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Asia-Pacific Technology | Asia Pacific

AI Supply Chain: Preliminary 2027 TSMC CoWoS Allocation

Nvidia's GPU and CPU remain the key drivers of TSMC's 2027 CoWoS demand. With improved ABF substrate supply sourcing, MediaTek's 2027 and 2028 TPU shipments could show upside.

Into 2027, Nvidia likely remains the major user of TSMC's CoWoS capacity: At Computex in early June, in response to our question about TSMC's capacity allocation, Nvidia's CEO indicated that it has secured sufficient TSMC capacity to support robust growth in 2027. In our previous episode, we had raised our 2027 TSMC CoWoS capacity assumption to 200kwpm by year-end (from 170kwpm), implying ~60% Y/Y growth for the global AI XPU industry. Based on our industry checks, we break down TSMC's customer mix. Nvidia uses TSMC's CoWoS-L as the single source for its AI GPU products (e.g., Blackwell and Rubin). Its 2027 CoWoS-L consumption could reach ~910k, up ~40% Y/Y. Strong CoWoS-R bookings by Nvidia aslo suggest very strong Vera CPU shipments (almost doubling). Taken together, this is consistent with Joe Moore's forecast for Nvidia's data center revenue to rise 52% Y/Y over a similar period.

Google's TPU ASIC is the second-largest user of TSMC CoWoS: MediaTek's booking for 180k CoWoS-S implies ~3.6mn units of TPU v8t (ZebraFish), above our 2.5mn shipment assumption, where we incorporate potential ABF substrate shortages. However, if MediaTek can help Google source more T-Glass, there may be upside to our shipment assumption. Our checks suggest that the new 2nm TPU codename TriggerFish is the inferencing-focused version of HumuFish, in line with our previous understanding that all TPUs are capable of both training and inferencing. We believe TriggerFish may also support TPU leasing services. Meanwhile, we believe Broadcom bookings of 365k CoWoS-S likely include Google TPU v7 (Ironwood), v8i (SunFish), Tomahawk 5/6, and other smaller ASICs. If we assume 330k of Broadcom's CoWoS-S is allocated to TPU v8i (SunFish), this would imply ~3.9mn units, with larger die size and higher chip value vs. MediaTek's TPU v8t (ZebraFish). Overall, both design service partners appear positioned to benefit from growth in the TPU TAM in 2027.

CPU starting to consume significant 2.5D advanced packaging capacity: This echoes Joe Moore's recent Taiwan field trip observations: growing CPU demand for agentic AI (link). In addition, based on our CoWoS consumption forecasts, Nvidia's 3nm Vera CPU could grow to 5.75mn units in 2027, while AMD's 2nm Venice CPU may reach 6.75mn units in 2027 vs. ~1.25mn in 2026. For Taiwan AI semi supply chain stocks: 1) MediaTek (Google TPU) is our Top Pick; 2) Aspeed remains the best proxy for CPU server BMC; and 3) we reiterate OW on TSMC, ASE (AMD Venice CPU), KYEC (Nvidia GPU and Google TPU supply chain), Winway, MPI, and Hon Precision in chip manufacturing.

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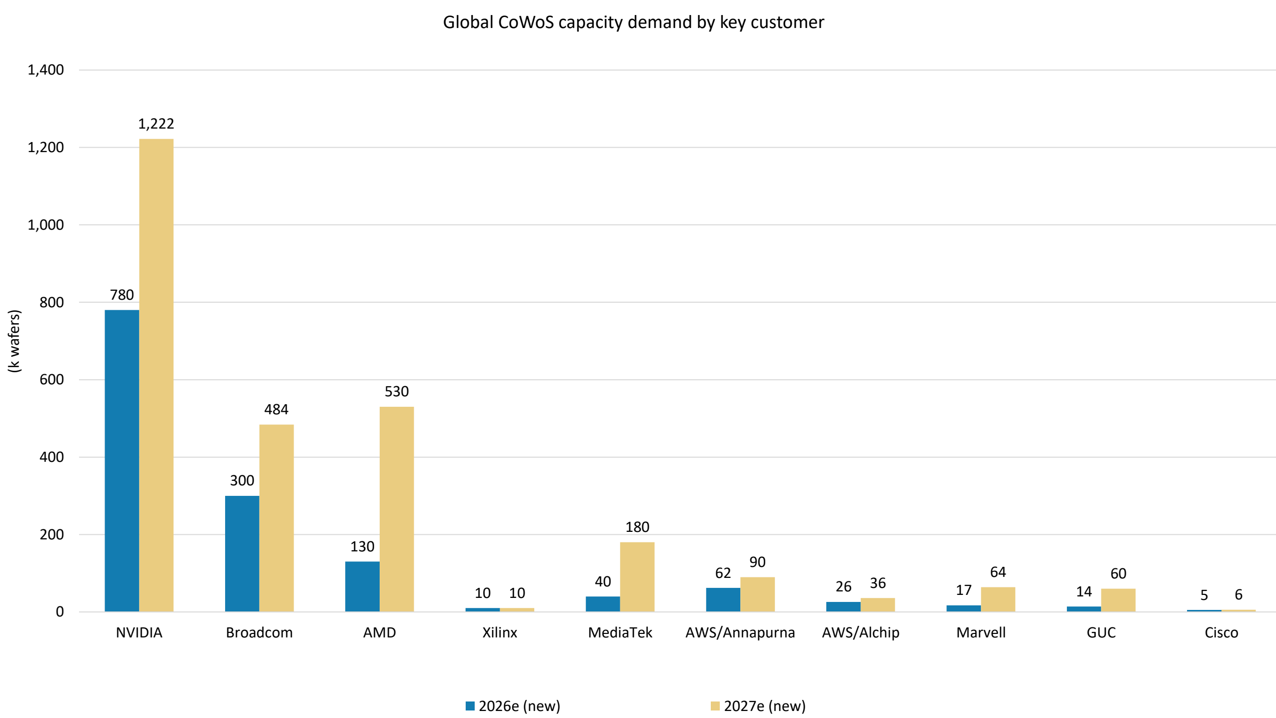
Introducing Our 2027 Global CoWoS Capacity Update

