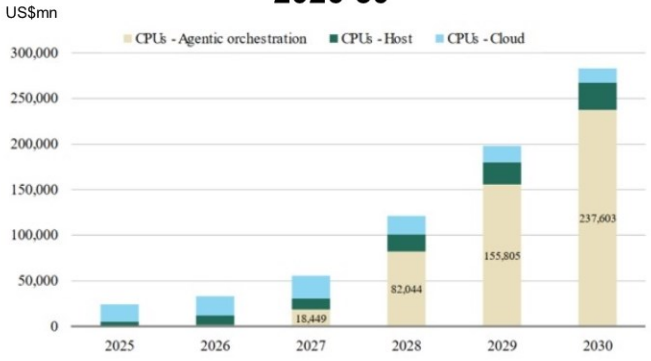
Vera CPU cores are not split across chiplets, enabling faster core-to-core connection



MS bull case implies a US$238bn CPU orchestration TAM



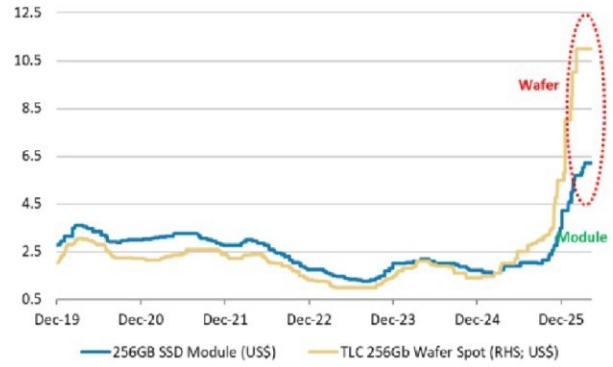
In MS top-down model, we estimate the Agentic CPU TAM will CAGR at 251% over 2026-30



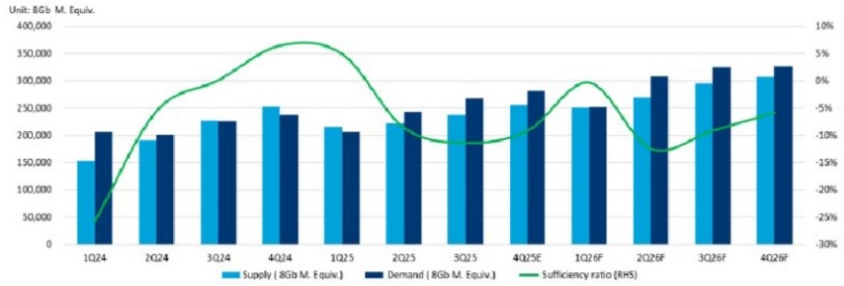
Source: Nvidia, Morgan Stanley Research (e) estimates

AI Storage Leads to NAND Shortage; We Also Expect NOR Flash Undersupply into 2026

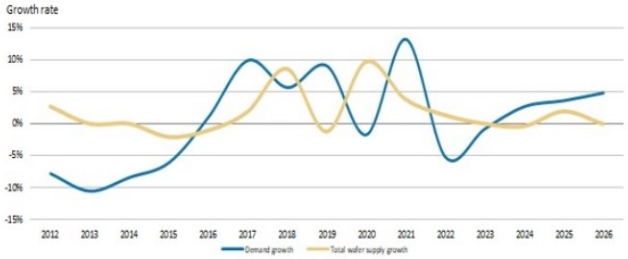
NAND wafer spot pricing and module prices



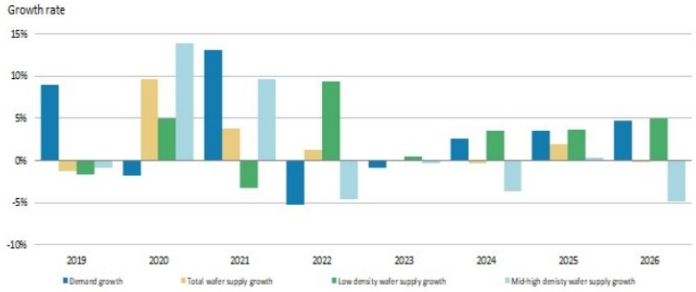
NAND supply and demand model



NOR flash demand and supply growth rates



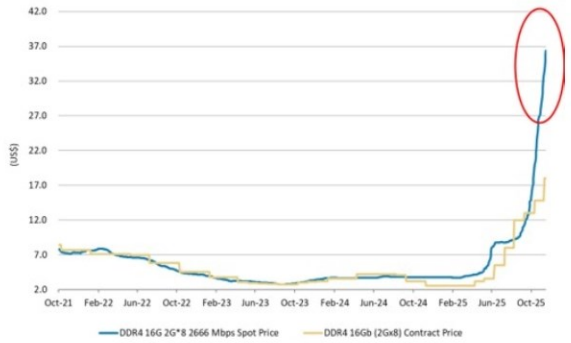
NOR flash demand and supply growth rates



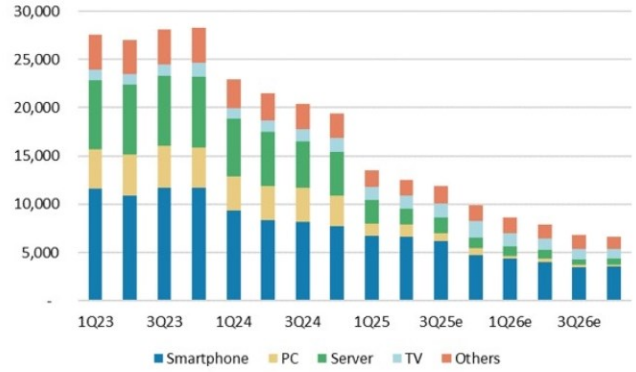
Source: ChinaFlashMarket, Morgan Stanley Research estimates.

DDR4 Shortage to Persist into 2H26; Spot Price Capped

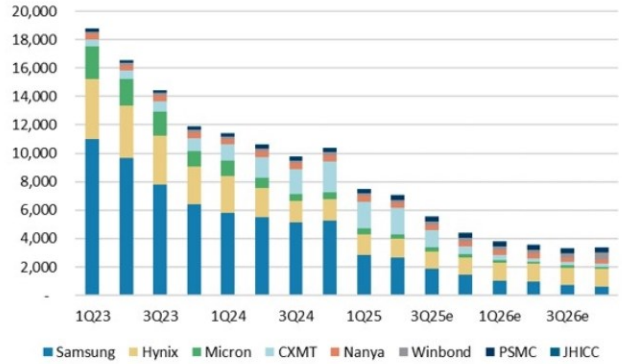
DDR4 16Gb spot vs. contract price



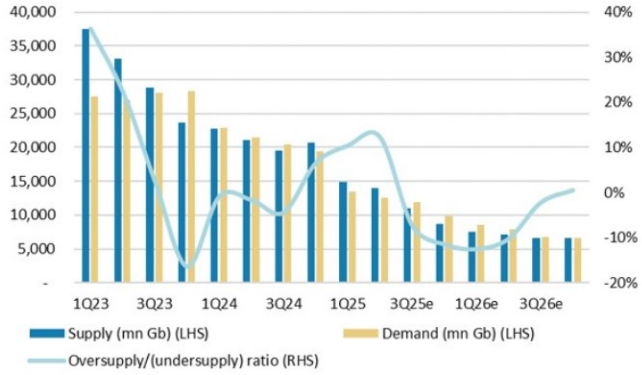
Quarterly demand breakdown, by product (mn Gb)



Quarterly supply breakdown (mn Gb)



Quarterly supply and demand summary



Source: Company data, Morgan Stanley Research. E = Morgan Stanley Research estimates.

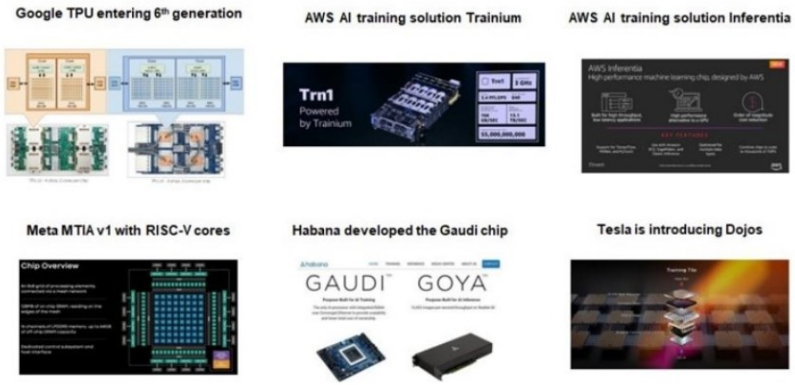
AI ASIC, CPO and Chip Testing

AI Semis: Now and the future – "Prompts"

- Generative AI Demand Driver:
  - Killer apps
  - Competition
  - Sovereign
- Growth limitations:
  1. Budget
  2. Energy -> in the US
  3. Chip Capacity -> in China
  4. Regulation
- Semiconductor solutions:
  - Moore's Law
  - CoWoS/ SoIC
  - HBM
  - CPO
  - Custom chip
  - GaN HVDC 800V
- Growth perspective:
  1. Inference vs. Training AI semis
  2. Edge vs. Cloud AI semis
  3. Custom ASIC vs. AI GPU

CSPs Still Need Custom Chips Even with NVIDIA Providing Powerful AI GPUs

Global CSP cloud AI custom chips



Latest evidence of AI ASIC: AWS Trainium3



Trainium Forecasts from MS Asia Research team

k Units	2023	2024	2025e	2026e	2027e	2028e
Trainium1/Inferentia2	300	600	30			
Trainium2		300	1,520			
Trainium3			20	1,600	1,200	-
Trainium4					600	2,000
Total	**300**	**900**	**1,570**	**1,600**	**1,800**	**2,000**

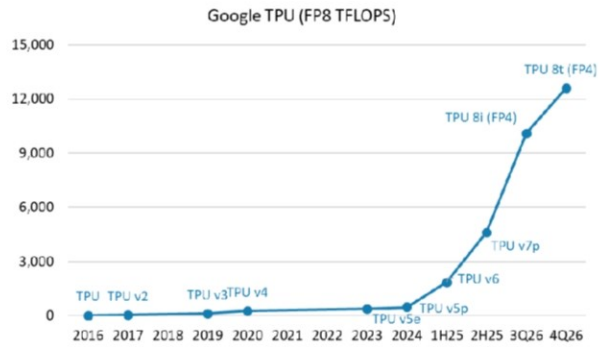
Source: AWS, Google, Meta, Intel, Tesla, Morgan Stanley Research (e) estimates.

