Morgan Stanley | RESEARCH

IDEA

July 29, 2026 01:22 PM GMT

GlobalWafers Co Ltd | Asia Pacific

Wafer price hike expectations overestimated; Stay EW

WHAT'S CHANGED		
GlobalWafers Co Ltd (6488.TWO)	**From**	**To**
Price Target	NT$750.00	**NT$900.00**

We believe some investor expectations for LTA price hikes into 2027 are too high, although raw wafer industry fundamentals are indeed improving. Stay EW but raise PT to NT$900.

We expect 2027 LTA prices to rise by 10-30%, lower than some bullish street expectation of >30%: Early this year, we noted ongoing raw wafer price hikes alongside demand recovery. However, this year's increase comes mostly from the spot market, while LTA pricing remains stable. Our industry checks suggest LTA pricing could start to rise in 2027 (or remove the LTA discount) by 10-30%. LTA negotiations still occur once a year and should finalize by late 3Q26 or early 4Q26. However, our findings are still below some bullish investors' expectations of 10-20% hikes per quarter in 2027 or >30% annually. We therefore maintain EW.

What could be different this time from prior up-cycle in 2021-2022 when LTAs were signed? Compared to 2018-2022, customers' raw wafer inventory remains relatively high; see Exhibit 2 . Our checks suggest Tier 2 foundry customers still hold 6-7 months of inventory, making 2027 pricing negotiations harder. In addition, with limited greenfield capacity vs. the prior cycle (aside from GlobalWafers [GWC]), industry-wide price mark-ups into 2027 also look harder, in our view.

New Micron/GWC deal marks a new milestone for GWC: In our earlier report, we noted the company was negotiating a new LTA with either US or memory customers for its new Sherman capacity, and it turns out Micron is the new LTA customer with a commitment for further US capacity expansion. We currently assume the LTA pricing between Micron/GWC could be 20-30% higher than current LTA prices (after discounts) given the higher cost in the US. We believe as the only major global player with significant new US capacity, GWC is well positioned to outperform peers in the following years.

GWC will host its 2Q26 earnings call on August 4; key questions to ask: 1. When could supply/demand reach balance or even undersupply? 2. How is pricing different between GWA new capacity and others? 3. Would new LTA terms come with flexible pricing? 4. How does China's raw wafer supply expansion impact the global market?

Why not upgrade to OW? We keep EW as we believe buyside expectations for 2027 price hikes are too high despite improving raw wafer fundamentals. However, we also note 2027e LTA wafer prices are not finalized yet; we could turn more constructive if the magnitude surpasses our expectation. The stock trades at 24x our 2027e EPS vs. the 10-year historical +1SD of 25x, which looks fair given strong AI and memory demand. Our new PT of NT$900 implies 25x 2027e EPS.

MORGAN STANLEY TAIWAN LIMITED+

Charlie Chan
Equity Analyst
Charlie.Chan@morganstanley.com +886 2 2730-1725

Daniel Yen, CFA
Equity Analyst
Daniel.Yen@morganstanley.com +886 2 2730-2863

MORGAN STANLEY ASIA LIMITED+

Daisy Dai, CFA
Equity Analyst
Daisy.Dai@morganstanley.com +852 2848-7310

MORGAN STANLEY TAIWAN LIMITED+

Tiffany Yeh
Equity Analyst
Tiffany.Yeh@morganstanley.com +886 2 7712-3032

Lucas Wang
Research Associate
Lucas.Wang@morganstanley.com +886 2 2730-2875

MORGAN STANLEY ASIA LIMITED+

Ethan Jia
Research Associate
Ethan.Jia@morganstanley.com +852 3963-2287

GlobalWafers Co Ltd (6488.TWO, 6488 TT)

Greater China Technology Semiconductors | Taiwan

Stock Rating	**Equal-weight**
Industry View	**Attractive**
Price target	NT$900.00
Up/downside to price target (%)	4
Shr price, close (Jul 29, 2026)	NT$864.00
52-Week Range	NT$1,600.00-333.00
Sh out, dil, curr (mn)	437
Mkt cap, curr (mn)	NT$377,784
EV, curr (mn)	NT$417,739
Avg daily trading value (mn)	NT$3,249