In our previous report (see Asia-Pacific Technology: Taiwan Computex preview: NVIDIA's Vera CPU and Rubin GPU seen as the main show (27 May 2026)), we lifted our TSMC 2027 CoWoS capacity assumption to 200kwpm from 170kwpm and trimmed our SoIC capacity build forecasts. Strong AI GPU and CPU demand has led TSMC to further expand CoWoS capacity at its AP7 fab. Our checks suggest that TSMC is converting its Fab 15A 28nm/22nm space into 55nm interposer production.

On the other hand, we expect the non-TSMC camp to expand CoWoS capacity to 80kwpm by end-2027e. For ASE/SPIL, we expect FoCoS+CoWoS capacity to rise from 30kwpm at 2026-end to 50kwpm at 2027-end, with expansion focused on CoWoS-L and CoWoS-R. For Amkor, we expect CoWoS capacity to increase from 20kwpm at 2026-end to 30kwpm at 2027-end, also focused on CoWoS-L and CoWoS-R.

Exhibit 1: Global CoWoS demand breakdown: 2026e vs. 2027e



Source: Company data, Morgan Stanley Research (e) estimates; note: estimates are complied using our supply chain checks

Exhibit 2: Global CoWoS demand Y/Y growth profile

Y/Y	2023	2024	2025	2026e	2027e
NVIDIA	119%	280%	113%	84%	57%
Broadcom	56%	191%	25%	253%	61%
AMD	485%	470%	50%	117%	308%
Xilinx	63%	242%	0%	0%	0%
AWS/Annapurna				3%	45%
AWS/Alchip		71%	(69%)	420%	38%
Marvell	(22%)	1438%	(17%)	13%	276%
GUC		(15%)	300%	600%	329%
Cisco			36%	67%	10%
Others	23%	(49%)	50%	(33%)	20%
Total demand	**95%**	**218%**	**85%**	**102%**	**93%**

Source: Company data, Morgan Stanley Research (e) estimates; note: estimates are complied using our supply chain checks

2027 CoWoS allocation assumptions

CoWoS update (Exhibit 3):

- Nvidia's total CoWoS consumption increases 57% Y/Y, to 1,222k:
  - CoWoS-L consumption increases 40% Y/Y, to 910k, with production focusing on Rubin and Blackwell in 1H27, followed by Rubin Ultra in 2H27.
  - For CoWoS-R, we see TSMC and Amkor production focused on Vera CPU, which implies production of 5.75mn. We see this coming from both Vera Rubin/Vera Rubin Ultra racks and standalone Vera CPU rack demand.
  - CoWoS-S production includes both Quantum and Spectrum switch IC, with production across TSMC, SPIL, and Amkor.
- AMD's total CoWoS consumption increases 308% Y/Y to 530k:
  - We see TSMC mainly in charge of GPU-related production. We see MI455 as the key focus for 2027, with minor production for MI500 series (chip code name Arcadia) in late 2027. Total TSMC CoWoS-L booking increases 200% Y/Y in 2027e, to 240k.
  - We see the non-TSMC camp, including ASE/SPIL, Amkor, and Powertech, being mainly in charge of Venice CPU, high-end PC CPU, and gaming GPU production. We see Venice CPU's CoWoS booking increasing from 50k in 2026 to 270k in 2027, implying 6.75mn units of CPU production, supporting strong demand from agentic AI.
  - We see Xilinx's demand remaining flat Y/Y at 10k of CoWoS bookings.
- Broadcom's total CoWoS consumption rises 61% Y/Y, to 484k:
  - We see CoWoS-L booking increasing from 15k in 2026 to 55k in 2027, mainly for Meta's MTIAv3 ASIC Iris.
  - For Google TPU, we see Ironwood and Sunfish together accounting for 343k of CoWoS-S bookings, implying 4,168k of TPU chips. We also see a slight increase in Broadcom's smaller AI ASIC customers in 2027.
- MediaTek's total CoWoS consumption increases from 40k in 2026 to 180k in 2027:
  - This is mainly for TSMC's CoWoS-S capacity for TPU v8t ZebraFish.
  - We also see around 400k units of chip production from Intel EMIB-T for the 2nm TPU v9 (HumuFish) TPU in 2027.
  - Separately, our checks suggest the new 2nm TPU codename TriggerFish is the inferencing-focused version of HumuFish, in line with our previous understanding that all TPUs are capable of both training and inferencing, and we believe TriggerFish may also support TPU leasing services.