More ASIC Projects Are Coming, According to Each CSP Plan

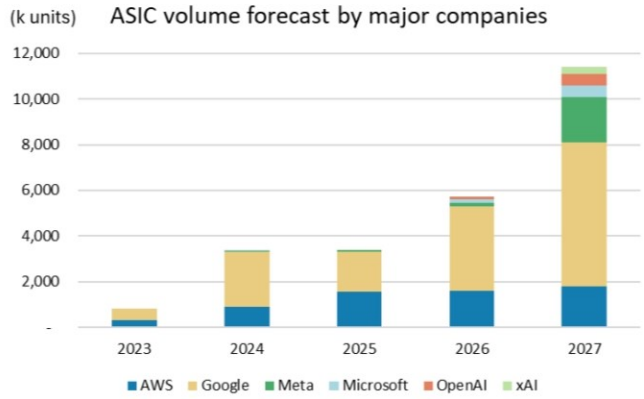
TPU Forecasts from MS Asia Research team

k Units	2023	2024	2025e	2026e	2027e	2028e
v5	500	2,400	250			
v6 (Trillium)			1,000			
v7 (Ironwood, by Broadcom)			500	2,300	500	
v8i (Sunfish; 3nm, by Broadcom)				900	3,000	2,500
v8t (Zebrafish; 3nm, by MediaTek)				500	2,500	1,000
v9 (Humufish; 2nm, by MediaTek)					150	2,500
v9a (Merope; 2nm, by US design service)						unknown
v10 (Icefish; 1.4nm, by MediaTek)						unknown
Total	**500**	**2,400**	**1,750**	**3,700**	**6,150**	**>6000**

Google TPU performance is growing rapidly



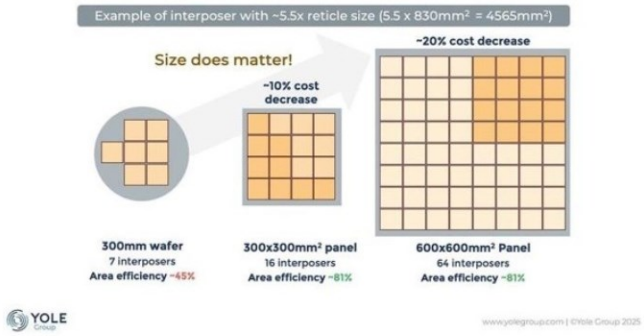
ASIC volume forecast by major companies



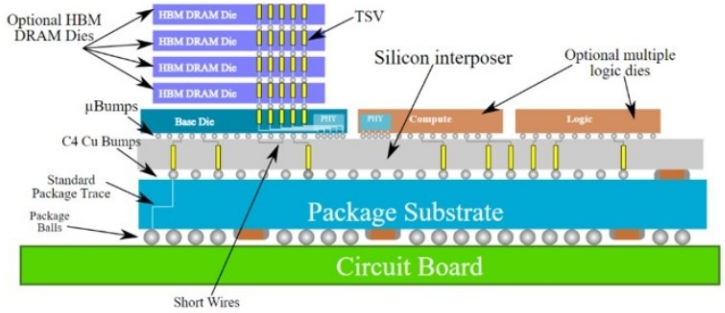
Source: Company data, Morgan Stanley Research (e) estimates

What About the Competition Between TSMC CoWoS and Intel EMIB?

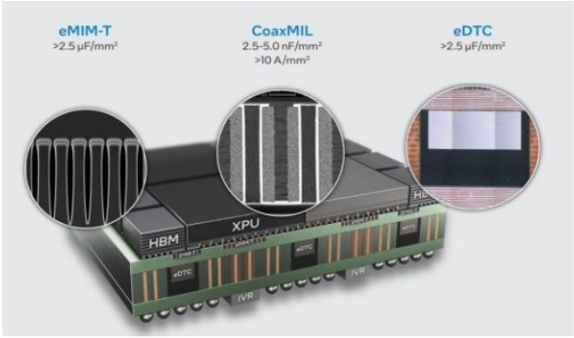
TSMC CoWoS can support up to 9.5x reticles, or four chips per wafer



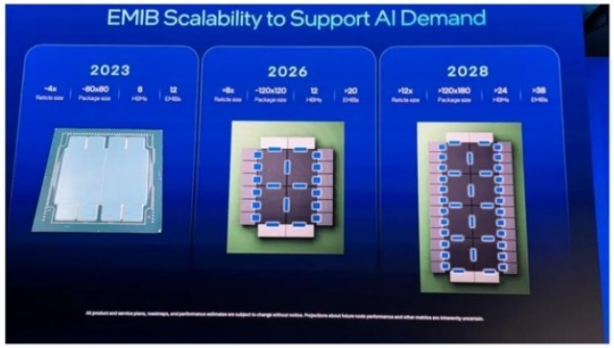
TSMC's CoWoS-S (silicon interposer) packaging architecture



Intel EMIB eDTC: APMemory's technology



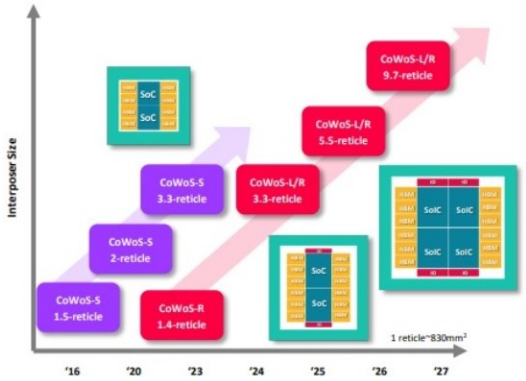
Intel's EMIB can easily support larger chips with more reticles (>12) if its supply chain can execute well



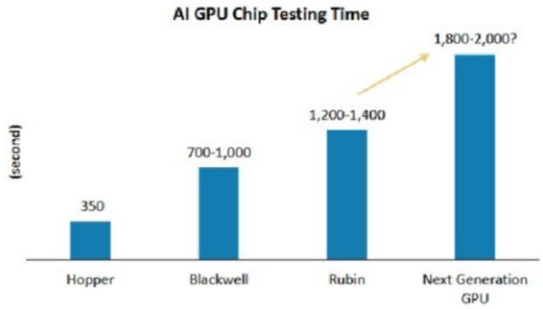
Source: Intel, Yole, Morgan Stanley Research

Larger Package Sizes Are Emerging as a Key Industry Trend

TSMC's roadmap for interposer size



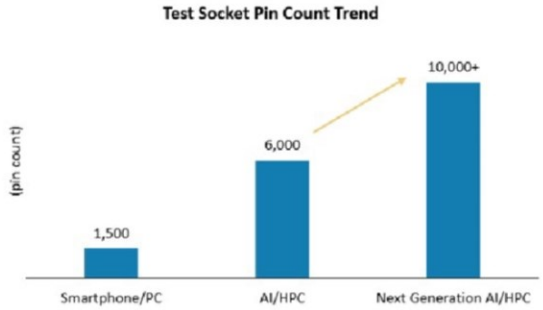
Chip testing time continuing to trend up



Testing equipment market CAGR is expected to be 35% during 2024-27

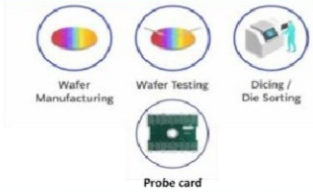


AI/HPC test socket needs higher pin counts vs. traditional consumer tech applications



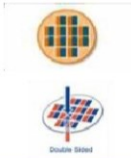
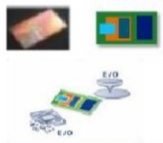
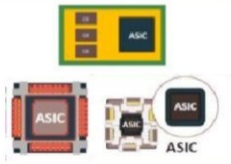
Source: Company data, Morgan Stanley Research (e) estimates

Mapping the Roles of Hon Precision, WinWay and MPI in the Semi Supply Chain

	Wafer Manufacturing	Wafer-level Packaging	Chip Testing		System Assembly/Module
			Burn-in and Final Test	SLT	
Testing surface		 	    		
Manufacture	TSMC	TSMC, OSAT (ASE, SPIL & Amkor)	OSAT (ASE, KYEC, PTI, Sigurd)	OSAT (ASE, KYEC, PTI, Sigurd)	Hon Hai, Winstron and Quanta
Equipment	Wet Etching: GPTC, Scientech Wafer Testing: TEL, TSK Dicing: E&R, Everprecision Die Sorting: GMM	GPM, GPTC, AllRing, APT	**Hon Precision**, Advantest, Teradyne	**Hon Precision**, Chroma	Cooling equipment: AVC, Auras
Material Kit/Jig	**Probe Card: MPI, Winway, Technoprobe**	PCB: GCE, WUS HDI substrate: Unimicron	**Socket: Winway**		

Source : Company data, Morgan Stanley Research

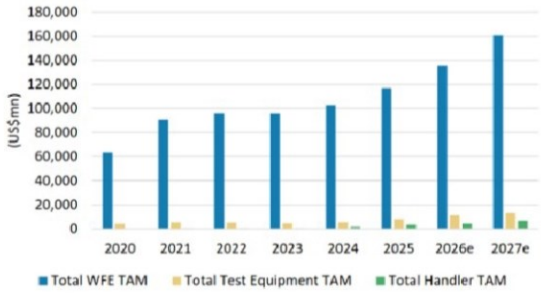
New Evolution for Testing Equipment and Components: CPO

