Morgan Stanley | RESEARCH

IDEA

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Greater China Semiconductors | Asia Pacific

Cloud Semis: Unlikely to slow down

We expect both CPU and GPU server TAM to expand into 2027. We reiterate our OW ratings on both Aspeed and Montage into earnings; accumulate into cloud capex prints.

Key Takeaways

- Our recent China World AI Congress trip suggests ongoing upside for CPU servers, from both China and US vendors.
- The more diversified scale-up solutions for GPU servers in 2027 should translate into strong cloud semis growth.
- Better product mix should support the high GMs for both Aspeed and Montage.

CPU server segment showing more upside, especially in China: We maintain our bull thesis (Cloud semis: Much Larger TAM Ahead) and expect further upside. In our July 17-20 Shanghai WAIC trip, we noted increasing adoption of AMD, Nvidia and Hygon solutions. AMD's multicore benefits, Nvidia's Vera bundle sales strategy, and Hygon's government support and performance catch-up with legacy 6 gen Intel CPU are now attracting increasing orders (see Hygon initiation). High-end x86 CPU pricing continued to trend up in China, nearly 2x Y/Y.

GPU servers strong, with potentially more SuperPods solutions: Almost every domestic GPU vendor displayed a 64- or 128-card scale-up system. Chinese AI GPUs are limited by wafer production/supply at the chip level, but try to connect each GPU together (WAIC note). Nvidia could also have a greater variety of racks in 2027 (see Joe Moore's Nvidia NDR note). We believe SuperPods could be one of the solutions, connecting multiple racks with optics (multi-racks scale-up). Kimi K3 also demonstrated the Nvidia GPU importance in training.

Margin likely to be maintained at high levels: We think cloud semis vendors will benefit from spec migration, driven by strong high-performance server demand. Gross margins for the new solutions (e.g., AST 2700 BMC, legacy BMC with software offering and DDR5 gen 3 interface) are usually higher than that of the prior solutions, which could help offset the higher cost burden, especially from OSAT.

Buy into cloud capex earnings; OW Aspeed and Montage: We believe the upcoming cloud capex announcements could see meaningful upward revision, mainly for memory, but also yielding positive signs for cloud semis companies. We factor in share dividend impact and cut our Aspeed price target, by 11%, to NT $20,888. We think the Korean government's investigation (see results note) offers a good entry point for Montage.

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GREATER CHINA TECHNOLOGY SEMICONDUCTORS		
Asia Pacific		
Industry View		Attractive

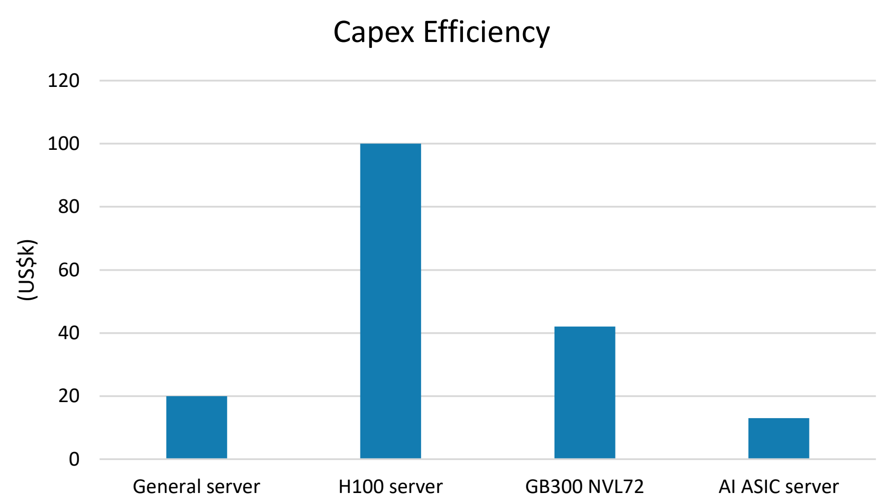
WHAT'S CHANGED		
Aspeed Technology (5274.TWO)	From	To
Price Target	NT$21,323.64	**NT$20,888.00**

Key charts

The baseboard management controller (BMC) integrated circuit (IC) (i.e., a specialized microchip) is the key component on the server board. It helps enable remote control for the server firmware system and maintain datacenter stability. Previously, Aspeed indicated that general servers and AI ASIC servers actually generate higher efficiency in hyperscaler capex spending (Exhibit 1). As a result, as the CPU plays a critical role in enabling agentic AI (as the central coordinator that executes instructions, manages system resources, and ensures reliable, real-time decision-making), we expect the growing demand for CPUs/ general servers to further lift Aspeed's BMC revenue in the coming years.

Currently, Aspeed has ~70% sales market share in the CPU server BMC market, with major US and Chinese hyperscalers being its end-customers, including Meta, AWS, Alibaba and Microsoft. As it migrates into the new generation BMC product – AST2700 – we expect it to expand its market share in customers including Dell and Google, which would help expand its revenue, as spec migration also brings 40-50% ASP increase.

Exhibit 1: General servers and AI ASIC servers generate the highest capex efficiency for BMCs

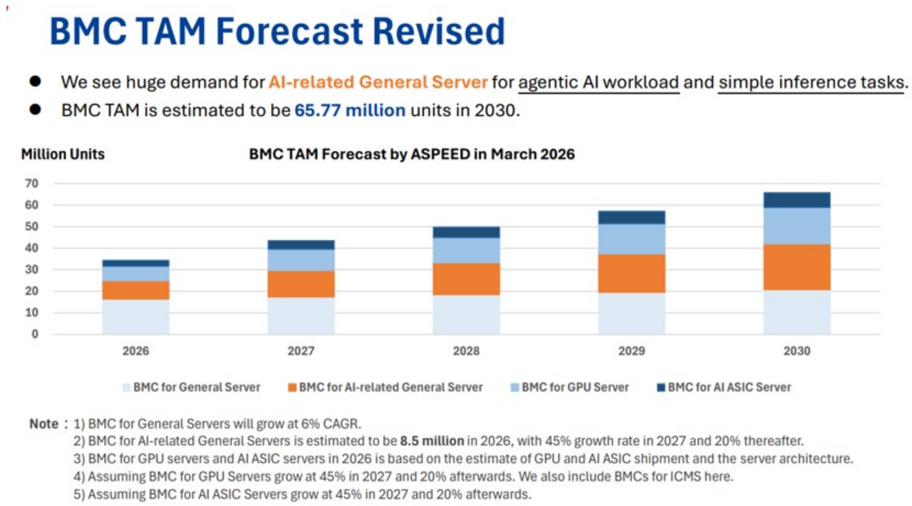


Source: Company data, Morgan Stanley Research. Note: Capex efficiency is defined as the amount of server spend that will contribute to one BMC demand. The lower the capex efficiency, the better for Aspeed.

Aspeed, in April, announced an increase in its BMC TAM, from 46.5mn to 65.77mn units in 2030, driven by AI-related general server demand. We think agentic AI will be the key driving force behind this growth. General server growth should be stable at 6% over 2025-30, while AI-related general servers should account for: 1) 25% of total 2026 general server demand; 2) 45% in 2027; and 3) 20% throughout 2028-30 (see Exhibit 29).

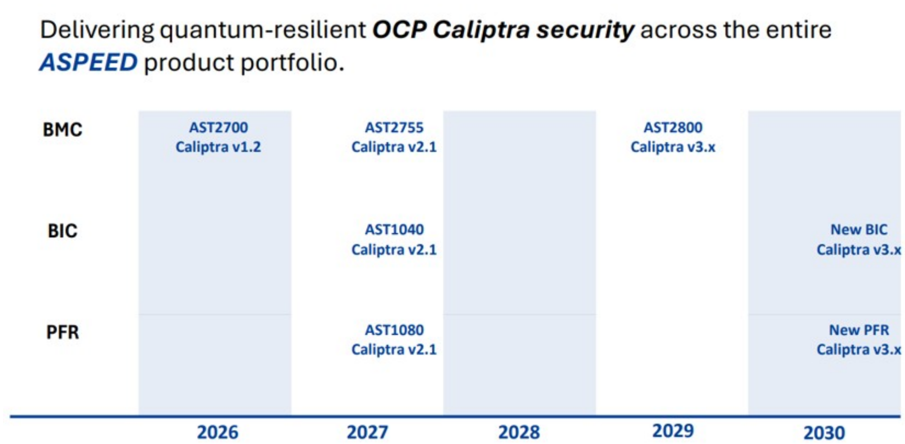
On the order visibility front, customers began providing forecasts at 7-8x Aspeed's single-month revenue. Although Aspeed could not roll out any double booking, the current dynamic is that shipments are well beyond all customers' needs. Customers also expect to double capacity Y/Y in 2027.