Fiscal Year Ending	12/25	12/26e	12/27e	12/28e
EPS (NT$)**	15.28	27.70	35.81	50.94
Prior EPS (NT$)**	-	22.34	33.40	42.48
EPS (NT$)§	14.68	21.49	32.60	54.03
Revenue, net (NT$ mn)	60,598	63,873	90,728	113,214
EBITDA (NT$ mn)	17,585	19,189	31,945	45,255
ModelWare net inc (NT $ mn)	7,312	13,248	17,130	24,367

P/E	26.6	31.2	24.1	17.0
P/BV	2.1	4.1	3.8	3.3
RNOA (%)	6.2	5.3	11.1	15.8
ROE (%)	8.0	14.2	17.1	22.2
EV/EBITDA	13.3	21.4	12.7	8.7
Div yld (%)	2.7	1.3	1.9	2.5
FCF yld ratio (%)**	(11.1)	2.9	2.7	5.3
Leverage (EOP) (%)	42.8	32.4	26.8	14.4

Unless otherwise noted, all metrics are based on Morgan Stanley ModelWare framework
** = Based on consensus methodology
§ = Consensus data is provided by Refinitiv Estimates
e = Morgan Stanley Research estimates

AlphaSignals Earnings Preview

Focus KPI	Focus KPI Surprise	Likely impact to consensus EPS*
GlobalWafers Co Ltd 6488.TWO		
2Q26 margin and industry outlook	– In-line	– Largely unchanged

*Likely impact to consensus EPS is for the next 12 months
Source: Company data, Morgan Stanley Research

Better supply/demand dynamics into 2027/28e

2Q26 earnings and 3Q26 outlook preview: We expect 2Q26 gross margin to slightly improve from 1Q26 given better pricing (higher LTA fulfilment rate) and shipments, offset by ongoing ramp up of new capacity in both the US and Italy. Into 3Q26, we expect the UTR of those greenfield capacities to continue improving, suggesting around 10% Q/Q revenue growth and margins of 25-26%.

Exhibit 1: GWC: 2Q26 Earnings preview

GWC	2Q26				3Q26		
(NT$ mn)	Comments on Outlook	Actual	MS Est.	Consensus	Guidance	MS Est.	Consensus
Revenue	12" wafer demand strong 8" demand bottom out 6" weakest	15,214	15,214	15,586		16,702	17,015
Q/Q			*8.8%*	*11.5%*		*9.8%*	*9.2%*
Y/Y			*-5.0%*	*-2.6%*		*15.2%*	*17.4%*
GM (%)			23.3%	23.2%		25.7%	23.6%
OpM			13.6%	13.4%		16.5%	14.2%
EPS (NT$)			**12.18**	**4.50**		**5.52**	**5.12**

Source: Company Data, Visible Alpha, Morgan Stanley Research estimates

New Micron/GWC deal marks the new milestone for GWC

Micron Technology and GlobalWafers announced a deepened strategic partnership on July 9, 2026, centered on a 10-year supply agreement and US$500 million in strategic financing from Micron to support GlobalWafers' new 12-inch silicon wafer manufacturing facility in Sherman, Texas. The deal gives Micron access to significant raw silicon wafer capacity to support its long-term manufacturing plans, with financing tied to the buildout of GlobalWafers America's Sherman facility (GWA).

GlobalWafers' chairwoman Doris Hsu called it the largest and longest contract in the company's history, and the two companies will also collaborate on next-generation wafer technologies and process innovation. The Sherman plant is notable as the only US source of advanced 12-inch wafers.

The agreement is part of a broader US$3 bn commitment by Micron to strengthen the US semiconductor supply chain, announced alongside news that Micron is targeting to manufacture 40% of its DRAM domestically by the mid-2030s. We believe GWC is well position to supply ongoing foundry/memory capacity expansion in the US, not just to Micron, but also to TSMC and Samsung as well, who are already the two largest customers for GWC. We currently assume the LTA pricing between Micron/GWC could be 20-30% higher than current LTA price (after discount) given the higher cost in the US, which could be flat or slightly higher than those LTAs signed in 2021/2022.