Test Insertion	Insertion 1	Insertion 2	Insertion 3	Insertion 4		Insertion 5 (potential)
				Insertion 4O	Insertion 4E	
Test content	Electronic IC (EIC) & Photonic IC (PIC)	EIC die to PIC wafer (after SoIC)	Optical engine (die-to-die)	CPO package (ASIC+OE) Optical Testing	CPO package (ASIC+OE) Electrical Testing (2025-2026) Optical+Electrical Testing (starting 2027e)	CPO package (ASIC+OE) SLT?
Testing surface						
Key Product timeline	2025-2026 Scale-out CPO switch (Spectrum+Quantum) products 2027e onward: Scale-out CPO switch (Spectrum+Quantum) + Scale-up CPO switch products					
Testing details	El. & opt. DC, (power, loss, dark current etc.)	E/O, O/E, O/O, high speed, S-parameters	Full calibration/DC, high-speed functional, optical loopback, alternatively: S-parameters	Optical Light Transmission Testing, optical loopback	BER testing, signal testing	Full system functional validation
Testing service provider	Foundry (Wafer level) TSMC	Foundry (Wafer level) TSMC	OSAT (Die/chip level) SPIL (ASE Group)	OSAT (Die/package level) SPIL (ASE Group)	OSAT (Die/package level) SPIL (ASE Group)	OSAT (Die/package level) SPIL (ASE Group)
Equipment and Consumable Vendor	PIC ATE tester: 1) Advantest + TEL + Formfactor 2) Chroma (underqualification) EIC tester: 1) Teradyne + TEL EIC Probe card: FormFactor	Wafer level testing: 1)Ficontec +Formfactor +Teradyne 2) Advantest+ MPI	Die-to-die prober: 1. TEL 2. MPI Optical engine E/O tester+laser reliability test+ELS source test head: Chroma Optical and Electrical Test Socket: Winway	CPO switch tester: Chroma Coaxial socket/Hypersocket: Winway	ATE tester: 1) Advantest (under qualification) 2)Teradyne FT Handler+ELS source test head+optical alignmnet stage : Hon Precision Coaxial socket/Hypersocket: Winway	CPO SLT tester: Chroma (under qualification) Coaxial socket/Hypersocket: Winway

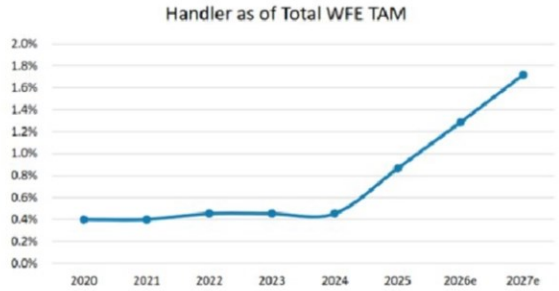
Source : Company data, Morgan Stanley Research

Hon Precision: Key Beneficiary of the Structural Trend Toward Longer Testing Times; OW

We expect the overall handler market to increase from US$436mn in 2023 to US$6.6bn in 2027e



We expect handlers to account for 1.7% of global WFE TAM in 2027e, vs 0.4% in 2020



Hon Precision to grow its total handler market share from 28% in 2024 to 42% by 2027e



We expect Hon Precision's revenue CAGR to be 67%, 2025-28



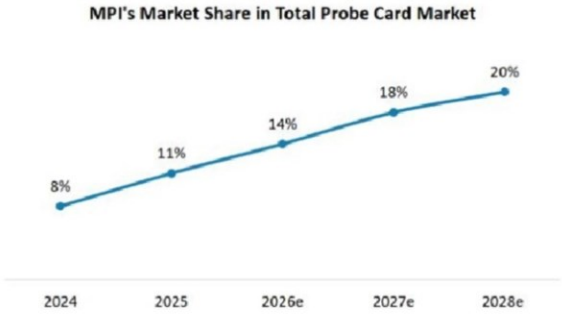
Source: Company data, Morgan Stanley Research. e = Morgan Stanley Research estimates.

MPI: Probe Card Technology Leader with CPO Optionality; OW

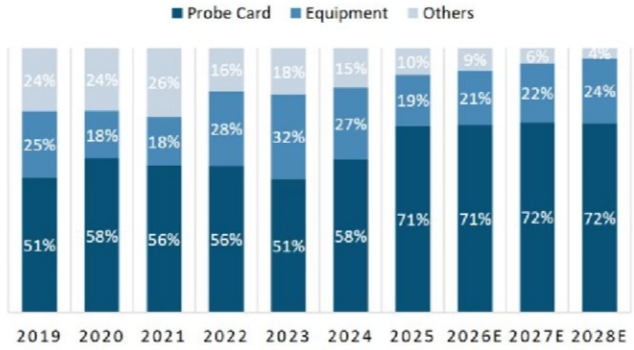
MPI's product in chip manufacturing and test process



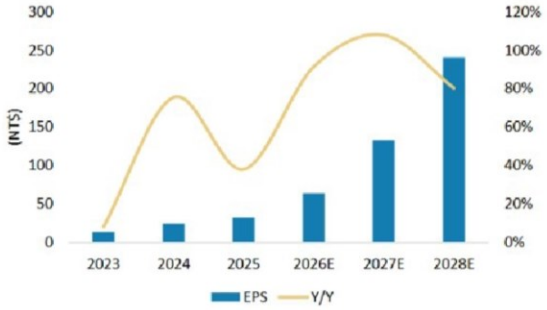
We expect MPI's probe card market share to grow from 8% in 2024 to 20% by 2028e



Probe card to remain the key focus, with CPO equipment acting as driving force



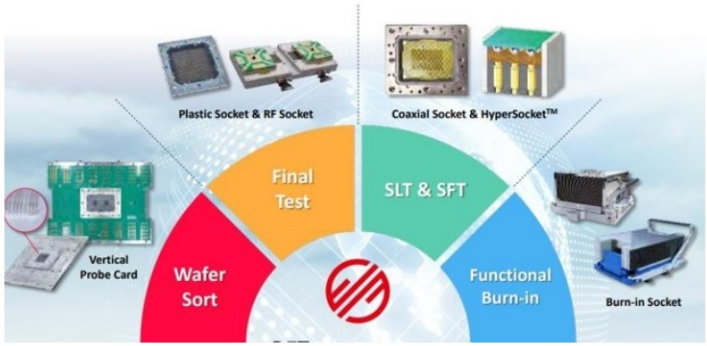
We expect MPI's EPS to rise at a 94% CAGR, 2025-28e



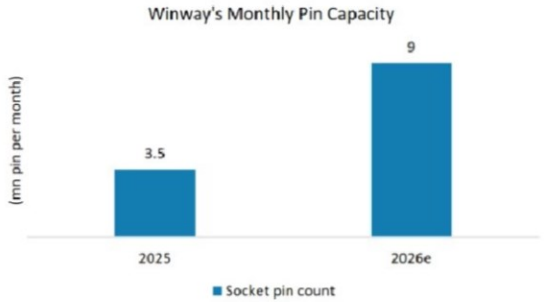
Source: Company data, Morgan Stanley Research. e = Morgan Stanley Research estimates.

WinWay: Socket Leader Leveraging AI Packaging Complexity; OW

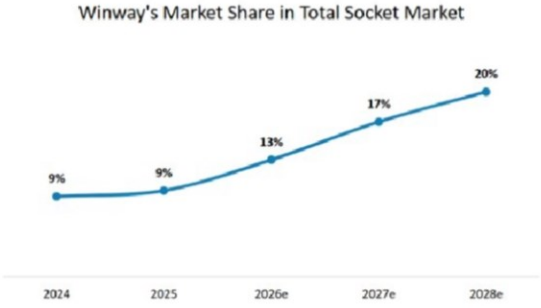
WinWay's total solution of probe card and socket enables vertical integration strategy



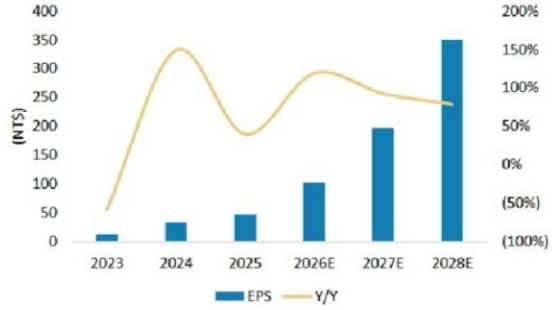
WinWay to expand its pin capacity from 3.5mn per month in 2025 to 9mn per month in 2026



We expect WinWay's market share to grow from 8.6% in 2024 to 20% in 2028



We expect WinWay's EPS to rise at 95% CAGR, 2025-28



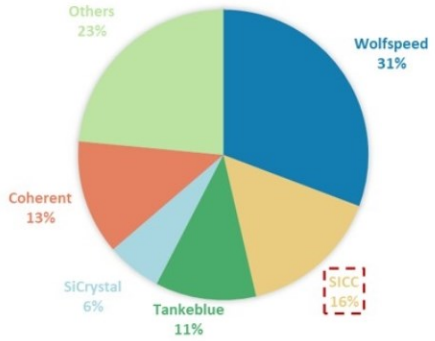
Source: Company data, Morgan Stanley Research. e = Morgan Stanley Research estimates.