Exhibit 2: Aspeed expects its BMC TAM to reach 65.7mn units in 2030



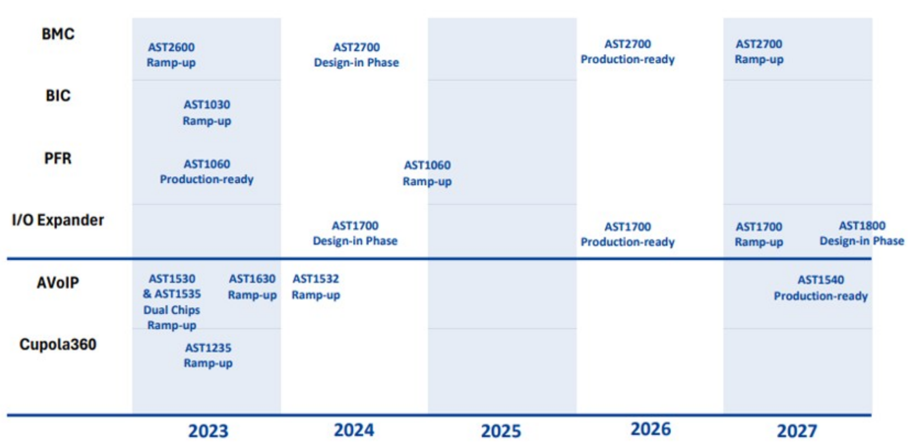
Source: Aspeed

Exhibit 3: Aspeed's product roadmap



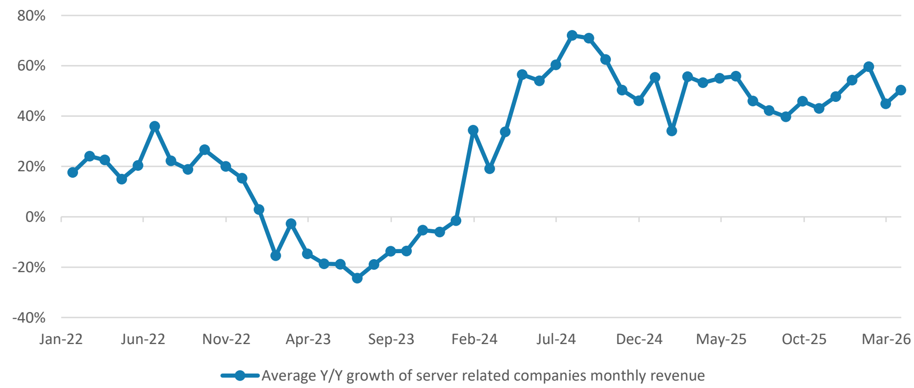
Source: Aspeed

Exhibit 4: Aspeed Product Roadmap



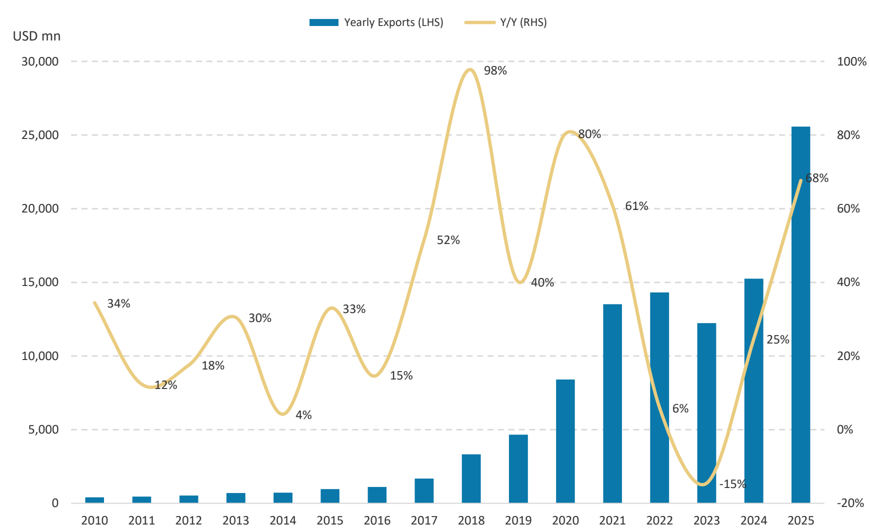
Source: Aspeed

Exhibit 5: Server-related companies maintain high Y/Y revenue growth – but slowing a bit because of a high base



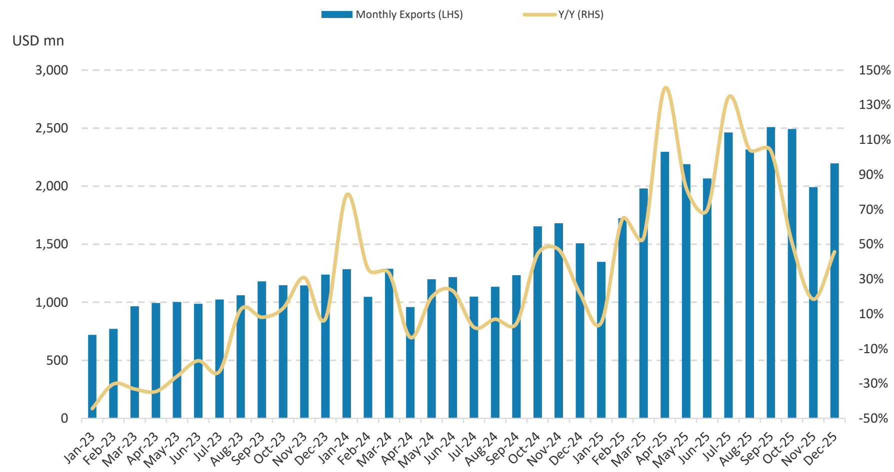
Source: Company data, Morgan Stanley Research. Note: Monthly revenue includes revenue from Aspeed, Wiwynn, Accton, Lotes, Inventec, Quanta, LandMark, Giga-Byte, TSMC, KYEC, AllRing, FOCI, AVC, Auras, Gold Circuit, Unimicron, and Hon Hai.

Exhibit 6: Full-year processor exports increased 68% y/y in 2025



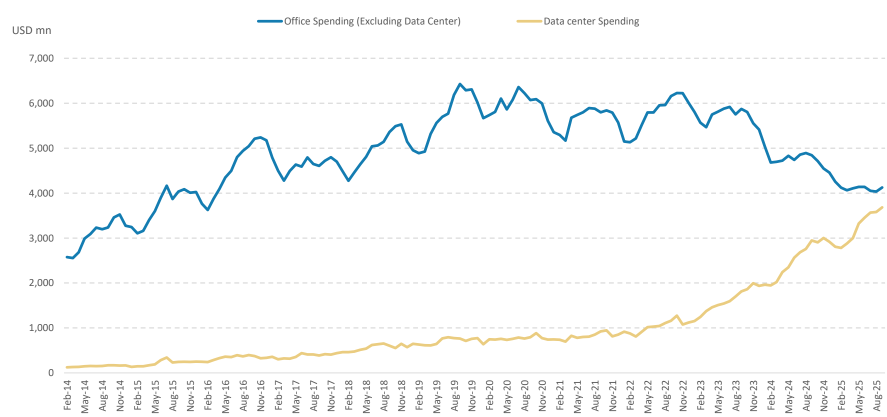
Source: International Trade Administration, Morgan Stanley Research.

Exhibit 7: Processor exports maintain strength, with 20 consecutive months of Y/Y growth



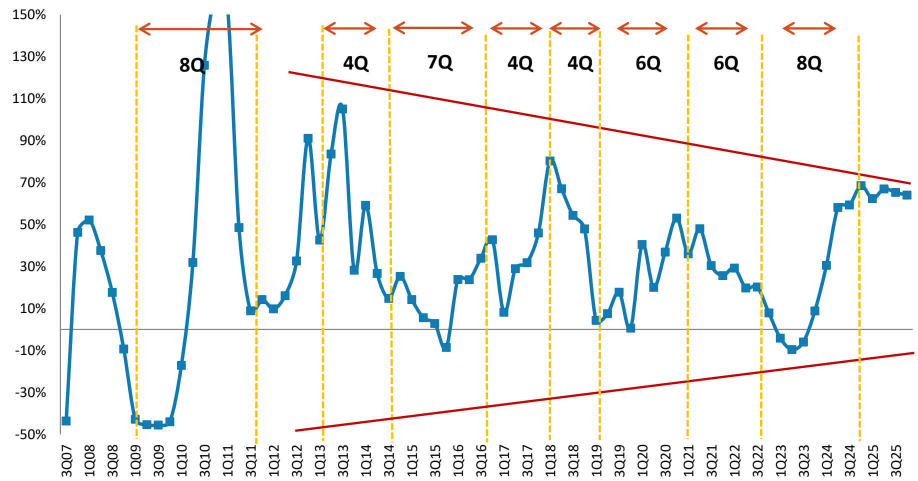
Source: International Trade Administration, Morgan Stanley Research.

Exhibit 8: Data center construction spending rose 35% Y/Y while other office spending declined



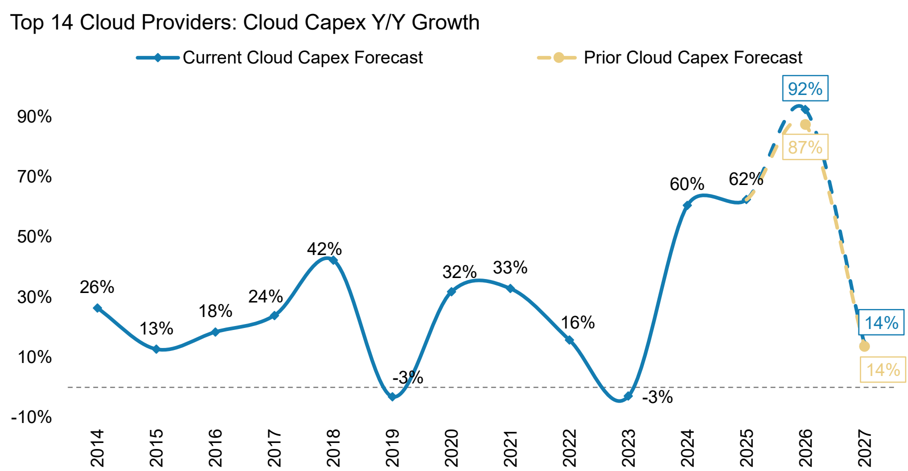
Source: United States Census Bureau, Morgan Stanley Research.