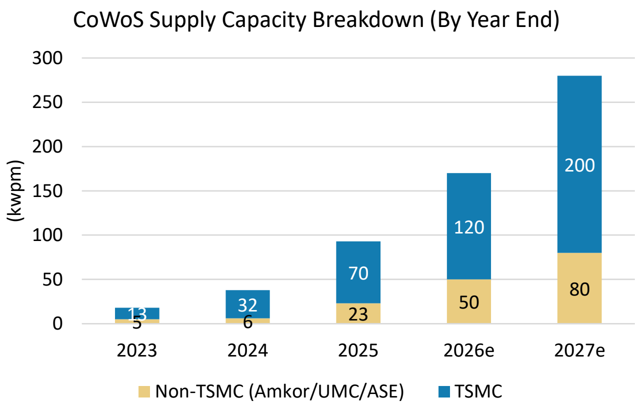
- AWS/Annapurna's CoWoS-R booking increases from 62k in 2026e to 90k in 2027e:
  - Although Annapurna is still in charge of the front-end booking for Trainium 3, we see it placing 54k of CoWoS-R at TSMC and 36k at ASE.
- Alchip increases CoWoS-R booking 38% Y/Y, to 36k, with all of its bookings at TSMC.
- Marvell's total booking increases from 17k in 2026e to 64k in 2027e:
  - Microsoft Maia 300 consumes around 50k of CoWoS-L booking at TSMC.
  - For Trainium 3, we see it having 14k of CoWoS-R booking at ASE.
- GUC's total CoWoS booking increases from 14k in 2026e to 60k in 2027e:
  - We believe demand is mainly driven by multiple customers.

Exhibit 3: Global CoWoS demand breakdown with newly introduced 2027e numbers

(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%**

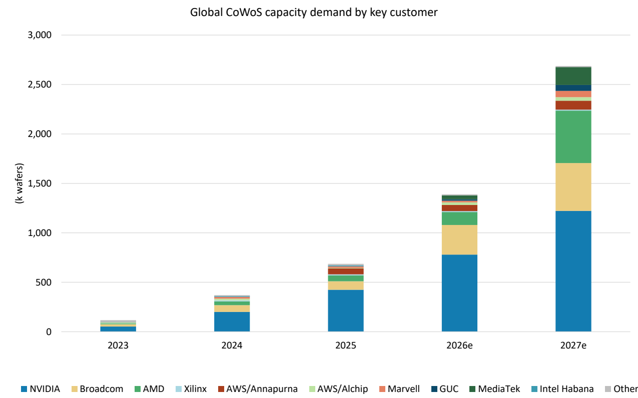
Source: Company data, Morgan Stanley Research (e) estimates; note: estimates are complied using our supply chain checks

Exhibit 4: Global CoWoS capacity expansion by year end and by vendor



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

Exhibit 5: Global CoWoS consumption, by customer



Source: Company data, Morgan Stanley Research (e) estimates; note: estimates are compiled using our supply chain checks

Exhibit 6:

AI HBM consumption: up to 51bn Gb in 2027

AI chip vendor	Product name	CoWoS capacity allocation (k wafers)	Chips per CoWoS wafer	Implied shipments (k)	HBM chip density (GB)	HBM chip units	Total HBM size (GB)	HBM generation	HBM vendor	Total HBM demand (k GB)
AI GPU (2027e)										
NVIDIA	B300	40	14	560	36	8	288	HBM3e 12hi	Hynix/Micron	161,280
	Vera CPU	250	23	5,750						
	Rubin R200	740	8	5,920	36	8	288	HBM4 12hi	Hynix/Micron/Samsung	1,704,960
	Rubin Ultra	130	8	1,040	48	8	384	HBM4e 12hi	Hynix/Micron/Samsung	399,360
AMD	MI350 series	24	12	288	36	8	288	HBM3e 12hi	Samsung/Micron	82,944
	MI400 series	192	10	1,920	36	12	432	HBM4 12hi	Samsung/Micron	829,440
	MI500 (Arcadia)	24	4	96	48	16	768	HBM4e 12hi	Samsung/Micron	73,728
	Venice CPU	270	25	6,750						
AI ASIC (2027e)										
Google	TPU v7p (Ironwood; AVGO)	13	16	208	24	8	192	HBM3e 8hi	Hynix/Samsung	39,936
	TPU v8i (Sunfish; AVGO)	330	12	3,960	36	8	288	HBM3e 12hi	Samsung/Hynix/Micron	1,140,480
	TPU v8t (Zebrafish; MediaTek)	180	20	3,600	36	6	216	HBM3e 12hi	Samsung/Hynix/Micron	777,600
	TPU v9 (Humufish; MediaTek)			400	48	12	576	HBM4e 12hi	Samsung/Hynix/Micron	230,400
AWS	Trainium 3	140	17	2,380	36	4	144	HBM3e 12hi	Hynix/Samsung/Micron	342,720
GUC's customers		60	20	1,200	24	6	144	HBM3e 8hi	Samsung?	172,800
Microsoft	Maia 300	50	11	550	36	8	288	HBM4 12hi	Samsung	158,400
Meta	MTIA 3 (Iris)	55	10	550	36	8	288	HBM3e 12hi	Samsung/Hynix/Micron	158,400
Others		18								
Total		**2,664**								**6,326,088**
								Total HBM demand (mn Gb)		**50,609**

Source: Company data, Morgan Stanley Research (e) estimates. Note: Estimates are compiled using our Asian supply chain checks.

Exhibit 7: AI wafer consumption: at least US$47bn in 2027

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 (2027e)										
NVIDIA	B300	40	14	560	850	4nm	2	44	23,042	1,024
	Vera CPU	250	23	5,750	850	3nm	1	228	27,300	6,229
	Rubin R200	740	8	5,920	850	3nm	2	470	27,300	12,827
	Rubin Ultra	130	8	1,040	850	3nm	2	58	27,300	1,588
AMD	MI350 series	24	12	288	110	3nm	8	8	27,300	229
	MI400 series	192	10	1,920	850	2nm	2	23	30,000	698
	MI500 (Arcadia)	24	4	96		2nm			30,000	
	Venice CPU	270	25	6,750		2nm				
AI ASIC (2027e)										
Google	TPU v7p (Ironwood; AVGO)	13	16	208	700	3nm	2	14	27,300	371
	TPU v8i (Sunfish; AVGO)	330	12	3,960	800	3nm	2	296	27,300	8,075
	TPU v8t (Zebrafish; MediaTek)	180	20	3,600	800	3nm	2	269	27,300	7,341
	TPU v9 (Humufish; MediaTek)			400	850	2nm	2	32	27,300	867
AWS	Trainium 3	140	17	2,380	700	3nm	2	127	27,300	3,465
GUC's customers		60	20	1,200	645	4nm	1	29	23,042	674
Microsoft	Maia 300	50	11	550	850	2nm	1	29.1	30,000	873
Meta	MTIA 3 (Iris)	55	10	550	850	3nm	2	44	27,300	1,192
Others		18								
Total		**2,664**						**1,707**		**46,418**

Source: Company data, Morgan Stanley Research (e) estimates. Note: Estimates are compiled using our Asian supply chain checks.