China Semis:

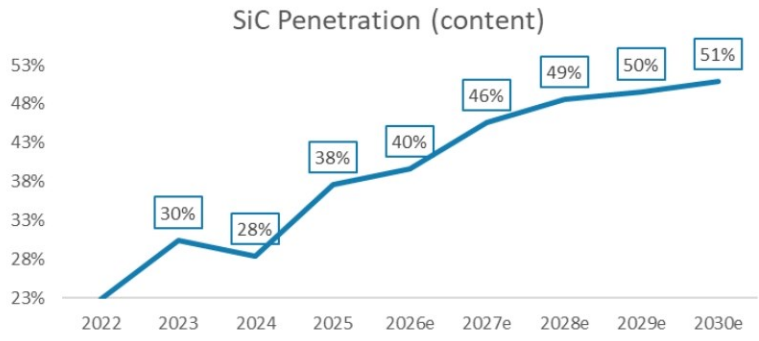
OSAT, Compound, MCU and AI GPU

Prefer SiC over GaN: SICC (OW) and InnoScience (EW)

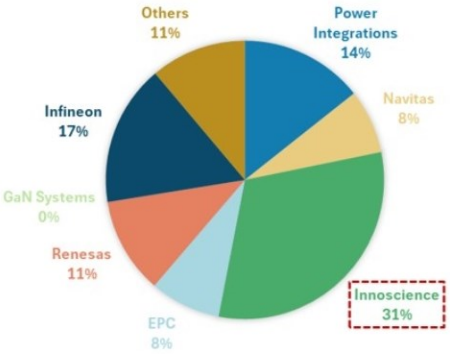
SICC market share rise in SiC substrate market (2025)



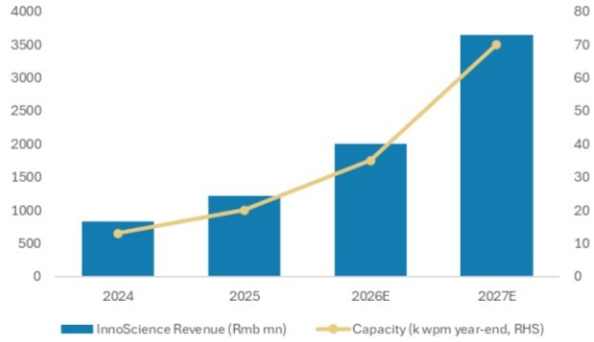
We expect SiC penetration to exceed 50% by 2030



InnoScience dominate the GaN market with TAM ~US$584mn in 2025



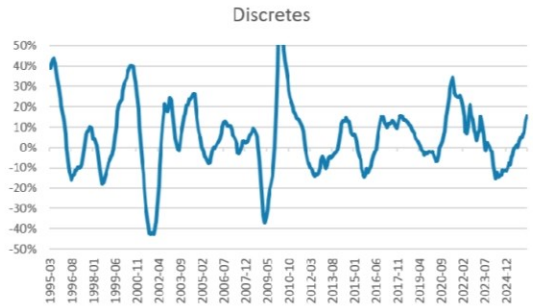
Significant capacity expansion to support strong revenue growth but depreciation may weigh on profitability



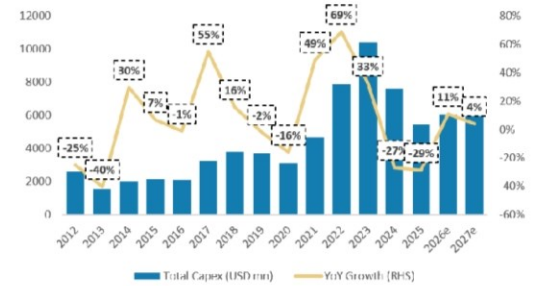
Source: Yole, Company data, Morgan Stanley Research estimate (e) estimates

Power Semi: Supply-driven Upcycle

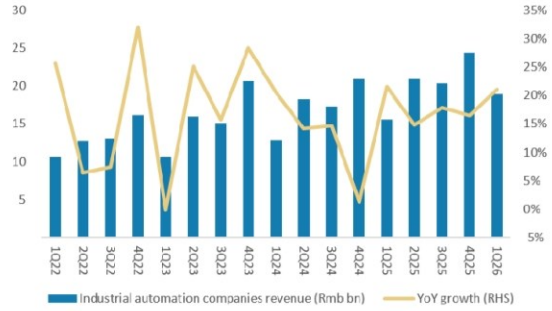
Total discrete revenue yoy growth turned positive since 4Q25



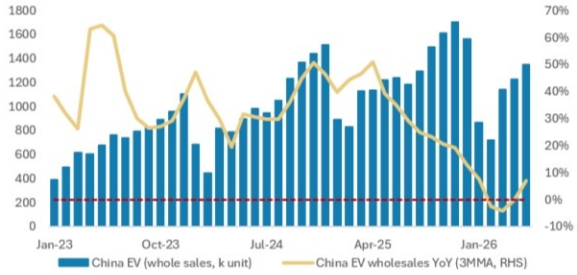
Global leading power semi companies' capex declined for two years



Industrial automation companies' revenue grew robustly at 21% YoY in 1Q26



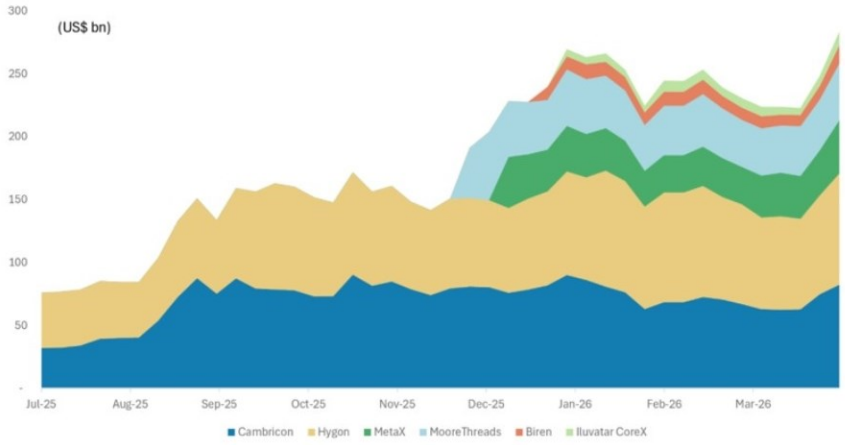
China EV wholesale growth is weak YTD but turning incrementally positive



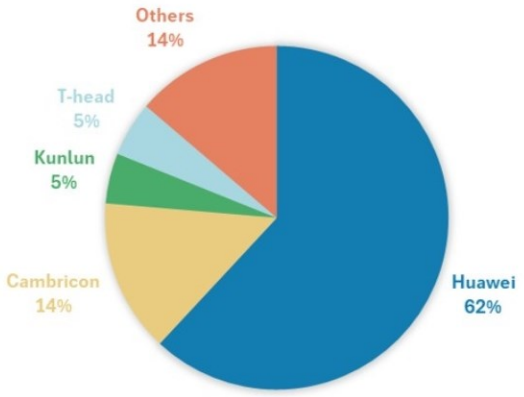
Source: WSTS, Bloomberg, CADA, Company data, Morgan Stanley Research

Growing Market Size and Share of Domestic AI Semis

China AI GPU market cap growing, with more IPOs to come

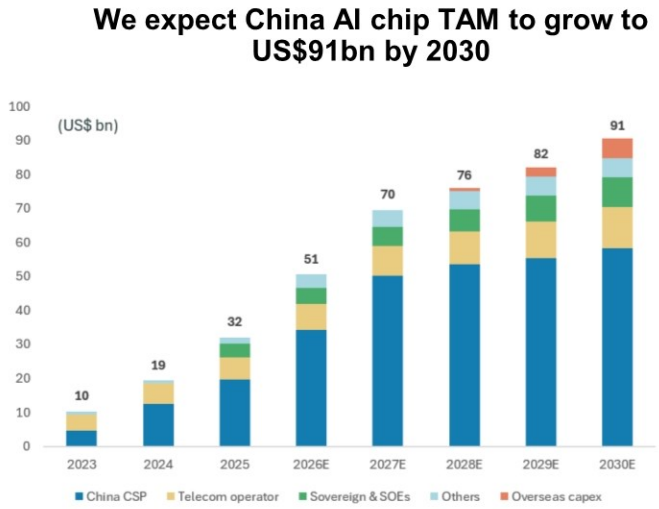


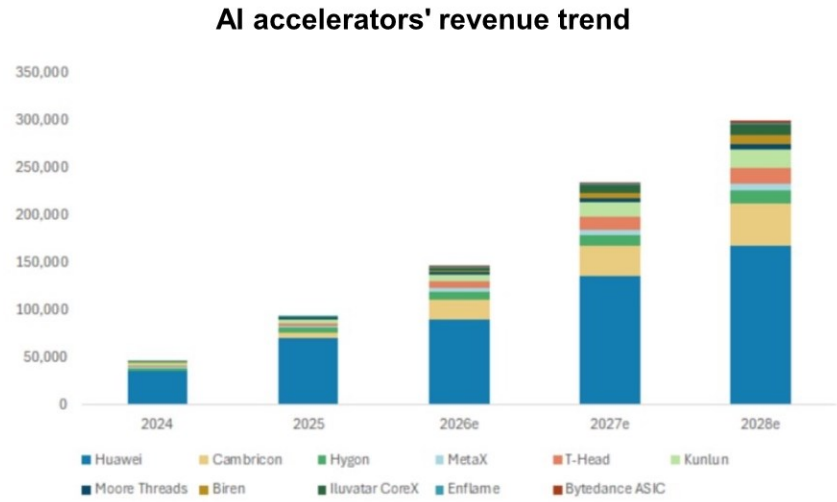
Domestic AI accelerator market share in 2026e



Source: Bloomberg, company data, Morgan Stanley Research. E = Morgan Stanley Research estimates.

We Expect China AI GPU TAM to Grow to US$91bn by 2030e

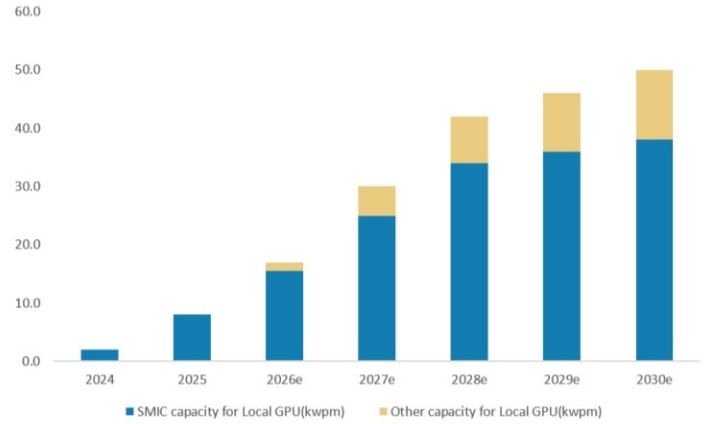




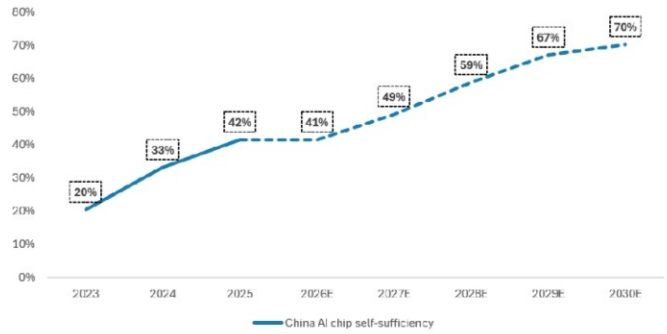
Source: Company data, Morgan Stanley Research. E = Morgan Stanley Research estimates.