Exhibit 9: 1Q26 US cloud capex increased 64% Y/Y, maintaining a level similar to the 65% Y/Y rise in 3Q25



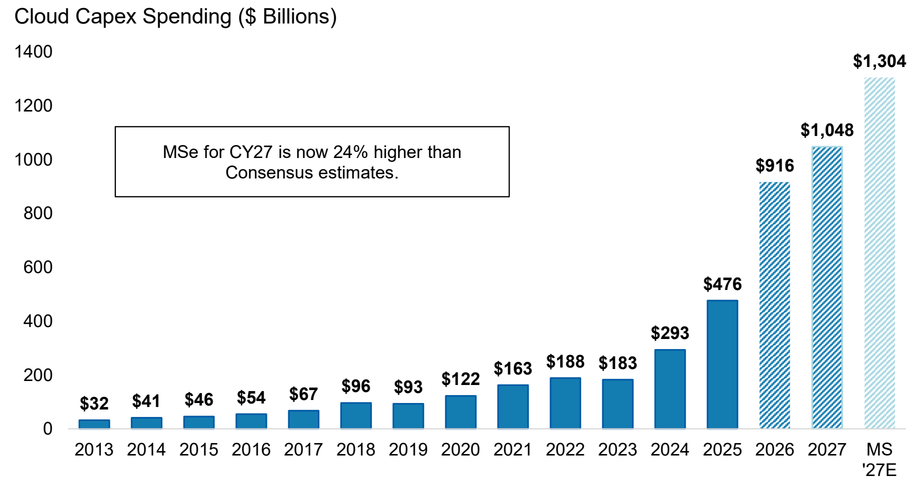
Source: Company data, Morgan Stanley Research. US cloud capex calculated from Alphabet, Microsoft, Amazon, and Meta.

Exhibit 10: Post-US hyperscaler C1Q26 earnings, our cloud capex tracker is now pointing to 92% Y/Y growth in 2026, up 5ppt from the prior forecast of +87% Y/Y in late March 2026



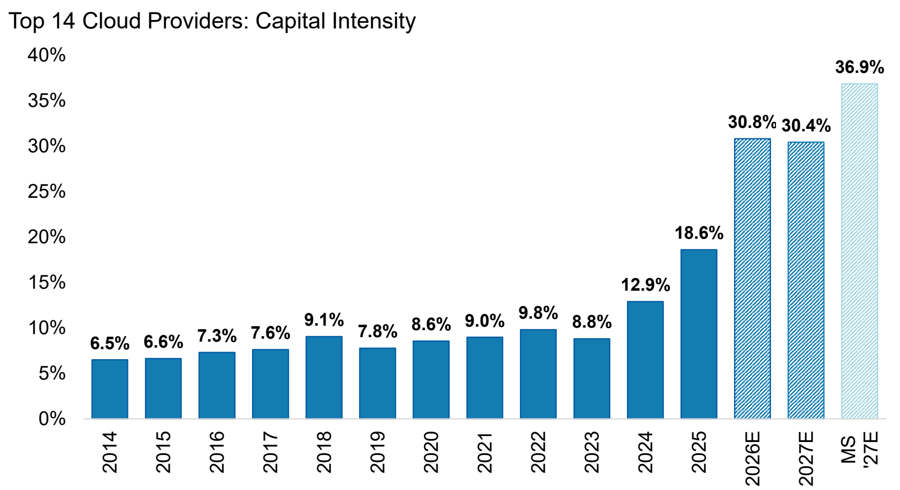
Source: Company data, FactSet, Morgan Stanley Research. Note: Cloud capex includes capex from Alphabet, Amazon, Microsoft, Meta Platforms, Alibaba, Tencent, Baidu, CoreWeave, Apple, IBM, Nebius, IREN, Tesla and Oracle. We start to include CRWV from 2024.

Exhibit 11: Cumulatively, the top 14 cloud players are expected to devote US$916bn to capex in 2026 (MSe), up from US$476bn in 2025



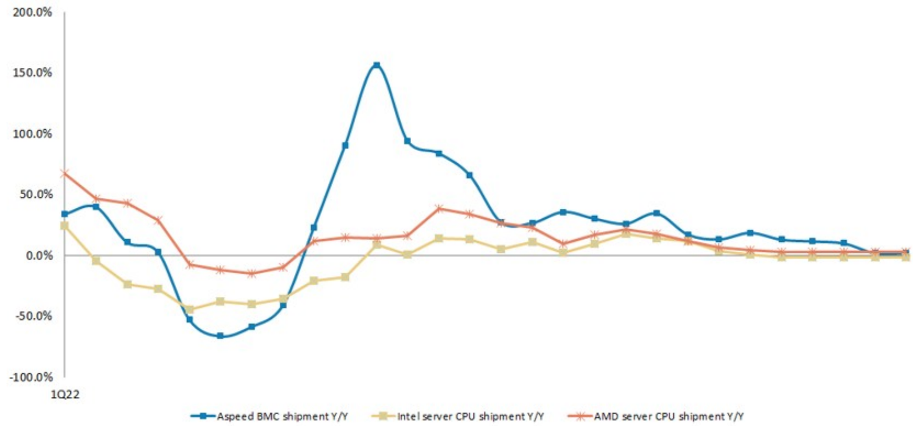
Source: FactSet, Morgan Stanley Research (E) estimates. Note: ORCL forecasts not updated following latest earnings.

Exhibit 12: With stronger cloud capex now expected in 2026, overall capital intensity is now exceeding 31%, a new all-time high



Source: FactSet, Morgan Stanley Research (E) estimates. Note: Dark blue bars based on consensus estimates, light blue bar based on MSe. ORCL forecasts not updated following latest earnings.

Exhibit 13: Quarterly Aspeed shipments Y/Y and Intel + AMD CPU shipments Y/Y



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

Gauging the AI ASIC BMC TAM

Aspeed maintains the lion's share in AI servers, including at NVIDIA, AMD and Trainium. Google TPU has long used MCUs for remote control. Starting with TPUv8t (codename: Sunfish), given better performance, we expect Google to adopt Aspeed's AST2700 BMC controller. Together with our latest updates on 2027e CoWoS and implied ASIC shipment, we estimate an additional 4% revenue contribution in 2026 and 14% in 2027.

Together with other ASICs (mainly TPU, MTIA, and Teton), we expect ASIC racks to contribute 10% and 21% of Aspeed's total revenue in 2026 and 2027, respectively. Further upside potential could come as orders beyond 2026 remain uncertain for now, and other ASIC players – including Microsoft, SoftBank/Arm, Apple, and Fujitsu – all plan to build ASIC servers in the coming years.

We therefore expect AI ASIC servers to strengthen Aspeed's growth over the next few years.

Exhibit 14: Gauging the ASIC TAM for Aspeed: We expect 2026-27 to see ASIC racks contribute respective 10% and 21% of its total revenue

							2026e chip shipment			2027e chip shipment		
CSP	Rack	Rack MP time	Accelerator name	BMC Generation	BMC to ASIC per rack %	BIC to ASIC per rack %	Accelerator chip shipment (k units)	BMC (k units)	BIC (k units)	Accelerator chip shipment (k units)	BMC (k units)	BIC (k units)
AWS	Teton3	2H26-2027	Trainium 3	AST2700	69%		1,700	1,181		2,380	1,653	
	Teton4	1H28	Trainium 4	AST2700	69%					150	104	
Google	TPU v8i	2026	Sunfish	AST2700	70%		900	630		4,000	2,800	
	TPU v8t	2026	Zebrafish	AST2700	70%		500	350		3,000	2,100	
	TPU v9	2027	Humufish	AST2700	70%					150	105	
Meta	Santa Babara	2026-2027	MTIA 3 Iris & 3.5 Arke	AST2700	100%		150	150		550	550	
Total BMC and BIC shipment (k units)								**2,311**			**7,312**	
AST2700								2,311			7,312	
BIC												
BMC ASP (US$)												
AST2700								25			25	
BIC ASP (US$)												
Revenue contribution from ASIC (US$mn)								57,764			182,799	
Revenue contribution from ASIC (NT$bn)								1,733			5,484	
Aspeed CY Revenue (NT$bn)								17,866			26,027	
% of total revenue								**9.7%**			**21.1%**	

Source: Morgan Stanley Research (e) estimates

Exhibit 15: We estimate AWS's Trainium/Teton racks will contribute 5% and 5.1% of TAM revenue in 2026 and 2027, respectively