Exhibit 8: AI HBM consumption: up to 31bn Gb in 2026

AI chip vendor	Product name	CoWoS capacity allocation (k wafers)	Chips per CoWoS wafer	Implied shipments (k)	HBM chip density (GB)	HBM chip units	Total HBM size (GB)	HBM generation	HBM vendor	Total HBM demand (k GB)
AI GPU (2026e)										
NVIDIA	B300	390	14	5,460	36	8	288	HBM3e 12hi	Hynix/Micron/Samsung	1,572,480
	Vera CPU	90	23	2,070						
	Spectrum/CPX	60		-						
	Rubin R200	260	8	2,080	36	8	288	HBM4 12hi	Hynix/Micron/Samsung?	599,040
	H200	20	27	540	24	6	141	HBM3e 8hi	Hynix	76,140
AMD	MI300	3	12	36	24	8	192	HBM3e 12hi	Samsung	6,912
	MI350/375	7	12	84	36	8	288	HBM3e 12hi	Samsung/Micron	24,192
	MI400	65	10	650	36	12	432	HBM4 12hi	Samsung/Micron	280,800
	Venice	50	25	1,250						
AI ASIC (2026e)										
Google	TPU v7p (Ironwood; AVGO)	145	16	2,320	24	8	192	HBM3e 8hi	Hynix/Samsung	445,440
	TPU v8i (Sunfish; AVGO)	80	12	960	36	8	288	HBM3e 12hi	Hynix/Samsung/Micron	276,480
	TPU v8t (Zebrafish; MediaTek)	40	20	800	36	6	216	HBM3e 12hi	Hynix/Micron	172,800
AWS	Trainium 3	100	17	1,700	36	4	144	HBM3e 12hi	Hynix/Samsung/Micron	244,800
GUC's customers		10	20	200	24	6	144	HBM3e 8hi	Samsung?	1,152
Microsoft	Maia 200	4	29	116	16	4	64	HBM3	Samsung	7,424
	Maia 300	5	11	55	36	8	288	HBM4 12hi	Samsung	15,840
Meta	MTIA 3 (Iris)	15	10	150	36	8	288	HBM3e 12hi	Hynix/Samsung	43,200
Total		**1,424**								**3,825,500**
								Total HBM demand (mn Gb)		**30,604**

Source: Company data, Morgan Stanley Research (e) estimates. Note: Estimates are compiled using our Asian supply chain checks.

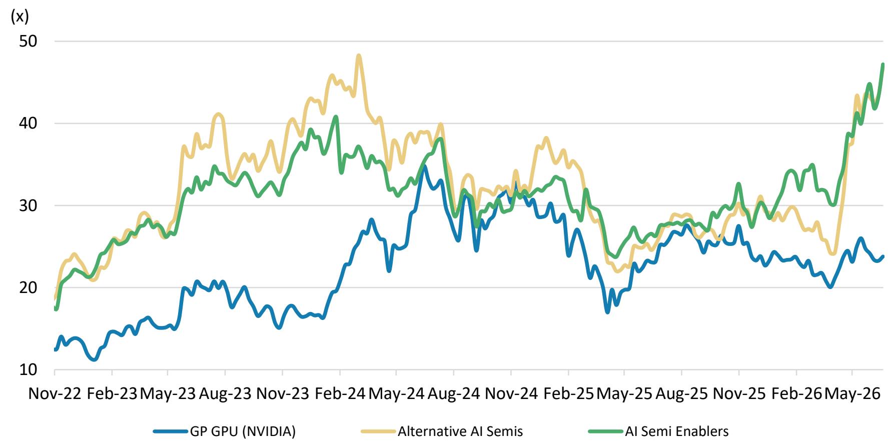
Exhibit 9: AI wafer consumption: at least US$27bn in 2026

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) estimates. Note: Estimates are compiled using our Asian supply chain checks.

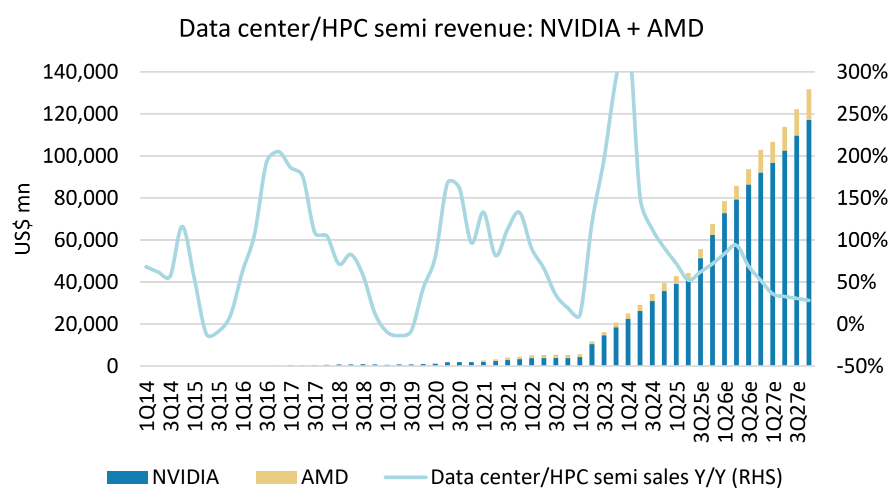
AI semis – stock implications, P/E multiples, revenue exposure