China's Advanced Node Capacity Expansion to Fulfill Local AI GPU Production Demand

Chinese advanced node capacity may support US$58 AI accelerator revenue in 2030



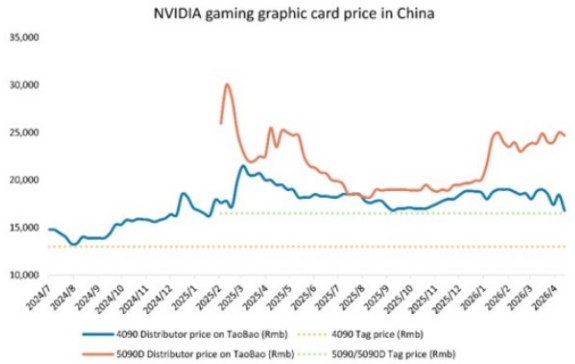
We expect China AI chip self-sufficiency to reach 70% in 2030e (US$60bn / US$85bn)



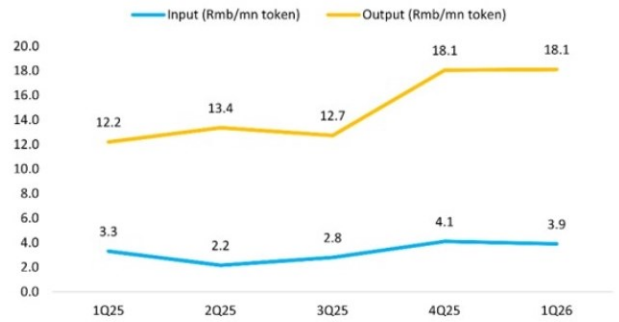
Source: Company data, Morgan Stanley Research (e) estimates.

Near-term Market Tracker for China AI GPU Demand

Nvidia's 5090 price keeps rising in China



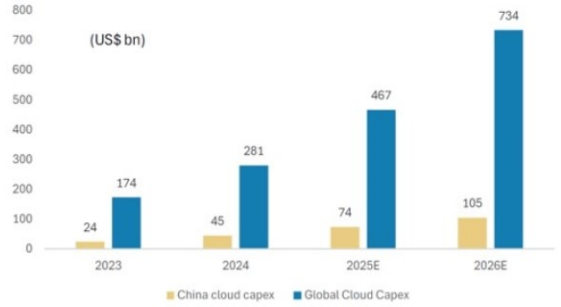
Average token price for China's mainstream AI LLMs



Surge in ByteDance (Volcano Engine/Doubao) tokens indicates high AI demand



China cloud vs. global cloud capex trend



Source: Company data, Taobao, Morgan Stanley Research.

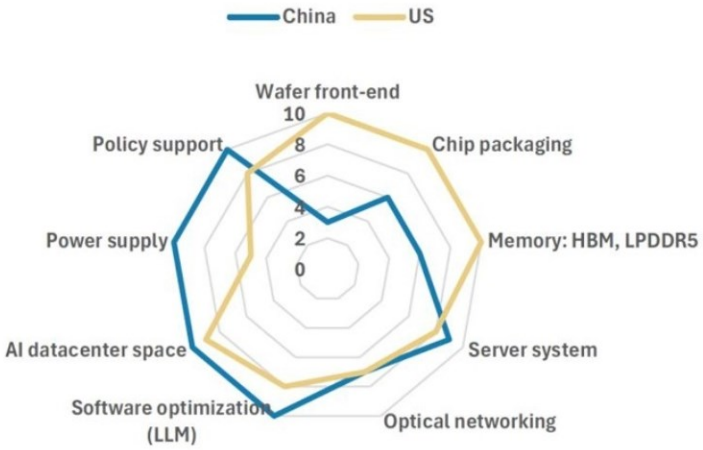
AI Chip Value Chain: China vs. the US – A Decoupling of AI Compute



Source: Morgan Stanley Research.

China's Infrastructure Strength Narrows Perceived Technology Gap

Nine factors comparison between US and China AI – Chip, System, Infrastructure

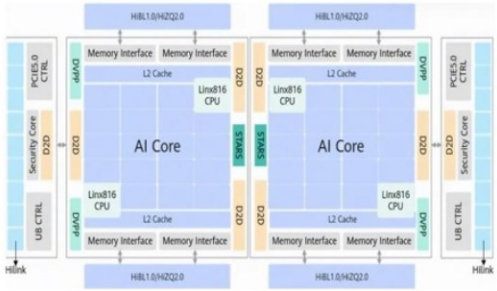


Step 1: If one compute die is not powerful, package more dies into a single chip.

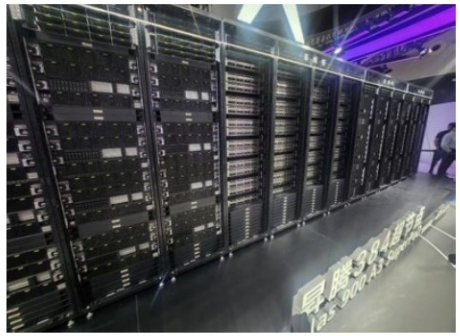
Step 2: If one chip is not powerful enough, build larger racks and clusters.

Step 3: If one fab is not sufficient, expand manufacturing capacity.