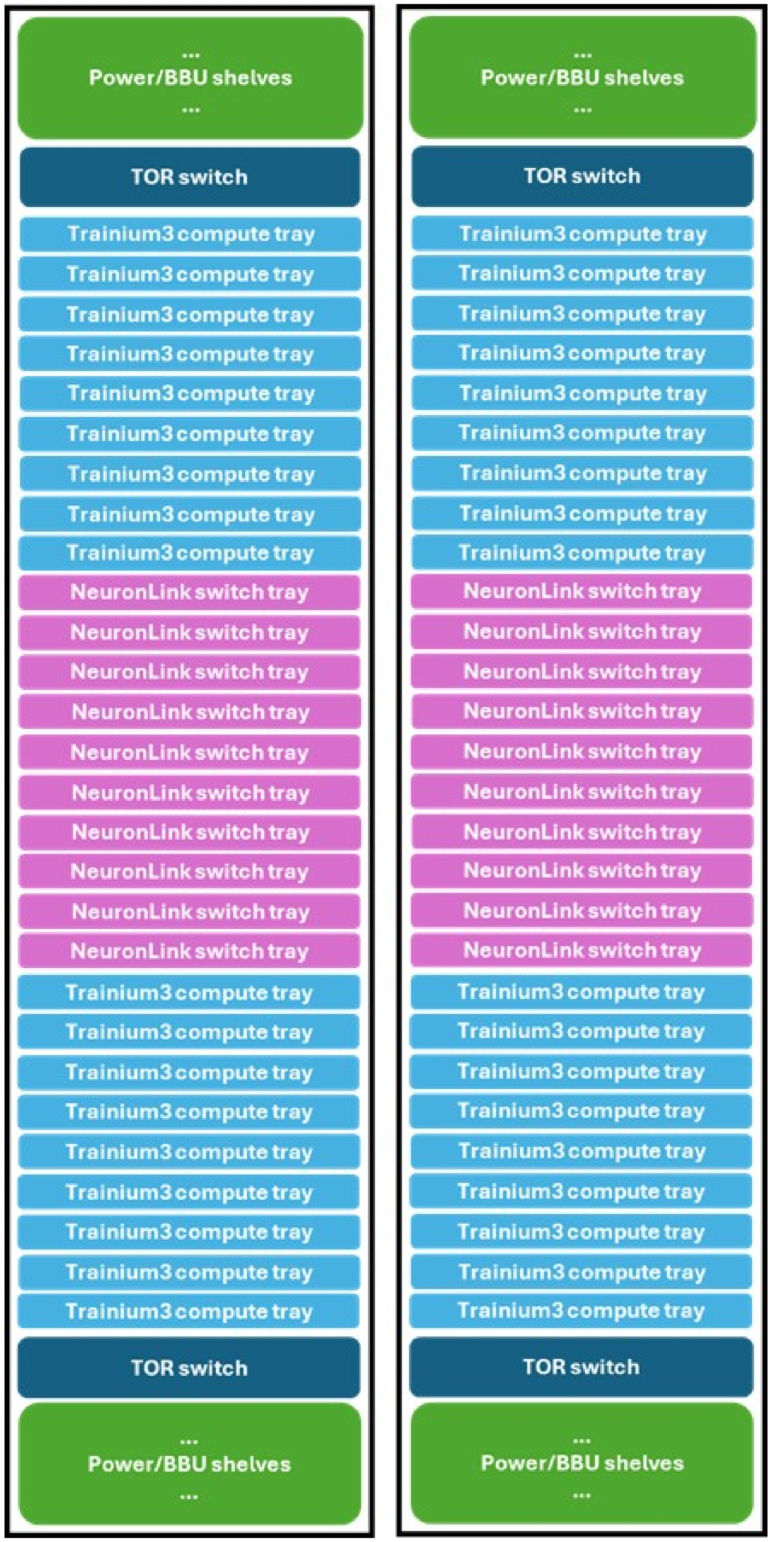
	2026e	2027e
Total ASIC shipment	1,700	2,530
Trainium2	-	-
Trainium3	1,700	2,380
Trainium4		150
BMC to ASIC per rack ratio	70.2%	69.4%
AST2700 ASP (US$)	25	25
Revenue contribution from AWS (US$mn)	29,846	43,924
Revenue contribution from AWS (NT$bn)	895	1,318
Implied CY Revenue (%)	5.0%	5.1%

Source: Morgan Stanley Research (e) estimates

Exhibit 16: AWS Trainium3 UltraServer

Source: AWS.

Exhibit 17: AWS Trainium3 UltraServer architecture



Source: AWS, Morgan Stanley Research.

Exhibit 18: We estimate Google TPU will contribute 4.1% and 14.4% of TAM total revenue in 2026 and 2027, respectively

	2026e	2027e	2028e
Total ASIC shipment	1,400	7,150	6,500
TPUv8i (3nm, Sunfish; by Broadcom)	900	4,000	2,500
TPUv8t (3nm, Zebrafish; by MediaTek)	500	3,000	1,000
TPUv9 (2nm, Humufish; by MediaTek)	-	150	3,000
BMC to ASIC per rack ratio	70.0%	70.0%	70.0%
AST2700 ASP (US$)	25	25	25
Revenue contribution from Google (US$mn)	24,500	125,125	113,750
Revenue contribution from Google (NT$bn)	735	3,754	3,413
Implied CY Revenue (%)	4.1%	14.4%	9.4%

Source: Morgan Stanley Research estimates

Exhibit 19: We estimate Meta MTIA to contribute a respective 0.6% and 1.6% of TAM total revenue in 2026 and 2027, respectively

	2025e	2026e	2027e
Total ASIC shipment	50	150	550
MTIA 2	50		
MTIA 3		150	550
MTIA 3.5			
BMC to ASIC per rack ratio	71.9%	100.0%	100.0%
AST2600 ASP (US$)	15		
AST2700 ASP (US$)		25	25
BIC to ASIC per rack ratio	78.1%		
BIC ASP (US$)	6		
Revenue contribution from Meta (US$mn)	234	3,750	13,750
Revenue contribution from Meta (NT$bn)	7	113	413
Implied CY Revenue (%)	0.1%	0.6%	1.6%

Source: Morgan Stanley Research estimates

Aspeed: Estimate Revisions

We decrease our EPS estimates by 19% for 2026, 17% for 2027 and 15% for 2028: We factor in the preliminary 2Q26 revenue, and increase our respective revenue projections by 3% for 2026 to factor in a slower ramp of AST2700 in 2026, for which we now expect a slightly slower pace of ASP climb vs our previous outlook. However, we do expect steeper ramp for AST2700 into 2027, as demand for next-generation CPU remains very strong amid greater ASIC server ramp. The decline in our EPS estimates mainly stems from share dividend payout.

Exhibit 20: Aspeed: Earnings estimate revisions

	Current	Previous		Current	Previous		Current	Previous	
NT$ mn	**2026E**	**2026E**	**Diff.**	**2027E**	**2027E**	**Diff.**	**2028E**	**2028E**	**Diff.**
Net sales	17,866	18,507	-3%	26,027	25,891	1%	36,206	35,207	3%
COGS	5,534	5,469		7,584	7,546		10,218	9,943	
Gross profit	12,332	13,038	-5%	18,443	18,345	1%	25,988	25,264	3%
Operating expenses	2,255	2,265		2,978	2,975		3,545	3,525	
Operating profit	10,077	10,773	-6%	15,464	15,370	1%	22,443	21,738	3%
Non-op. income (exp.)	196	196		116	116		116	116	
Pretax Income	10,273	10,969	-6%	15,580	15,486	1%	22,559	21,854	3%
Taxes	2,056	2,195		3,118	3,099		4,515	4,374	
Net income	8,217	8,774	-6%	12,462	12,386	1%	18,044	17,481	3%
Reported EPS	**187.79**	**232.09**	**-19%**	**272.45**	**327.66**	**-17%**	**394.48**	**462.42**	**-15%**
Margins									
Gross margin	69.0%	70.4%	-1 ppt	70.9%	70.9%	0 ppt	71.8%	71.8%	0 ppt
Operating margin	56.4%	58.2%	-2 ppt	59.4%	59.4%	0 ppt	62.0%	61.7%	0 ppt
Pretax margin	57.5%	59.3%	-2 ppt	59.9%	59.8%	0 ppt	62.3%	62.1%	0 ppt
Net margin	46.0%	47.4%	-1 ppt	47.9%	47.8%	0 ppt	49.8%	49.7%	0 ppt