Exhibit 10: P/E multiple trend of AI semis



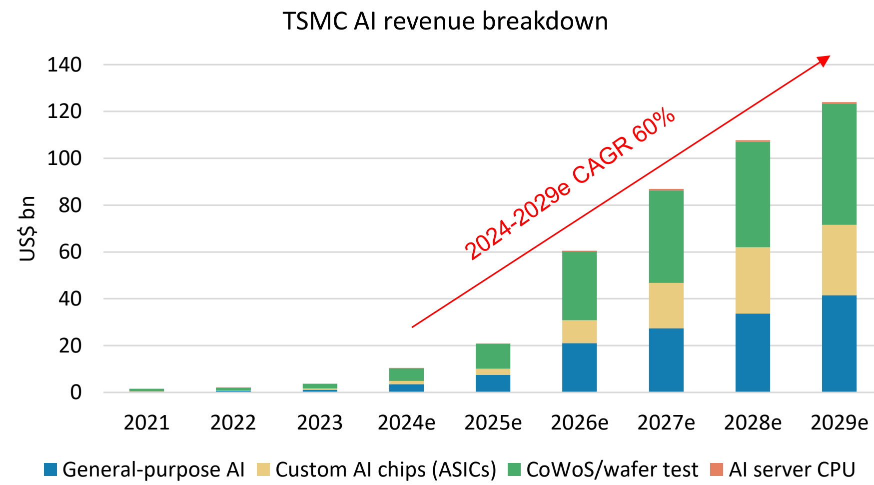
Note: Alternative AI semis group: AMD, Alchip, Andes, Marvell, Broadcom. AI semi enablers group: TSMC, Synopsys, Cadence, ASML, BESI, Ibiden, KYEC, Advantest. Source: Company data, Morgan Stanley Research.

Exhibit 11: We still expect AI chip revenue to rise QoQ



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

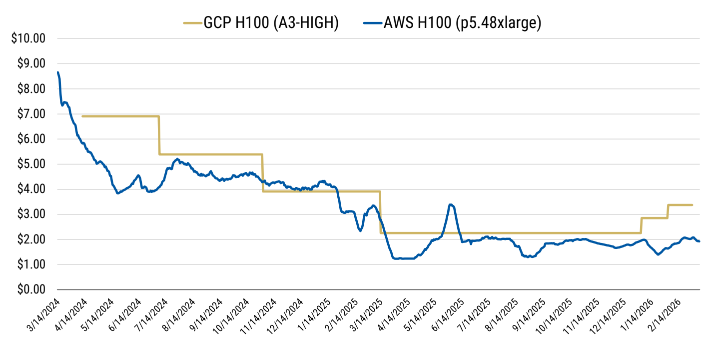
Exhibit 12: TSMC's AI-related revenue 2024-29e CAGR could reach 60%



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

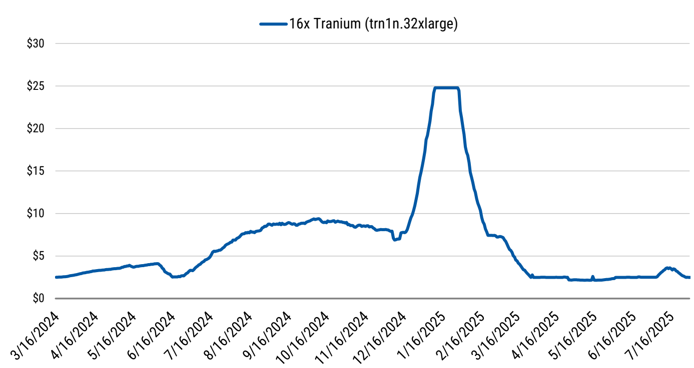
AI GPU and ASIC rental price tracker

Exhibit 13: AI GPU H100 per GPU per hour as of end-March



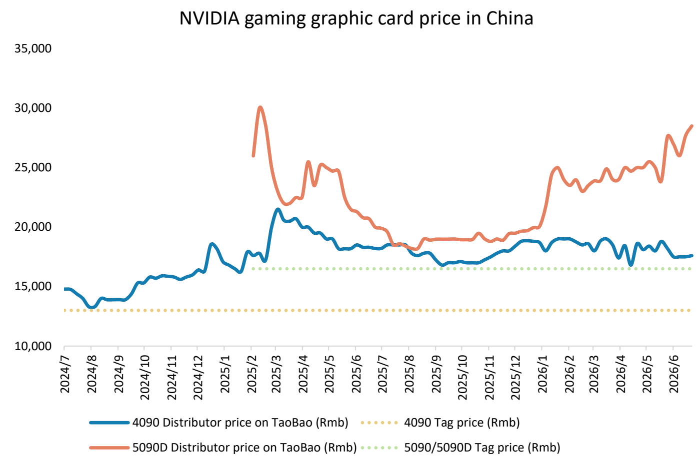
Source: Company data, Morgan Stanley Research

Exhibit 14: AI ASIC equivalent computing power – 16x Inferentia 2 per hour



Source: Company data, Morgan Stanley Research

Exhibit 15: NVIDIA 5090 graphic cards pricing has rebounded recently, mainly in response to market expectations for price hikes and strong AI inference demand from China