Current inventory level still higher than prior up-cycle in 2021-2022 when those LTAs were signed

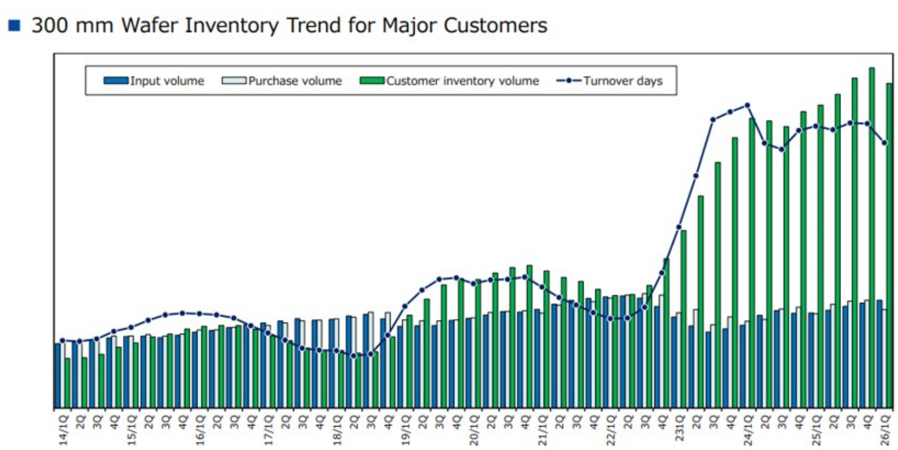
Notably, customer 12-inch wafer inventory level is still well above where it stood during the last industry up-cycle of 2018–2022. Per SUMCO's inventory trend chart (see Exhibit 2), turnover days and inventory volumes were actually near their lowest points of the entire 2014–2026 period around 2021–2022, reflecting a lean, well-utilized supply chain during that upswing. By contrast, the current cycle shows the opposite pattern: shipment volumes are near record highs, but so is customer inventory, with turnover days and inventory sitting well above anything seen even at the peak of the 2021–2022 up-cycle.

The setup looks meaningfully different from 2021–2022, and on balance it argues for a more muted and delayed price hike in 2027 rather than a repeat of the prior cycle's broad-based increases. In 2021–2022, wafer makers had genuine leverage: customer inventories were near cycle lows even as shipments hit records, meaning fabs were consuming nearly everything they bought with little buffer (a classic tight-supply setup that let wafer makers push through price increases across 12-inch wafers).

Today, shipments are also near highs, but customers are sitting on record inventory at the same time. That combination gives fabs a cushion to absorb demand growth or even a moderate supply disruption without immediately competing for marginal wafers, which historically is the dynamic that forces price concessions from buyers. Until that inventory overhang meaningfully draws down, wafer makers likely have less near-term pricing power than they did entering 2021–2022, and the "long-term contract prices maintained" comment by Sumco is consistent with what we think about 2027 LTA pricing, that wafer makers just hope to remove the discount rather than hiking nominal LTA pricing.

That said, silicon wafer capacity investment was notably more disciplined through the 2023–2025 downturn than in the 2021–2022 boom, and raw wafer capacity has long lead times to bring online (equipment lead time around 12-18 months), which is exactly the logic behind Micron's recent US$500M/10-year GlobalWafers deal. Hence, we expect 2027 pricing continues to improve but more selective and gradual than 2021–2022's broader hikes (10-20% in general, but 20-30% from GWC's US capacity).

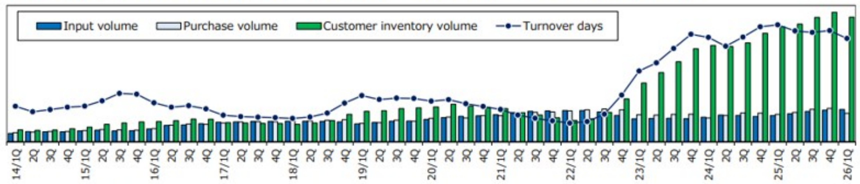
Exhibit 2: Customer 12-inch wafer inventory trend (May. 12, 2026)



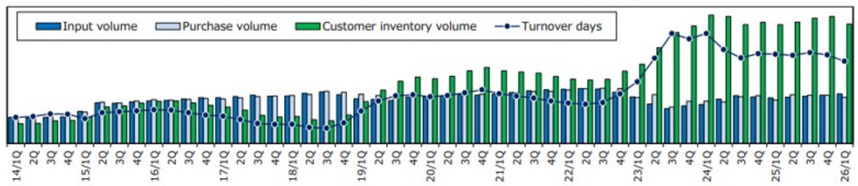
Source: Sumco

Exhibit 3: Customer 12-inch wafer inventory trend (Logic vs. memory; May. 12, 2026)