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

Exhibit 21: Aspeed: Quarterly financials

NT$ in million (YE DEC31)	1Q26	2Q26E	3Q25E	4Q26E	1Q27E	2Q27E	3Q27E	4Q27E	1Q28E	2Q28E	3Q28E	4Q28E	2024	2025	2026E	2027E	2028E
Total Revenues	3,147	3,871	4,726	6,122	5,331	6,002	7,115	7,579	8,260	8,993	9,308	9,644	6,460	9,085	17,866	26,027	36,206
Sequential Change	*28.8%*	*23.0%*	*22.1%*	*29.5%*	*-12.9%*	*12.6%*	*18.6%*	*6.5%*	*9.0%*	*8.9%*	*3.5%*	*3.6%*					
Change vs Year Ago	*52.4%*	*72.3%*	*102.8%*	*150.6%*	*69.4%*	*55.0%*	*50.6%*	*23.8%*	*54.9%*	*49.8%*	*30.8%*	*27.3%*	*106.4%*	*40.6%*	*96.7%*	*45.7%*	*39.1%*
Cost of Sales	970	1,219	1,489	1,857	1,549	1,745	2,074	2,216	2,353	2,545	2,621	2,699	2,306	2,906	5,534	7,584	10,218
Percent of Revenues	*31%*	*31%*	*32%*	*30%*	*29%*	*29%*	*29%*	*29%*	*28%*	*28%*	*28%*	*28%*	*36%*	*32%*	*31%*	*29%*	*28%*
Gross Margin	2,177	2,653	3,237	4,265	3,782	4,257	5,041	5,363	5,907	6,448	6,688	6,946	4,154	6,179	12,332	18,443	25,988
Percent of Revenues	*69.2%*	*68.5%*	*68.5%*	*69.7%*	*70.9%*	*70.9%*	*70.8%*	*70.8%*	*71.5%*	*71.7%*	*71.8%*	*72.0%*	*64.3%*	*68.0%*	*69.0%*	*70.9%*	*71.8%*
Incremental Margin	*72%*	*66%*	*68%*	*74%*	*NM*	*71%*	*70%*	*69%*	*80%*	*74%*	*76%*	*77%*	*64%*	*77%*	*70%*	*75%*	*74%*
Total Opex	518	549	583	605	716	729	762	771	865	880	896	904	1,235	1,518	2,255	2,978	3,545
Percent of Revenues	*16.5%*	*14.2%*	*12.3%*	*9.9%*	*13.4%*	*12.2%*	*10.7%*	*10.2%*	*10.5%*	*9.8%*	*9.6%*	*9.4%*	*19.1%*	*16.7%*	*12.6%*	*11.4%*	*9.8%*
R&D	350	370	390	390	450	450	460	460	500	500	510	510	829	1,042	1,501	1,820	2,020
Percent of Revenues	*11.1%*	*9.6%*	*8.3%*	*6.4%*	*8.4%*	*7.5%*	*6.5%*	*6.1%*	*6.1%*	*5.6%*	*5.5%*	*5.3%*	*12.8%*	*11.5%*	*8.4%*	*7.0%*	*5.6%*
General & administrative	118	118	118	118	159	159	159	159	200	200	200	201	286	349	473	638	801
Percent of Revenues	*3.8%*	*3.1%*	*2.5%*	*1.9%*	*3.0%*	*2.7%*	*2.2%*	*2.1%*	*2.4%*	*2.2%*	*2.1%*	*2.1%*	*4.4%*	*3.8%*	*2.6%*	*2.4%*	*2.2%*
Selling & marketing	49	61	74	96	107	120	142	152	165	180	186	193	120	128	281	521	724
Percent of Revenues	*1.6%*	*1.6%*	*1.6%*	*1.6%*	*2.0%*	*2.0%*	*2.0%*	*2.0%*	*2.0%*	*2.0%*	*2.0%*	*2.0%*	*1.9%*	*1.4%*	*1.6%*	*2.0%*	*2.0%*
Operating Income	1,659	2,103	2,654	3,660	3,066	3,527	4,279	4,592	5,042	5,568	5,791	6,042	2,918	4,660	10,077	15,464	22,443
Percent of Revenues	*52.7%*	*54.3%*	*56.2%*	*59.8%*	*57.5%*	*58.8%*	*60.1%*	*60.6%*	*61.0%*	*61.9%*	*62.2%*	*62.6%*	*45.2%*	*51.3%*	*56.4%*	*59.4%*	*62.0%*
Change vs Year Ago	*61.5%*	*77.6%*	*115.5%*	*200.6%*	*84.8%*	*67.7%*	*61.2%*	*25.5%*	*64.5%*	*57.8%*	*35.3%*	*31.6%*	*170%*	*60%*	*116%*	*53%*	*45%*
Total Non-operating Income(Loss)	109	29	29	29	29	29	29	29	29	29	29	29	249	195	196	116	116
Profit Before Taxes	1,768	2,132	2,683	3,689	3,095	3,556	4,308	4,621	5,071	5,597	5,820	6,071	3,167	4,855	10,273	15,580	22,559
Percent of Revenues	*56%*	*55%*	*57%*	*60%*	*58%*	*59%*	*61%*	*61%*	*61%*	*62%*	*63%*	*63%*	*49%*	*53%*	*58%*	*60%*	*62%*
Taxes	354	427	537	738	619	712	862	925	1,015	1,120	1,165	1,215	596	928	2,056	3,118	4,515
Tax Rate	*20.0%*	*20.0%*	*20.0%*	*20.0%*	*20.0%*	*20.0%*	*20.0%*	*20.0%*	*20.0%*	*20.0%*	*20.0%*	*20.0%*	*18.8%*	*19.1%*	*20.0%*	*20.0%*	*20.0%*
Net Income, Cont Ops	1,414	1,706	2,146	2,951	2,475	2,845	3,446	3,696	4,056	4,477	4,656	4,856	2,571	3,928	8,217	12,462	18,044
Percent of Revenues	*45%*	*44%*	*45%*	*48%*	*46%*	*47%*	*48%*	*49%*	*49%*	*50%*	*50%*	*50%*	*40%*	*43%*	*46%*	*48%*	*50%*
Reported Income (TW GAAP)	**1,414**	**1,706**	**2,146**	**2,951**	**2,475**	**2,845**	**3,446**	**3,696**	**4,056**	**4,477**	**4,656**	**4,856**	**2,571**	**3,928**	**8,217**	**12,462**	**18,044**
Percent of Revenues	*45%*	*44%*	*45%*	*48%*	*46%*	*47%*	*48%*	*49%*	*49%*	*50%*	*50%*	*50%*	*40%*	*43%*	*46%*	*48%*	*50%*
Change vs Year Ago	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*155%*	*53%*	*109%*	*52%*	*45%*
Reported EPS (NT$, TW GAAP)	**37.41**	**37.29**	**46.92**	**64.51**	**54.11**	**62.19**	**75.34**	**80.81**	**88.67**	**97.87**	**101.78**	**106.16**	**68.05**	**103.94**	**187.79**	**272.45**	**394.48**
Change vs Year Ago	*60%*	*124%*	*46%*	*104%*	*45%*	*67%*	*61%*	*25%*	*64%*	*57%*	*35%*	*31%*	*155%*	*53%*	*81%*	*45%*	*45%*

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

Aspeed: Valuation Methodology

We cut our price target (base case scenario value) from NT$23,456 to NT$20,888: This reflects our EPS changes in 2026-2028e and shares outstanding changes from share dividend issuance.

Our key assumptions are unchanged, including:

- Medium-term growth rate of 21.4%
- Terminal growth rate of 5.5%
- Cash payout ratio of 85%
- Cost of equity of 9.8% (2% risk-free rate, 6% risk premium, 1.3 beta)

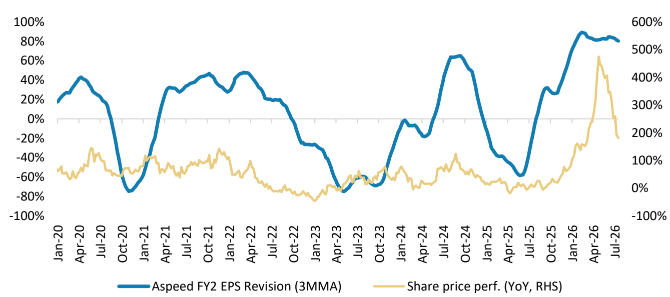
Our bull and bear case scenario values also decrease from NT$28,700 and NT$11,300, to NT$25,500 and NT$10,000, respectively, implying 94/65x and 37/25x our 2027e/2028e EPS estimates.

Exhibit 22: Aspeed: Residual income model

NT$million	2026E	2027E	2028E	2029E	2030E	2031E	2032E	2033E	2034E	2035E	2036E	2037E
Total Equity	**12,509**	**18,079**	**25,655**	**30,804**	**37,056**	**44,647**	**53,865**	**65,059**	**78,650**	**95,153**	**115,193**	**139,525**
Net Profit	**8,217**	**12,462**	**18,044**	**21,910**	**26,605**	**32,305**	**39,226**	**47,631**	**57,836**	**70,227**	**85,274**	**103,544**
ROAE	**81.8%**	**81.5%**	**82.5%**	**77.6%**	**78.4%**	**79.1%**	**79.6%**	**80.1%**	**80.5%**	**80.8%**	**81.1%**	**81.3%**
Residual Income	5,456	8,970	13,151	17,404	21,142	25,680	31,190	37,881	46,005	55,869	67,847	82,390
Spread	**72.1%**	**71.7%**	**72.7%**	**67.8%**	**68.6%**	**69.3%**	**69.9%**	**70.3%**	**70.7%**	**71.0%**	**71.3%**	**71.5%**
Ending Equity Capital	12,509											
PV of Forecast Period	173,082											
PV of Continuing Value	728,390											
Equity Value	**913,981**											
No. of Shares	44											
Projected Price	**20,888**											

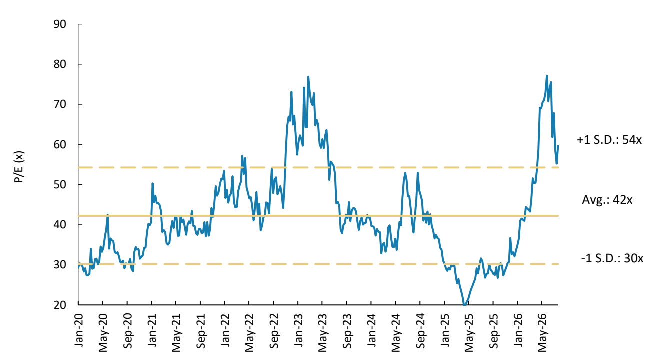
Source: Company data, Morgan Stanley Research (E) estimates