Source: TaoBao, Morgan Stanley Research, various media (e.g., Vice, Jan. 3, 2026)

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Global Technology: AI PCs To Usher In The Next Leg Of PC Market Growth (21 May, 2024)

Key upstream AI supply chain companies

Tracking China's Semi Localization: Raising China AI GPU TAM on recent geopolitical dynamics (22 Jun 2026)

Greater China Technology Semiconductors: MCU: Supply tightness may drive prices up further (21 Jun 2026)

Greater China Semiconductors: Power Semis – Supply Driven Upcycle (18 Jun 2026)

Greater China Technology Semiconductors: Thoughts on Investor Concerns Regarding CPO (10 Jun 2026)

WinWay Technology Co Ltd: May sales came in better than feared; OW (9 Jun 2026)

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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.

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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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COMPANY (TICKER)	RATING (AS OF)	PRICE* (06/23/2026)
Ryan Kim		
Ecopro BM (247540.KQ)	U (03/20/2023)	W150,900
Fadu Inc (440110.KQ)	O (09/21/2025)	W89,800

Hanmi Semiconductor Co. Ltd. (042700.KS)	O (08/16/2024)	W258,000
HD Hyundai Electric Co Ltd (267260.KS)	O (03/25/2025)	W949,000
Isu Petasys Co. Ltd. (007660.KS)	O (02/03/2025)	W108,100
L&F Co Ltd (066970.KS)	E (04/03/2025)	W112,700
Leeno Industrial Inc. (058470.KQ)	O (04/03/2025)	W84,900
Lotte Energy Materials Corp (020150.KS)	U (04/03/2025)	W45,000
LS Electric (010120.KS)	O (01/22/2026)	W232,500
POSCO FUTURE M (003670.KS)	U (04/03/2025)	W172,900
SK IE Technology (361610.KS)	U (04/03/2025)	W16,670
SK Square Co Ltd. (402340.KS)	O (05/06/2026)	W1,832,000
Wonik IPS Co Ltd (240810.KQ)	O (08/08/2025)	W150,100
Shawn Kim		
LG Display (034220.KS)	E (06/11/2025)	W12,180
LG Electronics (066570.KS)	E (04/07/2025)	W202,000
LG Innotek (011070.KS)	E (03/12/2025)	W991,000
Samsung Electro-Mechanics (009150.KS)	O (07/31/2025)	W1,990,000
Samsung Electronics (005935.KS)	O (11/18/2019)	W202,500
Samsung Electronics (005930.KS)	O (11/18/2019)	W310,000
SK hynix (000660.KS)	O (09/21/2025)	W2,555,000

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* Historical prices are not split adjusted.

INDUSTRY COVERAGE: Greater China Technology Semiconductors

COMPANY (TICKER)	RATING (AS OF)	PRICE* (06/23/2026)
Charlie Chan		
ACM Research Inc (ACMR.O)	O (03/07/2023)	US$103.17
Advanced Micro-Fabrication Equipment Inc (688012.SS)	O (11/06/2023)	Rmb371.72
Advanced Wireless Semiconductor Co (8086.TWO)	U (07/14/2025)	NT$159.50
Alchip Technologies Ltd (3661.TW)	O (05/14/2021)	NT$4,375.00
ASE Technology Holding Co. Ltd. (3711.TW)	O (09/15/2024)	NT$662.00
Cambricon Technology Corporation (688256.SS)	O (04/27/2026)	Rmb1,413.00
Global Unichip Corp (3443.TW)	E (05/28/2026)	NT$4,725.00
GlobalWafers Co Ltd (6488.TWO)	E (05/19/2026)	NT$1,010.00
Gudeng Precision (3680.TWO)	O (11/25/2025)	NT$537.00
Hua Hong Semiconductor Ltd (1347.HK)	E (03/12/2026)	HK$166.30
Iluvatar CoreX Semiconductor Co., Ltd. (9903.HK)	O (04/27/2026)	HK$735.50
King Yuan Electronics Co Ltd (2449.TW)	O (03/03/2023)	NT$329.50
Maxscend Microelectronics Co Ltd (300782.SZ)	U (01/11/2021)	Rmb113.92
MediaTek (2454.TW)	O (11/28/2025)	NT$4,535.00
MetaX Integrated Circuits (688802.SS)	E (04/27/2026)	Rmb768.98
Nanya Technology Corp. (2408.TW)	O (05/28/2026)	NT$454.50
NAURA Technology Group Co Ltd (002371.SZ)	O (11/06/2023)	Rmb747.49
OmniVision Integrated Circuits Group Inc (603501.SS)	E (11/17/2025)	Rmb87.70
Phison Electronics Corp (8299.TWO)	E (02/25/2026)	NT$2,430.00
SG Micro Corp. (300661.SZ)	E (11/03/2025)	Rmb137.16
Silergy Corp. (6415.TW)	U (05/19/2026)	NT$645.00
SMIC (0981.HK)	O (10/21/2025)	HK$77.85
TSMC (2330.TW)	O (02/07/2022)	NT$2,490.00
UMC (2303.TW)	O (05/19/2026)	NT$170.00
Vanguard International Semiconductor (5347.TWO)	E (01/14/2026)	NT$186.50
WIN Semiconductors Corp (3105.TWO)	U (07/14/2025)	NT$522.00
Daisy Dai, CFA		
ASMPT Ltd (0522.HK)	O (07/24/2025)	HK$194.70
China Resources Microelectronics Limited (688396.SS)	U (03/02/2026)	Rmb80.80