■ 300 mm Wafer Inventory Trend for Major Customers' Logic Applications



■ 300 mm Wafer Inventory Trend for Major Customers' Memory Applications

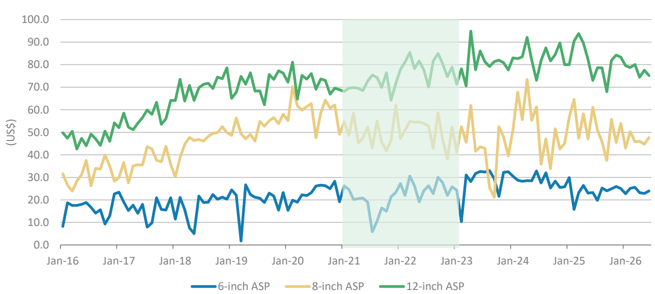


Source: Sumco

What was pricing like during the prior wafer up-cycle?

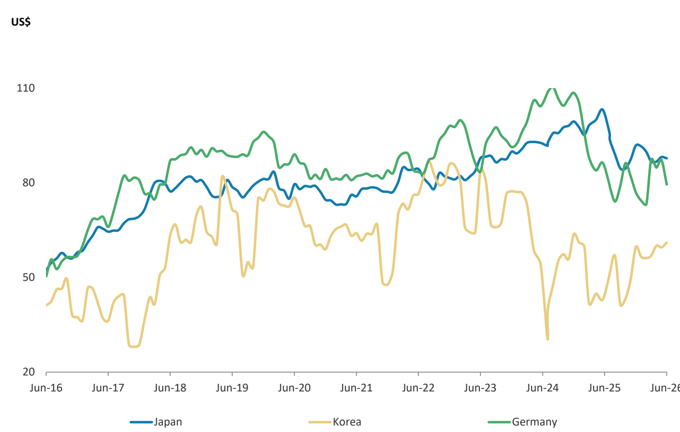
Back in 2022, 12-inch wafer prices (including both LTA and spot) increased by 12% on average, while 8-inch wafer pricing remains sluggish, suggesting the LTA mostly covered 12-inch wafer demand. Since pricing includes both LTA and spot market, we believe 12-inch LTA nominal pricing increased by at least 20-30% back in 2021/2022, which could be the cap for 2027e price hikes.

Exhibit 4: We expect memory to lift 12-inch wafer prices



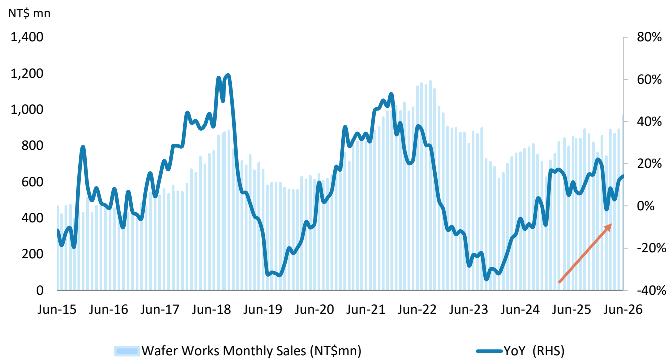
Source: Taiwan Customs CPT Single Window, Morgan Stanley Research

Exhibit 5: Japan 12-inch wafer prices have seen consecutive quarters of decline



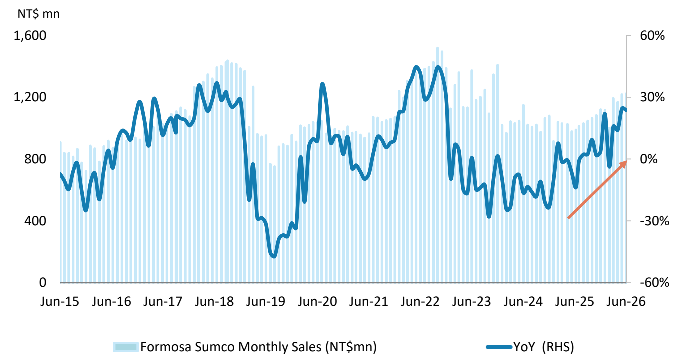
Source: Taiwan Customs CPT Single Window, Morgan Stanley Research

Exhibit 6: Wafer Works' monthly sales as 8-inch spot indicator



Source: TEJ, Morgan Stanley Research

Exhibit 7: Formosa Sumco's monthly sales as 12-inch spot indicator



Source: TEJ, Morgan Stanley Research

Estimate Revisions

We raise our EPS estimates 24%, 7% and 20% for 2026-28, respectively: Our 2026 EPS raise is mostly due to the investment gain in Siltronic. We raise 2027e and 2028e revenue and margin assumptions to factor in the tighter supply with potential price hikes into 2027-2028.