Exhibit 23: Aspeed: Estimate revision breadth



Source: Company data, Morgan Stanley Research estimates

Exhibit 24: Aspeed: Forward P/E ratio



Source: Company data, Morgan Stanley Research estimates

Risk Reward – Aspeed Technology (5274.TWO)

Agentic AI demand for general server driving further upside; OW

PRICE TARGET NT$20,888.00

Base case, residual income model. Key assumptions:
- Cost of equity of 9.8% (2.0% risk-free rate, 6% risk premium, 1.3 beta)
- Medium-term growth rate of 21.4%
- Terminal growth rate of 5.5%
- Cash payout ratio of 85%

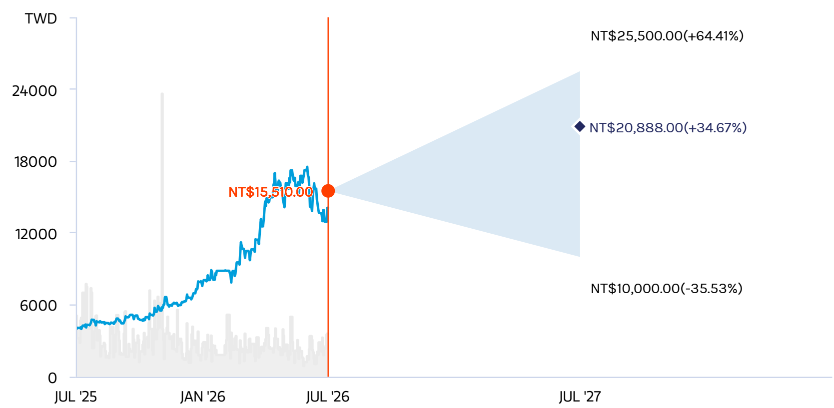
Consensus Price Target Distribution

NT$6,727.27 — NT$18,562.27 — MS PT — NT$22,727.27

Mean ◆ Morgan Stanley Estimates

Source: Refinitiv, Morgan Stanley Research

RISK REWARD CHART



Key: Historical Stock Performance ● Current Stock Price ◆ Price Target

Source: Refinitiv, Morgan Stanley Research

OVERWEIGHT THESIS

- We see continual general server shipment upward revisions, likely to exceed 40% Y/Y in 2026.
- Aspeed's shipments are currently capped by T-glass shortage, but the company is now qualifying E-glass, which we believe can help expand its shipments to over 2mn units per month.
- Aspeed maintains the lion's share in ASIC racks. Google TPU has long adopted MCU, while we see it utilizing Aspeed's BMC in its next-generation TPU. We expect this to contribute 13% of revenue in each 2027 and 2028.
- Our price target implies 77x our 2027e and 53x our 2028e EPS, above the 42x average one-year forward P/E since 2020, which we find justified by improving demand and new market share expansion.

Consensus Rating Distribution

94%	Overweight
6%	Equal-weight
0%	Underweight

● MS Rating

Source: Refinitiv, Morgan Stanley Research

Risk Reward Themes

Secular Growth: *Positive*

View descriptions of Risk Rewards Themes here

BULL CASE NT$25,500.00

94x 2027e EPS

Booming data center demand with significant share gains; meaningful OPM expansion; new businesses take off faster than expected: Significant earnings growth from data center demand and market share gains in white brands and US server brands. Margins improve considerably. New business growth accelerates. We also assume AI servers fully ramp-up, and clients execute new server platform migration faster than expected.

BASE CASE NT$20,888.00

77x 2027e EPS

Cloud/traditional servers momentum resuming; remains a beneficiary of ASICs; new business bears fruit: 1) Revenue growth of 97% Y/Y in 2026 after strong growth in 2025; 2) gross margin of 69% in 2026 vs. 68.1% in 2025, OPM improves to 56.4% in 2026 vs. 52.2% in 2025; 3) TPU gets more demand from Aspeed's BMC and agentic AI drives more general server demand.

BEAR CASE NT$10,000.00

37x 2027e EPS

Disappointing end-demand, with share loss; operating margin pressure; new businesses face challenges: Revenue growth decelerates amid slow data center demand and share loss amid a weakening macro environment. OPM pressure emerges amid intense competition. New businesses stay flattish as end-markets take off more slowly.

Risk Reward – Aspeed Technology (5274.TWO)

KEY EARNINGS INPUTS

Drivers	Dec 2025	Dec 2026e	Dec 2027e	Dec 2028e
BMC revenue (NT$, mn)	8,024	16,433	23,621	32,204
360 degree SoC revenue (NT$, mn)	62	67	95	154
PC/AV extension IC revenue (NT$, mn)	105	44	47	52

INVESTMENT DRIVERS

- Expanding share in baseboard management controller (BMC) market
- Cloud spending acceleration from customers
- Margin expansion
- New business progress

GLOBAL REVENUE EXPOSURE

- 0-10% Latin America
- 0-10% MEA
- 0-10% UK
- 10-20% Europe ex UK
- 20-30% APAC, ex Japan, Mainland China and India
- 20-30% Mainland China
- 20-30% North America

Source: Morgan Stanley Research Estimate
View explanation of regional hierarchies here

RISKS TO PT/RATING

RISKS TO UPSIDE

- Stronger cloud demand
- Faster-than-expected spec migration
- Mild competition

RISKS TO DOWNSIDE

- Softening cloud demand
- Slower-than-expected spec migration
- Intensified competition
- Further policy tightening in China

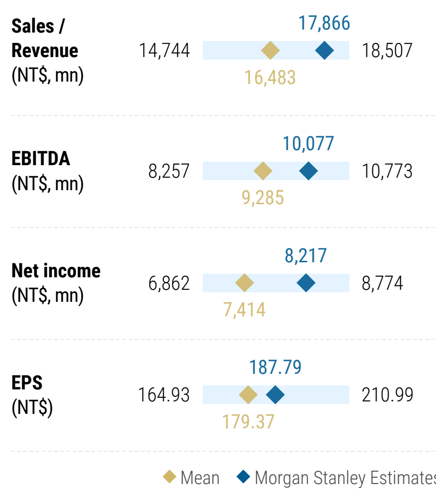
OWNERSHIP POSITIONING

Inst. Owners, % Active 71.3%

Source: Refinitiv, Morgan Stanley Research

MS ESTIMATES VS. CONSENSUS

FY Dec 2026e



Source: Refinitiv, Morgan Stanley Research

Aspeed: Financial Summary

Income Statement

NT$mn (Years End Dec)	2024	2025	2026E	2027E	2028E
Net sales	6,460	9,085	17,866	26,027	36,206
COGS	(2,306)	(2,906)	(5,534)	(7,584)	(10,218)
Gross profit	4,154	6,179	12,332	18,443	25,988
Operating expenses	(1,235)	(1,518)	(2,255)	(2,978)	(3,545)
Operating income	**2,918**	**4,660**	**10,077**	**15,464**	**22,443**
Non-operating income	249	195	196	116	116
Pre-tax income	3,167	4,855	10,273	15,580	22,559
Income tax	596	928	2,056	3,118	4,515
Reported net Income	**2,571**	**3,928**	**8,217**	**12,462**	**18,044**
Adj.wtd.avg.shrs(m)	38	38	41	42	42
Reported EPS (NT$)	**68.05**	**103.94**	**187.79**	**272.45**	**394.48**

Balance Sheet

NT$mn (Years End Dec)	2024	2025	2026E	2027E	2028E
Cash	3,659	5,788	9,359	13,675	19,699
Mkt Securities	352	510	510	510	510
AR/NR	1,437	1,606	2,993	4,359	6,064
Inventory	357	280	606	831	1,120
Other	181	224	224	224	224
Current Assets	**5,987**	**8,408**	**13,693**	**19,600**	**27,618**
Long-term investments	0	0	0	0	0
Fixed assets	355	409	439	469	499
Deferred assets	69	59	59	59	59
Other assets	1,316	1,457	1,457	1,457	1,457
Total Assets	**7,726**	**10,334**	**15,648**	**21,585**	**29,633**
S/T borrowings	0	0	0	0	0
AP/NP	426	616	992	1,359	1,831
Other ST liabilities	1,457	1,828	1,828	1,828	1,828
LT debt	0	0	0	0	0
Other LT liabilities	204	319	319	319	319
Common shares	378	378	378	378	378
Total Liabilities	**2,087**	**2,763**	**3,139**	**3,506**	**3,978**
Additional capital	2,440	2,665	2,665	2,665	2,665
Retained earning	2,851	4,529	9,468	15,037	22,613
Other shareholders' equity	(31)	(2)	(2)	(2)	(2)
Total Equity	**5,639**	**7,571**	**12,509**	**18,079**	**25,655**
Total Liab. & Shrhldr's Equity	**7,726**	**10,334**	**15,648**	**21,585**	**29,633**