Elan Microelectronics Corp (2458.TW)	O (10/03/2025)	NT$166.00
Empyrean Technology Co Ltd (301269.SZ)	E (01/17/2025)	Rmb101.30
Hangzhou Silan Microelectronics Co. Ltd. (600460.SS)	U (08/25/2025)	Rmb47.04
Innoscience (2577.HK)	E (10/13/2025)	HK$72.10
JCET Group Co Ltd (600584.SS)	E (01/16/2026)	Rmb86.09
Shanghai Fudan Microelectronics (1385.HK)	O (03/07/2025)	HK$27.88
SICC Co Ltd (688234.SS)	O (03/20/2026)	Rmb163.37
StarPower Semiconductor Ltd (603290.SS)	E (05/14/2026)	Rmb138.80
Unigroup Guoxin Microelectronics Co Ltd (002049.SZ)	U (01/10/2023)	Rmb81.91
Universal Scientific Ind. (Shanghai) (601231.SS)	O (11/05/2025)	Rmb35.38
Yangjie Technology (300373.SZ)	O (06/10/2022)	Rmb132.96
Daniel Yen, CFA		
AP Memory Technology Corp (6531.TW)	O (07/11/2025)	NT$1,050.00
ASMedia Technology Inc (5269.TW)	U (10/03/2025)	NT$1,425.00
Aspeed Technology (5274.TWO)	O (06/09/2025)	NT$18,505.00
Egis Technology Inc (6462.TWO)	E (01/28/2026)	NT$122.00
Espressif Systems (688018.SS)	O (05/15/2023)	Rmb122.50
GigaDevice Semiconductor Beijing Inc (603986.SS)	O (05/15/2025)	Rmb640.99
Macronix International Co Ltd (2337.TW)	O (09/18/2025)	NT$172.00
Montage Technology Co Ltd (6809.HK)	O (03/18/2026)	HK$408.20
Montage Technology Co Ltd (688008.SS)	O (03/18/2026)	Rmb258.00
Novatek (3034.TW)	U (02/04/2026)	NT$544.00
Nuvoton Technology Corporation (4919.TW)	U (11/10/2025)	NT$194.50
Parade Technologies Ltd (4966.TWO)	O (05/27/2026)	NT$661.00
Powerchip Semiconductor Manufacturing Co (6770.TW)	O (10/27/2025)	NT$78.60
Realtek Semiconductor (2379.TW)	E (01/30/2026)	NT$863.00
Shenzhen Goodix Technology Co Ltd (603160.SS)	U (07/14/2025)	Rmb59.06
Winbond Electronics Corp (2344.TW)	O (05/28/2026)	NT$211.50
WPG Holdings (3702.TW)	O (03/16/2026)	NT$108.00
WT Microelectronics Co. Ltd. (3036.TW)	O (01/27/2026)	NT$220.50
Duan Liu		
Dosilicon Co Ltd (688110.SS)	U (09/06/2024)	Rmb161.79
Shenzhen Longsys Electronics Co Ltd (301308.SZ)	E (02/25/2026)	Rmb596.01
Tiffany Yeh		
AllRing Tech Co. (6187.TWO)	O (09/23/2025)	NT$1,170.00
FOCI Fiber Optic Communications Inc (3363.TWO)	O (01/15/2025)	NT$685.00
Himax Technologies Inc (HIMX.O)	E (02/04/2026)	US$18.54
Hon Precision (7769.TW)	O (04/17/2026)	NT$6,810.00
MPI Corporation (6223.TWO)	O (04/17/2026)	NT$6,680.00
Silicon Motion (SIMO.O)	O (05/06/2024)	US$336.90
WinWay Technology Co Ltd (6515.TW)	O (04/17/2026)	NT$9,450.00

Stock Ratings are subject to change. Please see latest research for each company.
* Historical prices are not split adjusted.