Die shot of Ascend 950

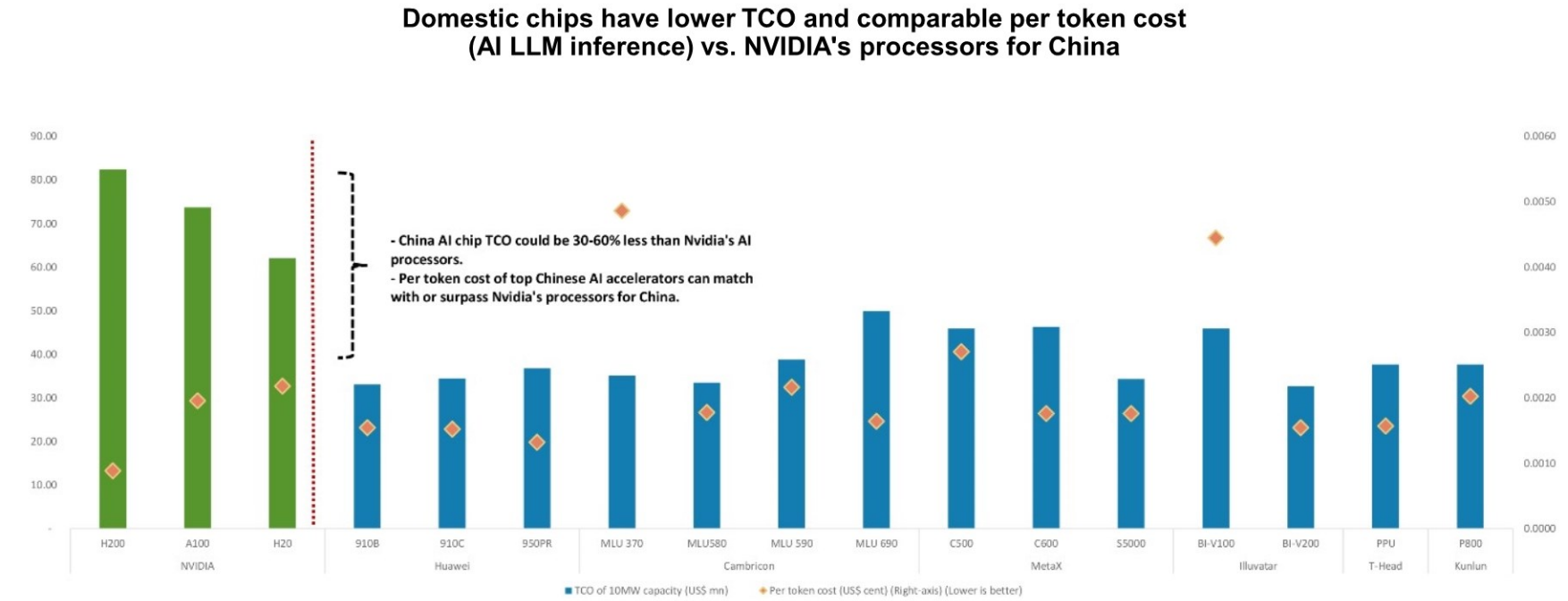


Huawei CloudMatrix 384 A3 SuperPod



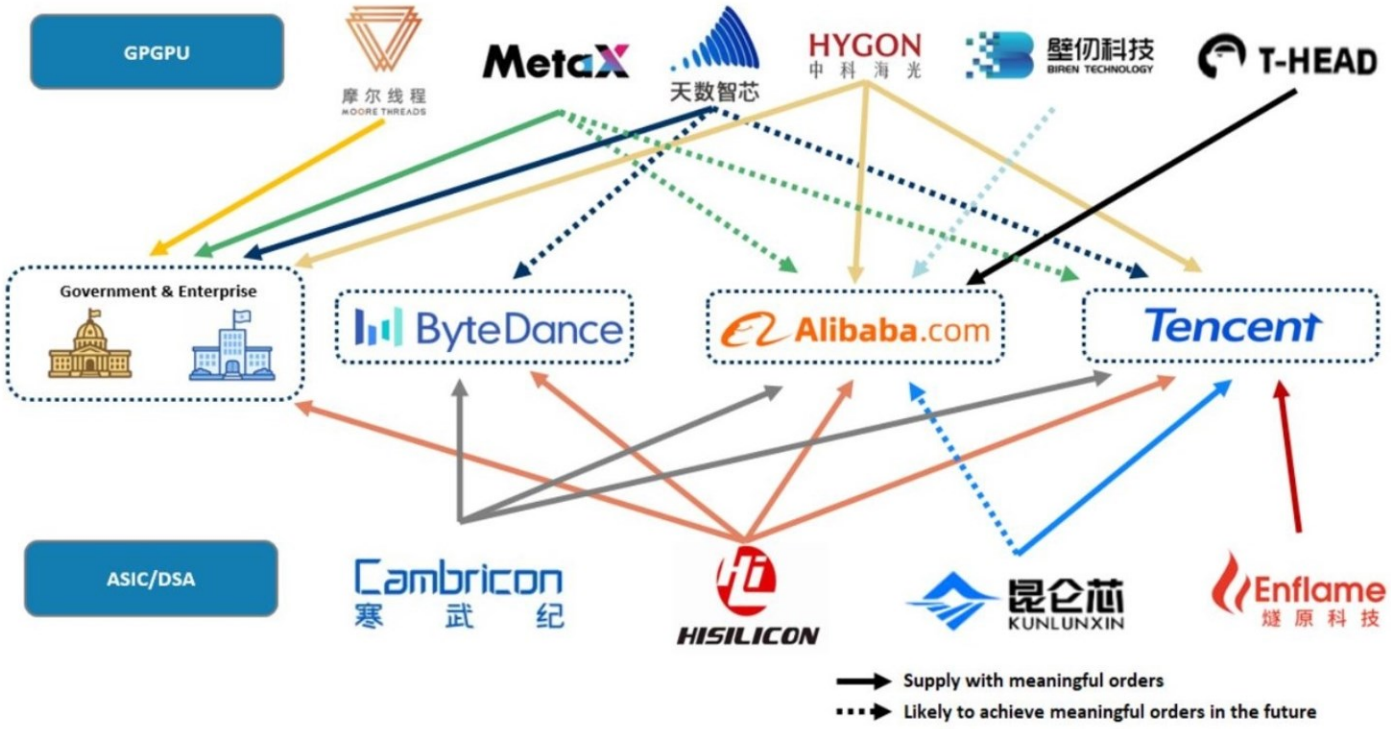
Source: Huawei, Morgan Stanley Research.

Inference Economics: TCO and Cost per Token



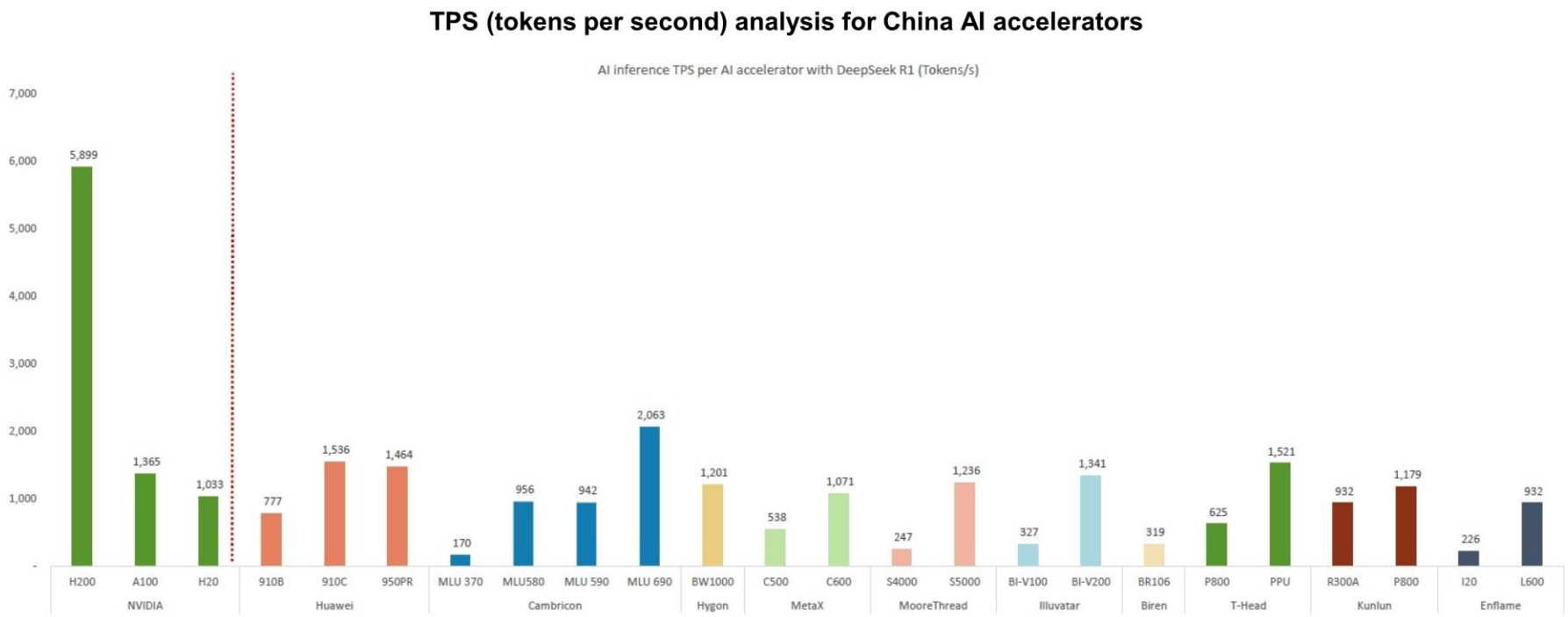
Source : Company data, Morgan Stanley Research estimates.

Order Placement and Potential Orders for Domestic AI Accelerators Developers



Source : Morgan Stanley Research

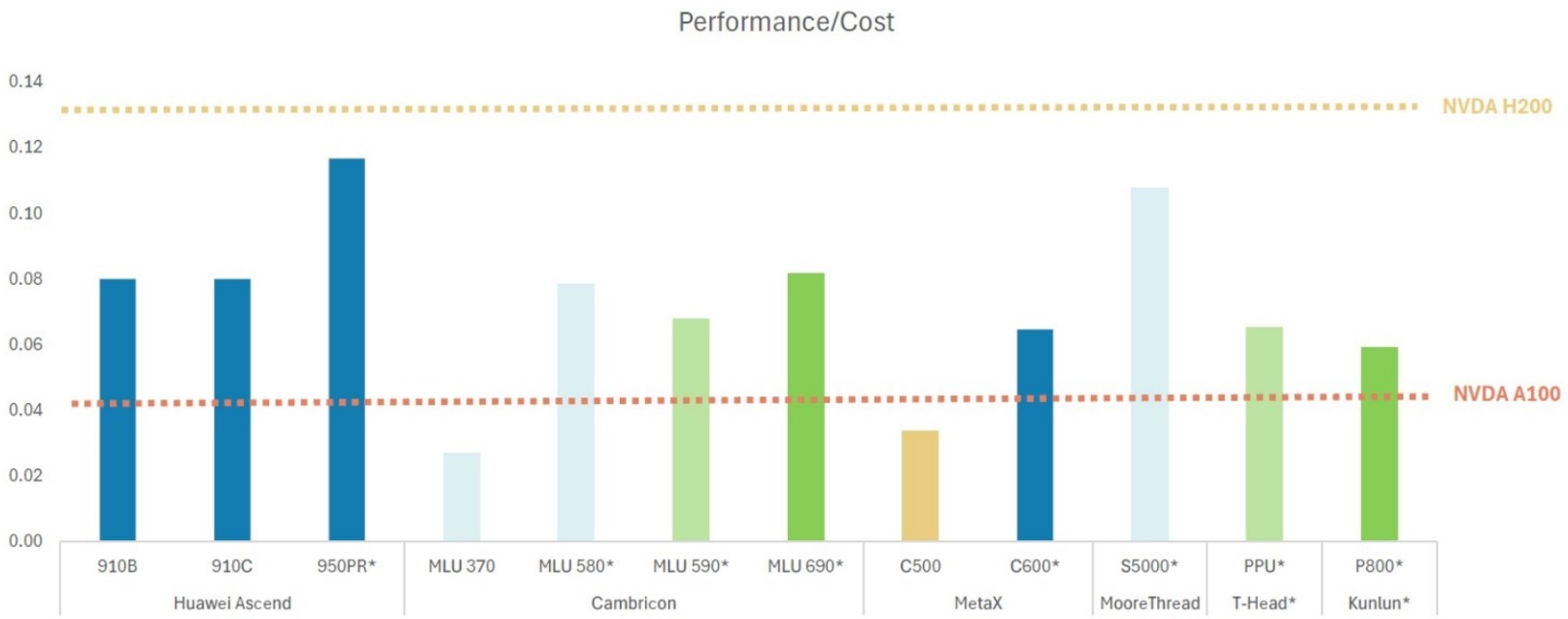
TPS (Tokens Output per Second) – Performance Analysis



*Source: Company data, Morgan Stanley Research estimates (*Our assumptions include: AI LLM: DeepSeek R1; Input token: 1,024; Output token: 1,024; Number of active experts: 9 out of 257; Model size: 671GB; Model layer: 61; Batch size: 1; Computing power: FP8, and if FP8 is not available, we will use FP16).*

Domestic Chips Deliver Stronger Performance per Dollar Due to Materially Lower Pricing

Performance/cost comparison



** = Based on Morgan Stanley estimates. Source : Company data, Morgan Stanley Research.*

"10 Dragons" of Chinese AI GPGPU Vendors; We Focus on Cambricon, MetaX , Iluvatar

Company	Ticker	GPU Product	Node	GPGPU/ASIC	Foundry sourcing viability	Sovereign background	Affiliated design house	AI inference performance
HUAWEI	Private	950, 910C, 910B	7nm	ASIC	✓	✓	X	↗
Cambricon 寒武纪	688256-SS	MLU series	7nm	ASIC	✓	X	X	↗
HYGON	688041-SS	DCU	7nm	GPGPU	✓	✓	X	→
METAX 沐曦	688802-SH	MXC series; MXG series	7nm/12nm	GPGPU	✓	X	X	→
摩尔线程 MOORE THREADS	688795-SH	MUSA MTT S5000, S4000	7nm/12nm	GPGPU	▲	X	X	→
壁仞科技 BIREN TECHNOLOGY	6082-HK	BR100	7nm/12nm	GPGPU	▲	X	X	→
天数智芯 Iluvatar CoreX	9903-HK	TianGai-100 series, Zhikai-100 Series	7nm	GPGPU	✓	X	X	→
T-HEAD	Currently under H-share listing counseling process	Hangguang 800, PPU	12nm	GPGPU	✓	X	✓	↗
昆仑芯 KUNLUNXIN	Currently under H-share listing counseling process	R and P series	6nm	ASIC	▲	X	✓	→
Enflame 燧原科技	Currently under A-share listing counseling process	S60, I20, L600	12nm	ASIC	▲	X	✓	↘

Source: Company data, Morgan Stanley Research.