E = Morgan Stanley Research Estimates

Source: Morgan Stanley Research, Company Data

Cash Flow Statement

NT$mn (Years End Dec)	2024	2025	2026E	2027E	2028E
Cashflow from Operations	**3,145**	**4,496**	**6,880**	**11,238**	**16,523**
Net profits	2,571	3,928	8,217	12,462	18,044
Depreciation	121	167	0	0	0
Working Capital Change	(66)	453	(1,337)	(1,224)	(1,522)
Other adjustments	519	(52)	0	0	0
Cashflow from Investing	**(345)**	**(395)**	**(30)**	**(30)**	**(30)**
Capex	(25)	(274)	(30)	(30)	(30)
Change of LT Investment	0	0	0	0	0
Change of ST Investment	43	(128)	0	0	0
Other adjustments	(363)	8	0	0	0
Cashflow from financing	**(781)**	**(1,991)**	**(3,279)**	**(6,893)**	**(10,468)**
Increase in L/T debt	0	0	0	0	0
Increase in S/T debt	0	0	0	0	0
Cash Dividend Paid	(756)	(1,967)	(3,279)	(6,893)	(10,468)
Dir& Emp Bonus Paid	0	0	0	0	0
Issuance of stock	0	0	0	0	0
Other adjustments	(25)	(25)	0	0	0
Exchange rate adjustment	30	19	0	0	0
Net change in cash	**2,048**	**2,129**	**3,571**	**4,316**	**6,024**

Financial Ratios

	2024	2025	2026E	2027E	2028E
Growth(%)					
Turnover	106.4	40.6	96.7	45.7	39.1
Operating profits	170.3	59.7	116.2	53.5	45.1
EPS	155.2	52.7	80.7	45.1	44.8
Margins (%)					
Gross Margin	64.3	68.0	69.0	70.9	71.8
Operating Margin	45.2	51.3	56.4	59.4	62.0
Pretax Margin	49.0	53.4	57.5	59.9	62.3
Net Margin	39.8	43.2	46.0	47.9	49.8
Return (%)					
ROAE	54.3	59.5	81.8	81.5	82.5
ROAA	41.9	43.5	63.3	66.9	70.5
Gearing (%)					
Net Debt/Equity	(64.9)	(76.5)	(74.8)	(75.6)	(76.8)
Liabilities/Equity	37.0	36.5	25.1	19.4	15.5
Ratios (X)					
Current ratio	3.2	3.4	4.9	6.1	7.5
Quick ratio	2.7	3.0	4.4	5.7	7.0
Others					
AR/NR Turnover (days)	61	61	61	61	61
Inventory Turnover (days)	52	40	40	40	40
AP Turnover (days)	53	65	65	65	65
Cash Conversion (days)	60	36	36	36	36

Valuation Methodology and Risks

Montage Technology Co Ltd (688008.SS)

Base case, residual income model. Key assumptions:

- 8.4% CoE (1.2 beta, 3.0% risk-free rate, and 4.5% risk premium)
- 30% payout ratio
- 19.3% medium-term growth rate
- 4% terminal growth rate

We believe these assumptions are justified, given the cloud capex growth, DRAM interface technology migration, and Montage's strong position in China's datacenter semi localization.

Risks to Upside

- Faster-than-expected phase-out of US peers
- Faster-than-expected spec migration

Risks to Downside

- Weaker-than-expected cloud demand
- Slower-than-expected DRAM interface technology migration
- Delay in new product launches

Risk Reward Reference links

1. View explanation of Options Probabilities methodology - Options_Probabilities_Exhibit_Link.pdf

2. View descriptions of Risk Rewards Themes - RR_Themes_Exhibit_Link.pdf

3. View explanation of regional hierarchies - GEG_Exhibit_Link.pdf

4. View explanation of Theme/Exposure methodology - ESG_Sustainable_Solutions_External_Link.pdf

5. View explanation of HERS methodology - ESG_HERS_External_Link.pdf

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(as of June 30, 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	1544	42%	453	49%	29%	757	44%
Equal-weight/Hold	1577	43%	390	42%	25%	769	44%
Not-Rated/Hold	3	0%	1	0%	33%	1	0%
Underweight/Sell	544	15%	89	10%	16%	204	12%
Total	3,668		933			1731	

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.

Underweight (U). The stock's total return is expected to be below 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.

Unless otherwise specified, the time frame for price targets included in Morgan Stanley Research is 12 to 18 months.

Analyst Industry Views

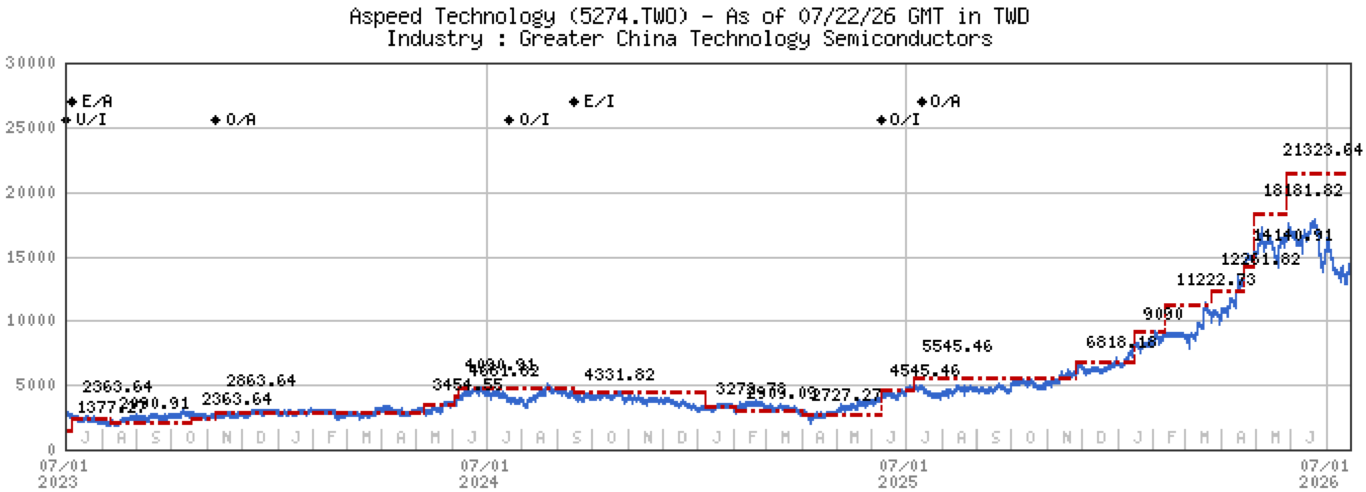
Attractive (A): The analyst expects the performance of his or her industry coverage universe over the next 12-18 months to be attractive vs. the relevant broad market benchmark, as indicated below.

In-Line (I): The analyst expects the performance of his or her industry coverage universe over the next 12-18 months to be in line with the relevant broad market benchmark, as indicated below.

Cautious (C): The analyst views the performance of his or her industry coverage universe over the next 12-18 months with caution vs. the relevant broad market benchmark, as indicated below.

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: 7/1/21 : O/I; 10/12/21 : O/C; 5/20/22 : E/C; 10/4/22 : E/A; 1/11/23 : U/A; 2/22/23 : U/I; 7/7/23 : E/A; 11/8/23 : O/A; 7/21/24 : O/I; 9/15/24 : E/I; 6/9/25 : O/I; 7/14/25 : O/A

Price Target History: 6/3/21 : 2111.57; 11/16/21 : 2809.92; 4/8/22 : 3305.79; 5/20/22 : 1983.47; 7/13/22 : 1983.64; 7/19/22 : 1545.45; 10/12/22 : 1450; 1/11/23 : 1377.27; 7/7/23 : 2363.64; 8/8/23 : 2090.91; 10/19/23 : 2363.64; 11/8/23 : 2863.64; 5/7/24 : 3454.55; 6/3/24 : 4090.91; 6/7/24 : 4681.82; 9/15/24 : 4331.82; 1/8/25 : 3272.73; 2/3/25 : 2909.09; 4/1/25 : 2727.27; 6/9/25 : 4545.46; 7/7/25 : 5545.46; 11/26/25 : 6818.18; 1/15/26 : 9090; 2/11/26 : 11222.73; 3/23/26 : 12261.82; 4/20/26 : 14140.91; 4/29/26 : 18181.82; 5/28/26 : 21323.64

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) —

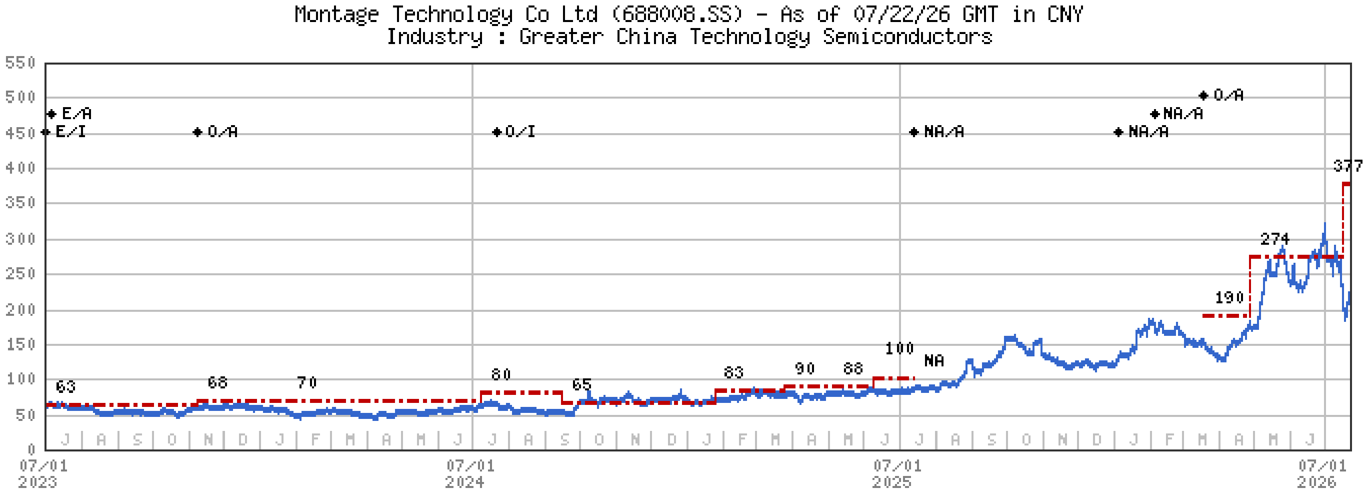
Stock and Industry Ratings (abbreviations below) appear as ◆ Stock Rating/Industry View

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)

Effective January 13, 2014, the stocks covered by Morgan Stanley Asia Pacific will be rated relative to the analyst's industry (or industry team's) coverage.