Exhibit 8: GlobalWafers: Earnings estimate revisions

(NT$ mn)	New 2026e	Old 2026e	Diff.%	New 2027e	Old 2027e	Diff.%	New 2028e	Old 2028e	Diff.%
Net sales	63,873	69,107	-8%	90,728	85,788	6%	113,214	98,141	15%
Gross profit	15,353	17,360	-12%	26,267	24,643	7%	36,724	31,237	18%
Operating profit	9,333	11,199	-17%	19,643	18,108	8%	29,301	23,905	23%
Pretax income	16,998	14,065	21%	22,840	21,305	7%	32,489	27,094	20%
Net income	13,248	10,684	24%	17,130	15,979	7%	24,367	20,320	20%
EPS for Consensus	**27.70**	**22.34**	**24%**	**35.81**	**33.40**	**7%**	**50.94**	**42.48**	**20%**
Margins									
Gross margin	24.0%	25.1%		29.0%	28.7%		32.4%	31.8%	
Operating margin	14.6%	16.2%		21.7%	21.1%		25.9%	24.4%	
Pretax margin	26.6%	20.4%		25.2%	24.8%		28.7%	27.6%	
Net margin	20.7%	15.5%		18.9%	18.6%		21.5%	20.7%	

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

Valuation Methodology

We raise our price target from NT$750 to NT$900: This factors in the changes to our earnings estimates. All of our key assumptions are unchanged, including a cost of equity of 11% (beta of 1.5, risk premium of 6% and risk-free rate of 2%), intermediate growth rate of 13%, and terminal growth rate of 4%.

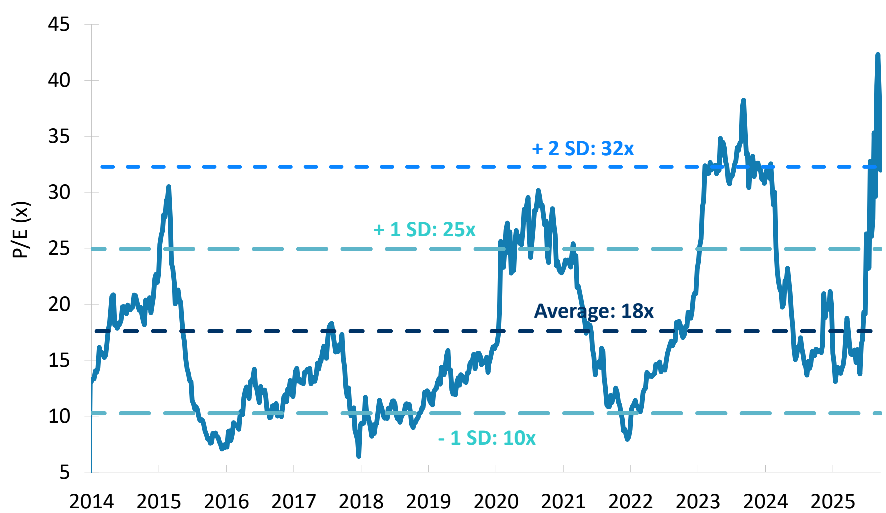
Our bull- and bear-case values also increase, from NT$950 and NT$380 to NT$1,140 and NT$450, respectively, implying P/Es of 32x and 13x 2027e.

Exhibit 9: GWC: Residual income model

(NT$ mn)	2026e	2027e	2028e	2029e	2030e	2031e	2032e	2033e	2034e	2035e	2036e	2037e
Total Equity	**100,345**	**109,526**	**123,615**	**130,655**	**138,611**	**147,601**	**157,760**	**169,240**	**182,211**	**196,870**	**213,433**	**232,150**
Net Profit	**13,248**	**17,130**	**24,367**	**27,535**	**31,114**	**35,159**	**39,730**	**44,894**	**50,731**	**57,326**	**64,778**	**73,199**
ROAE	**13.7%**	**16.3%**	**20.9%**	**21.7%**	**23.1%**	**24.6%**	**26.0%**	**27.5%**	**28.9%**	**30.2%**	**31.6%**	**32.9%**
Residual Income	2,504	5,343	10,847	13,175	15,823	18,807	22,172	25,965	30,242	35,066	40,507	46,647
Spread	**2.7%**	**5.3%**	**9.9%**	**10.7%**	**12.1%**	**13.6%**	**15.0%**	**16.5%**	**17.9%**	**19.2%**	**20.6%**	**21.9%**
Ending Equity Capital	100,345											
PV of Forecast Period	110,291											
PV of Continuing Value	219,889											
Equity Value	**430,525**											
No. of Shares	478											
Projected Price (NT$)	**900**											