Comparison Among Cambricon, MetaX and Iluvatar

	Cambricon 寒武纪	MetaX 沐曦	天数智芯 Iluvatar CoreX
Ticker	688256-SH	688802-SH	9903-HK
Product	MLU 220/270/370/580/590/690 (AI Training + inference)	C Series (AI training + inference) N Series (AI Inference) G Series (Graphic rendering)	Tiangai 100/150/200/300 (AI training + inference) Zhikai 100 (AI inference)
GPGPU/ASIC	ASIC	GPGPU	GPGPU
Chip suppliers	SMIC	SMIC	tsmc
Process node for latest products	7nm/N+2	12nm/N+1	7nm
Secured orders from major CSPs	✓	X	✓
Sovereign fund as major shareholder	X	✓	X
Per token cost performance	↑	→	→
2025 Revenue (Rmb mn)	CNY 6,497	CNY 1,644	CNY 1,034
Profitablity	✓	X	X

Source: Company data, Morgan Stanley Research.

Cambricon: Leading in inference performance and customer anchoring; OW

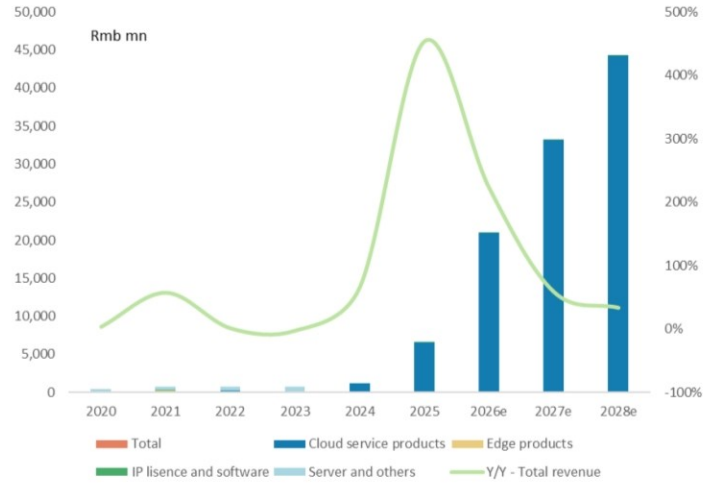
Cambricon's products and specs

	Product	Type	Manufacture	Node	Computing power (TFLOPS/TOPS) FP16 (TFLOPS)	FP8 (TFLOPS)	Int8 (TOPS)	Memory type	Memory size (GB)	Memory bandwidth (GB/s)	Chip-to-chip networking bandwidth (GB/s)	TDP (W)
AI Training	MLU 370	DSA	TSMC	7nm	96	X	X	LPDDR5	48	614	200	250
	MLU 580*	DSA	SMIC	12nm	280	560	X	HBM3	96	1,600	425	560
	MLU 590*	DSA	TSMC	7nm	315	630	X	HBM3	96	1,600	425	580
	MLU 690*	DSA	SMIC	7nm	700	1,400	X	HBM3	96	2,400	1,200	750
Edge AI	MLU 220	DSA	TSMC	16nm	X	X	16	LPDDR4	8	400	X	15

Cambricon's supply chain and customers



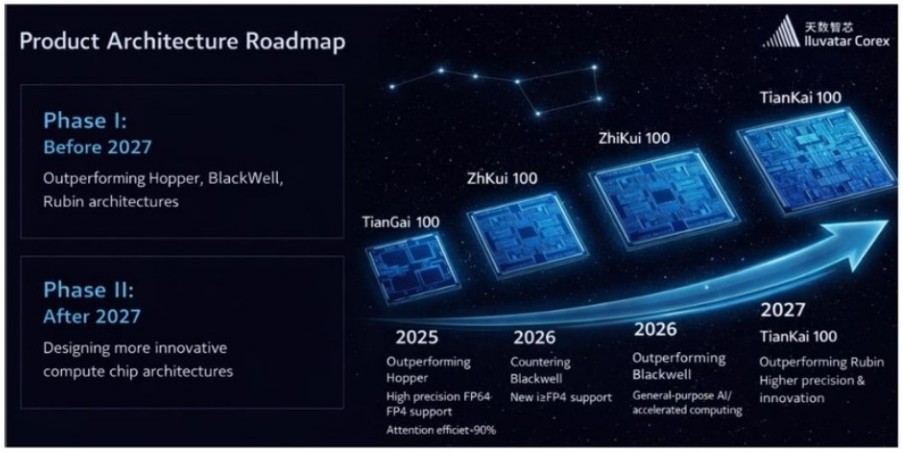
We expect Cambricon's revenue to expand at a 90% CAGR, 2025-28e



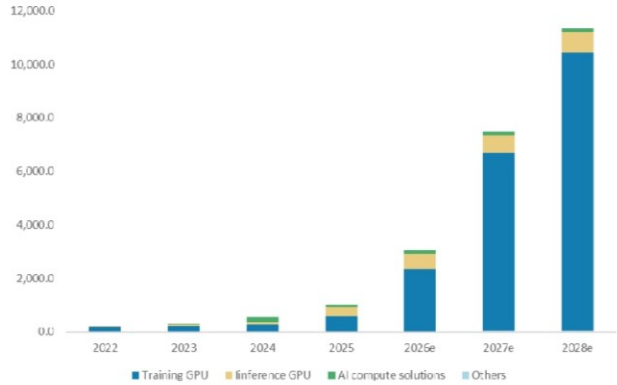
Source: Company data, Morgan Stanley Research. e = Morgan Stanley Research estimates.

Iluvatar: Leveraging Supply-chain Resilience with Strong Order Visibility; OW

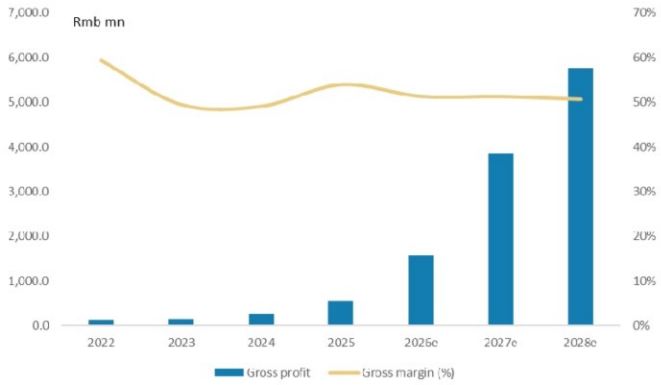
Aggressive product roadmap for Iluvatar



We expect Iluvatar's revenue to expand at a 122% CAGR, 2025-28e



We expect Iluvatar's GM to be mild



Source: Company data, Morgan Stanley Research. e = Morgan Stanley Research estimates.

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(as of May 31, 2026)
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	Coverage Universe		Investment Banking Clients (IBC)			Other Material Investment Services Clients (MISC)	
Stock Rating Category	Count	% of Total	Count	% of Total IBC	% of Rating Category	Count	% of Total Other MISC
Overweight/Buy	1542	42%	465	51%	30%	707	43%
Equal-weight/Hold	1571	43%	369	40%	23%	723	44%
Not-Rated/Hold	3	0%	0	0%	0%	1	0%
Underweight/Sell	551	15%	86	9%	16%	201	12%
Total	3,667		920			1632	

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.