Effective January 13, 2014, the industry view benchmarks for Morgan Stanley Asia Pacific are as follows: relevant MSCI country index or MSCI sub-regional index or MSCI AC Asia Pacific ex Japan Index.



Stock Rating History: 7/1/21 : E/I; 10/12/21 : E/C; 5/20/22 : U/C; 10/4/22 : U/A; 12/13/22 : O/A; 2/22/23 : O/I; 5/4/23 : E/I; 7/7/23 : E/A; 11/8/23 : O/A; 7/21/24 : O/I; 7/14/25 : NA/A; 1/5/26 : NA/A; 2/4/26 : NA/A; 3/18/26 : O/A

Price Target History: 5/5/21 : 55; 10/29/21 : 62; 11/16/21 : 80; 4/8/22 : 60; 5/20/22 : 52; 7/19/22 : 44; 10/12/22 : 38; 12/13/22 : 85; 1/11/23 : 78; 5/4/23 : 63; 11/8/23 : 68; 1/23/24 : 70; 7/8/24 : 80; 9/15/24 : 65; 1/24/25 : 83; 3/25/25 : 90; 5/6/25 : 88; 6/9/25 : 100; 7/14/25 : NA; 3/18/26 : 190; 4/28/26 : 274; 7/16/26 : 377

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)

Effective January 13, 2014, the stocks covered by Morgan Stanley Asia Pacific will be rated relative to the analyst's industry (or industry team's) coverage.

Effective January 13, 2014, the industry view benchmarks for Morgan Stanley Asia Pacific are as follows: relevant MSCI country index or MSCI sub-regional index or MSCI AC Asia Pacific ex Japan Index.

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INDUSTRY COVERAGE: Greater China Technology Semiconductors

COMPANY (TICKER)	RATING (AS OF)	PRICE* (07/22/2026)
Charlie Chan		
ACM Research Inc (ACMR.O)	O (03/07/2023)	US$89.51
Advanced Micro-Fabrication Equipment Inc (688012.SS)	O (11/06/2023)	Rmb392.99
Advanced Wireless Semiconductor Co (8086.TWO)	U (07/14/2025)	NT$122.50
Alchip Technologies Ltd (3661.TW)	O (05/14/2021)	NT$3,590.00
ASE Technology Holding Co. Ltd. (3711.TW)	O (09/15/2024)	NT$656.00
Cambricon Technology Corporation (688256.SS)	O (04/27/2026)	Rmb1,310.00
Global Unichip Corp (3443.TW)	O (06/24/2026)	NT$4,370.00
GlobalWafers Co Ltd (6488.TWO)	E (05/19/2026)	NT$1,240.00
Gudeng Precision (3680.TWO)	O (11/25/2025)	NT$494.00
Hua Hong Semiconductor Ltd (1347.HK)	E (03/12/2026)	HK$161.50
Iluvatar CoreX Semiconductor Co., Ltd. (9903.HK)	O (04/27/2026)	HK$585.00
King Yuan Electronics Co Ltd (2449.TW)	O (03/03/2023)	NT$295.00
Maxscend Microelectronics Co Ltd (300782.SZ)	U (01/11/2021)	Rmb74.07
MediaTek (2454.TW)	O (11/28/2025)	NT$3,850.00
MetaX Integrated Circuits (688802.SS)	E (04/27/2026)	Rmb845.00
Nanya Technology Corp. (2408.TW)	O (05/28/2026)	NT$445.50
NAURA Technology Group Co Ltd (002371.SZ)	O (11/06/2023)	Rmb764.00
OmniVision Integrated Circuits Group Inc (603501.SS)	E (11/17/2025)	Rmb101.98
Phison Electronics Corp (8299.TWO)	E (02/25/2026)	NT$1,915.00
SG Micro Corp. (300661.SZ)	E (11/03/2025)	Rmb106.11
Silergy Corp. (6415.TW)	U (05/19/2026)	NT$483.50
SMIC (0981.HK)	O (10/21/2025)	HK$72.90
TSMC (2330.TW)	O (02/07/2022)	NT$2,400.00
UMC (2303.TW)	O (05/19/2026)	NT$139.00
Vanguard International Semiconductor (5347.TWO)	E (01/14/2026)	NT$171.00
WIN Semiconductors Corp (3105.TWO)	U (07/14/2025)	NT$359.00

Daisy Dai, CFA		
ASMPT Ltd (0522.HK)	O (07/24/2025)	HK$169.10
China Resources Microelectronics Limited (688396.SS)	U (03/02/2026)	Rmb63.10
Empyrean Technology Co Ltd (301269.SZ)	E (01/17/2025)	Rmb98.13
Hangzhou Silan Microelectronics Co. Ltd. (600460.SS)	U (08/25/2025)	Rmb33.19
Hygon Information Technology Co., Ltd. (688041.SS)	O (07/03/2026)	Rmb331.60
Innoscience (2577.HK)	E (10/13/2025)	HK$47.10
JCET Group Co Ltd (600584.SS)	E (01/16/2026)	Rmb85.78
Shanghai Fudan Microelectronics (1385.HK)	O (03/07/2025)	HK$26.76
SICC Co Ltd (688234.SS)	O (03/20/2026)	Rmb99.47
StarPower Semiconductor Ltd (603290.SS)	E (05/14/2026)	Rmb86.77
Unigroup Guoxin Microelectronics Co Ltd (002049.SZ)	U (01/10/2023)	Rmb66.24
Universal Scientific Ind. (Shanghai) (601231.SS)	O (11/05/2025)	Rmb24.39
Yangjie Technology (300373.SZ)	O (06/10/2022)	Rmb96.30
Daniel Yen, CFA		
AP Memory Technology Corp (6531.TW)	O (07/11/2025)	NT$908.00
ASMedia Technology Inc (5269.TW)	U (10/03/2025)	NT$1,415.00
Aspeed Technology (5274.TWO)	O (06/09/2025)	NT$15,510.00
Egis Technology Inc (6462.TWO)	E (01/28/2026)	NT$101.00
Elan Microelectronics Corp (2458.TW)	O (10/03/2025)	NT$174.50
Espressif Systems (688018.SS)	O (05/15/2023)	Rmb112.47
GigaDevice Semiconductor Beijing Inc (603986.SS)	O (05/15/2025)	Rmb470.00
Macronix International Co Ltd (2337.TW)	O (09/18/2025)	NT$135.00
Montage Technology Co Ltd (6809.HK)	O (03/18/2026)	HK$319.40
Montage Technology Co Ltd (688008.SS)	O (03/18/2026)	Rmb223.00
Novatek (3034.TW)	U (02/04/2026)	NT$501.00
Nuvoton Technology Corporation (4919.TW)	U (11/10/2025)	NT$143.00
Parade Technologies Ltd (4966.TWO)	O (05/27/2026)	NT$612.00
Powerchip Semiconductor Manufacturing Co (6770.TW)	O (10/27/2025)	NT$67.90
Realtek Semiconductor (2379.TW)	E (01/30/2026)	NT$743.00
Shenzhen Goodix Technology Co Ltd (603160.SS)	U (07/14/2025)	Rmb50.56
Winbond Electronics Corp (2344.TW)	O (05/28/2026)	NT$171.00
WPG Holdings (3702.TW)	O (03/16/2026)	NT$118.00
WT Microelectronics Co. Ltd. (3036.TW)	O (01/27/2026)	NT$197.50
Duan Liu		
Dosilicon Co Ltd (688110.SS)	U (09/06/2024)	Rmb120.15
Shenzhen Longsys Electronics Co Ltd (301308.SZ)	E (02/25/2026)	Rmb388.45
Tiffany Yeh		
AllRing Tech Co. (6187.TWO)	O (09/23/2025)	NT$1,055.00
FOCI Fiber Optic Communications Inc (3363.TWO)	O (01/15/2025)	NT$566.00
Himax Technologies Inc (HIMX.O)	E (02/04/2026)	US$13.62
Hon Precision (7769.TW)	O (04/17/2026)	NT$6,405.00
MPI Corporation (6223.TWO)	O (04/17/2026)	NT$6,000.00
Silicon Motion (SIMO.O)	O (05/06/2024)	US$281.68
WinWay Technology Co Ltd (6515.TW)	O (04/17/2026)	NT$6,500.00

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* Historical prices are not split adjusted.