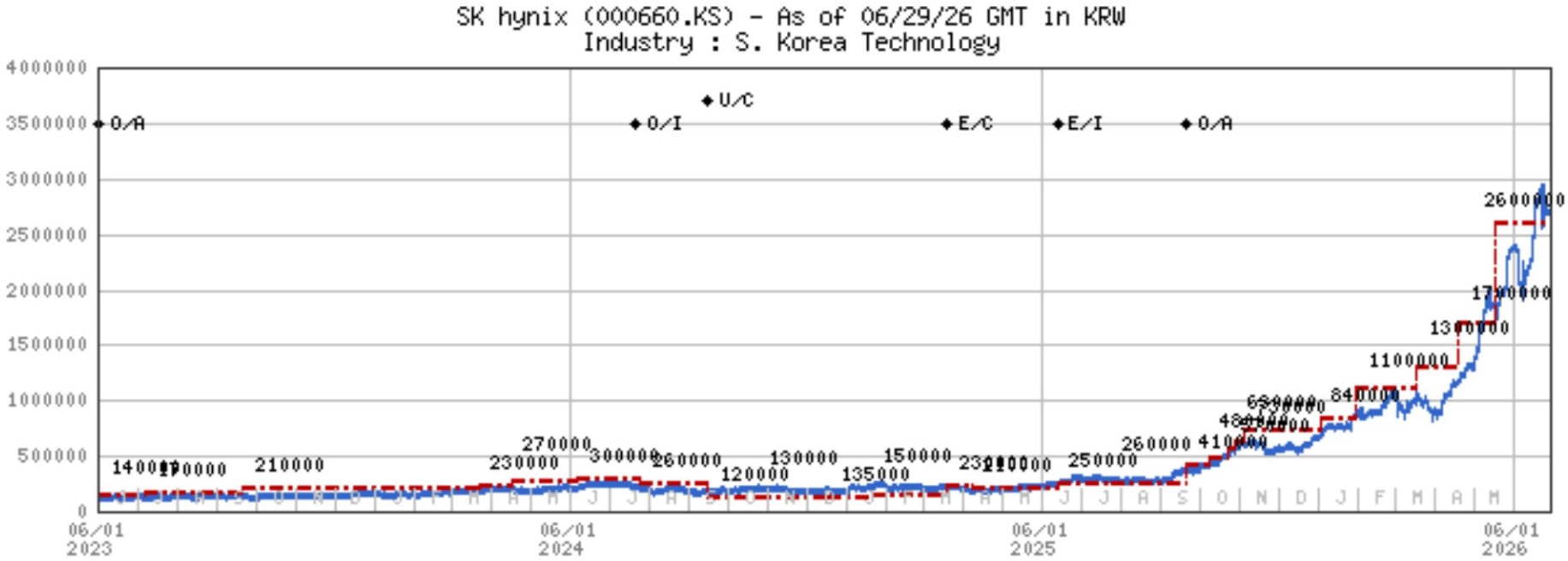
Analyst Stock Ratings

Overweight (O). The stock's total return is expected to exceed the average total return of the analyst's industry (or industry team's) coverage universe, on a risk-adjusted basis, over the next 12-18 months.
Equal-weight (E). The stock's total return is expected to be in line with the average total return of the analyst's industry (or industry team's) coverage universe, on a risk-adjusted basis, over the next 12-18 months.
Not-Rated (NR). Currently the analyst does not have adequate conviction about the stock's total return relative to the average total return of the analyst's industry (or industry team's) coverage universe, on a risk-adjusted basis, over the next 12-18 months.
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Attractive (A): The analyst expects the performance of his or her industry coverage universe over the next 12-18 months to be attractive vs. the relevant broad market benchmark, as indicated below.
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Benchmarks for each region are as follows: North America - S&P 500; Latin America - relevant MSCI country index or MSCI Latin America Index; Europe - MSCI Europe; Japan - TOPIX; Asia - relevant MSCI country index or MSCI sub-regional index or MSCI AC Asia Pacific ex Japan Index.

Stock Price, Price Target and Rating History (See Rating Definitions)



Stock Rating History: 6/1/21 : O/A; 7/19/21 : O/I; 8/12/21 : U/C; 12/3/21 : E/C; 2/11/22 : O/C; 7/22/22 : E/C; 10/4/22 : O/A; 7/21/24 : O/I; 9/15/24 : U/C; 3/19/25 : E/C; 6/13/25 : E/I; 9/21/25 : O/A

Price Target History: 5/18/21 : 146000; 6/8/21 : 156000; 8/12/21 : 80000; 9/15/21 : 88000; 12/3/21 : 110000; 12/23/21 : 125000; 1/24/22 : 130000; 1/28/22 : 136000; 2/11/22 : 155000; 3/18/22 : 150000; 4/27/22 : 130000; 6/10/22 : 120000; 7/5/22 : 110000; 7/22/22 : 105000; 10/4/22 : 130000; 12/7/22 : 120000; 3/21/23 : 110000; 5/30/23 : 140000; 7/7/23 : 170000; 9/21/23 : 210000; 3/22/24 : 230000; 4/16/24 : 270000; 6/6/24 : 300000; 7/25/24 : 260000; 9/15/24 : 120000; 10/24/24 : 130000; 12/18/24 : 135000; 1/20/25 : 150000; 3/19/25 : 230000; 4/7/25 : 210000; 6/13/25 : 250000; 7/24/25 : 260000; 9/21/25 : 410000; 10/8/25 : 480000; 10/23/25 : 570000; 10/29/25 : 630000; 11/5/25 : 730000; 1/2/26 : 840000; 1/30/26 : 1100000; 3/18/26 : 1300000; 4/19/26 : 1700000; 5/18/26 : 2600000

Source: Morgan Stanley Research Date Format : MM/DD/YY Price Target No Price Target Assigned (NA)

Stock Price (Not Covered by Current Analyst) Stock Price (Covered by Current Analyst)

Stock and Industry Ratings (abbreviations below) appear as ◆ Stock Rating/Industry View

Stock Ratings: Overweight (O) Equal-weight (E) Underweight (U) Not-Rated (NR) No Rating Available (NA)

Industry View: Attractive (A) In-line (I) Cautious (C) No Rating (NR)

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COMPANY (TICKER)	RATING (AS OF)	PRICE* (06/29/2026)
Charlie Chan		
ACM Research Inc (ACMR.O)	O (03/07/2023)	US$104.50
Advanced Micro-Fabrication Equipment Inc (688012.SS)	O (11/06/2023)	Rmb456.69
Advanced Wireless Semiconductor Co (8086.TWO)	U (07/14/2025)	NT$142.00
Alchip Technologies Ltd (3661.TW)	O (05/14/2021)	NT$3,985.00
ASE Technology Holding Co. Ltd. (3711.TW)	O (09/15/2024)	NT$627.00
Cambricon Technology Corporation (688256.SS)	O (04/27/2026)	Rmb1,482.00
Global Unichip Corp (3443.TW)	O (06/24/2026)	NT$4,420.00
GlobalWafers Co Ltd (6488.TWO)	E (05/19/2026)	NT$915.00
Gudeng Precision (3680.TWO)	O (11/25/2025)	NT$489.00
Hua Hong Semiconductor Ltd (1347.HK)	E (03/12/2026)	HK$204.20
Iluvatar CoreX Semiconductor Co., Ltd. (9903.HK)	O (04/27/2026)	HK$695.00
King Yuan Electronics Co Ltd (2449.TW)	O (03/03/2023)	NT$308.50
Maxscend Microelectronics Co Ltd (300782.SZ)	U (01/11/2021)	Rmb100.80
MediaTek (2454.TW)	O (11/28/2025)	NT$3,910.00
MetaX Integrated Circuits (688802.SS)	E (04/27/2026)	Rmb793.55
Nanya Technology Corp. (2408.TW)	O (05/28/2026)	NT$453.00
NAURA Technology Group Co Ltd (002371.SZ)	O (11/06/2023)	Rmb860.19
OmniVision Integrated Circuits Group Inc (603501.SS)	E (11/17/2025)	Rmb88.30
Phison Electronics Corp (8299.TWO)	E (02/25/2026)	NT$2,340.00
SG Micro Corp. (300661.SZ)	E (11/03/2025)	Rmb133.60
Silergy Corp. (6415.TW)	U (05/19/2026)	NT$598.00
SMIC (0981.HK)	O (10/21/2025)	HK$84.80
TSMC (2330.TW)	O (02/07/2022)	NT$2,370.00
UMC (2303.TW)	O (05/19/2026)	NT$164.00
Vanguard International Semiconductor (5347.TWO)	E (01/14/2026)	NT$208.50
WIN Semiconductors Corp (3105.TWO)	U (07/14/2025)	NT$412.00
Daisy Dai, CFA		
ASMPT Ltd (0522.HK)	O (07/24/2025)	HK$217.00
China Resources Microelectronics Limited (688396.SS)	U (03/02/2026)	Rmb92.47
Elan Microelectronics Corp (2458.TW)	O (10/03/2025)	NT$180.00
Empyrean Technology Co Ltd (301269.SZ)	E (01/17/2025)	Rmb114.26

Hangzhou Silan Microelectronics Co. Ltd. (600460.SS)	U (08/25/2025)	Rmb52.59
Innoscience (2577.HK)	E (10/13/2025)	HK$63.90
JCET Group Co Ltd (600584.SS)	E (01/16/2026)	Rmb103.25
Shanghai Fudan Microelectronics (1385.HK)	O (03/07/2025)	HK$30.20
SICC Co Ltd (688234.SS)	O (03/20/2026)	Rmb175.28
StarPower Semiconductor Ltd (603290.SS)	E (05/14/2026)	Rmb139.04
Unigroup Guoxin Microelectronics Co Ltd (002049.SZ)	U (01/10/2023)	Rmb85.35
Universal Scientific Ind. (Shanghai) (601231.SS)	O (11/05/2025)	Rmb30.81
Yangjie Technology (300373.SZ)	O (06/10/2022)	Rmb149.95
Daniel Yen, CFA		
AP Memory Technology Corp (6531.TW)	O (07/11/2025)	NT$980.00
ASMedia Technology Inc (5269.TW)	U (10/03/2025)	NT$1,475.00
Aspeed Technology (5274.TWO)	O (06/09/2025)	NT$15,210.00
Egis Technology Inc (6462.TWO)	E (01/28/2026)	NT$113.50
Espressif Systems (688018.SS)	O (05/15/2023)	Rmb115.89
GigaDevice Semiconductor Beijing Inc (603986.SS)	O (05/15/2025)	Rmb840.00
Macronix International Co Ltd (2337.TW)	O (09/18/2025)	NT$158.50
Montage Technology Co Ltd (6809.HK)	O (03/18/2026)	HK$447.60
Montage Technology Co Ltd (688008.SS)	O (03/18/2026)	Rmb296.06
Novatek (3034.TW)	U (02/04/2026)	NT$523.00
Nuvoton Technology Corporation (4919.TW)	U (11/10/2025)	NT$170.50
Parade Technologies Ltd (4966.TWO)	O (05/27/2026)	NT$631.00
Powerchip Semiconductor Manufacturing Co (6770.TW)	O (10/27/2025)	NT$78.90
Realtek Semiconductor (2379.TW)	E (01/30/2026)	NT$783.00
Shenzhen Goodix Technology Co Ltd (603160.SS)	U (07/14/2025)	Rmb58.19
Winbond Electronics Corp (2344.TW)	O (05/28/2026)	NT$203.00
WPG Holdings (3702.TW)	O (03/16/2026)	NT$104.50
WT Microelectronics Co. Ltd. (3036.TW)	O (01/27/2026)	NT$209.00
Duan Liu		
Dosilicon Co Ltd (688110.SS)	U (09/06/2024)	Rmb193.30
Shenzhen Longsys Electronics Co Ltd (301308.SZ)	E (02/25/2026)	Rmb723.10
Tiffany Yeh		
AllRing Tech Co. (6187.TWO)	O (09/23/2025)	NT$980.00
FOCI Fiber Optic Communications Inc (3363.TWO)	O (01/15/2025)	NT$567.00
Himax Technologies Inc (HIMX.O)	E (02/04/2026)	US$14.39
Hon Precision (7769.TW)	O (04/17/2026)	NT$6,395.00
MPI Corporation (6223.TWO)	O (04/17/2026)	NT$6,060.00
Silicon Motion (SIMO.O)	O (05/06/2024)	US$305.28
WinWay Technology Co Ltd (6515.TW)	O (04/17/2026)	NT$8,015.00

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