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

Exhibit 10: GlobalWafers: One-year forward P/E chart



Source: Company data, Morgan Stanley Research estimates

Quarterly Financials

Exhibit 11: GlobalWafers: Quarterly financials

(NT$ mn)	1Q26	2Q26e	3Q26e	4Q26e	1Q27e	2Q27e	3Q27e	4Q27e	2024	2025	2026e	2027e	2028e
Total Revenues	**13,985**	**15,214**	**16,702**	**17,971**	**20,214**	**22,680**	**23,443**	**24,390**	**62,626**	**60,598**	**63,873**	**90,728**	**113,214**
Sequential Change	*-3.6%*	*8.8%*	*9.8%*	*7.6%*	*12.5%*	*12.2%*	*3.4%*	*4.0%*					
Change vs Year Ago	*-10.3%*	*-5.0%*	*15.2%*	*23.9%*	*44.5%*	*49.1%*	*40.4%*	*35.7%*	*-11.4%*	*-3.2%*	*5.4%*	*42.0%*	*24.8%*
Cost of Sales	**(11,071)**	**(11,672)**	**(12,412)**	**(13,365)**	**(14,447)**	**(16,114)**	**(16,557)**	**(17,343)**	**(42,823)**	**(45,974)**	**(48,520)**	**(64,461)**	**(76,490)**
Gross Profit	**2,914**	**3,543**	**4,290**	**4,607**	**5,767**	**6,566**	**6,886**	**7,047**	**19,804**	**14,624**	**15,353**	**26,267**	**36,724**
Gross Margin	20.8%	23.3%	25.7%	25.6%	28.5%	29.0%	29.4%	28.9%	31.6%	24.1%	24.0%	29.0%	32.4%
Total Opex	(1,438)	(1,481)	(1,531)	(1,570)	(1,594)	(1,653)	(1,677)	(1,699)	(5,685)	(5,987)	(6,020)	(6,623)	(7,423)
Percent of Revenues	*10.3%*	*9.7%*	*9.2%*	*8.7%*	*7.9%*	*7.3%*	*7.2%*	*7.0%*	*9.1%*	*9.9%*	*9.4%*	*7.3%*	*6.6%*
R&D	(471)	(476)	(481)	(486)	(600)	(610)	(615)	(620)	(2,363)	(2,218)	(1,914)	(2,445)	(2,740)
Percent of Revenues	*3.4%*	*3.1%*	*2.9%*	*2.7%*	*3.0%*	*2.7%*	*2.6%*	*2.5%*	*3.8%*	*3.7%*	*3.0%*	*2.7%*	*2.4%*
Sales and Marketing	(375)	(408)	(448)	(482)	(364)	(408)	(422)	(439)	(1,352)	(1,600)	(1,715)	(1,633)	(2,038)
Percent of Revenues	*2.7%*	*2.7%*	*2.7%*	*2.7%*	*1.8%*	*1.8%*	*1.8%*	*1.8%*	*2.2%*	*2.6%*	*2.7%*	*1.8%*	*1.8%*
General and Admin	(592)	(597)	(602)	(602)	(630)	(635)	(640)	(640)	(1,970)	(2,169)	(2,391)	(2,545)	(2,645)
Percent of Revenues	*4.2%*	*3.9%*	*3.6%*	*3.3%*	*3.1%*	*2.8%*	*2.7%*	*2.6%*	*3.1%*	*3.6%*	*3.7%*	*2.8%*	*2.3%*
Operating Income	**1,475**	**2,062**	**2,759**	**3,036**	**4,173**	**4,913**	**5,209**	**5,348**	**14,118**	**8,636**	**9,333**	**19,643**	**29,301**
Percent of Revenues	*10.5%*	*13.6%*	*16.5%*	*16.9%*	*20.6%*	*21.7%*	*22.2%*	*21.9%*	*22.5%*	*14.3%*	*14.6%*	*21.7%*	*25.9%*
Total Non-operating Income(Loss)	**871**	**5,220**	**759**	**816**	**821**	**779**	**794**	**803**	**(1,690)**	**880**	**7,666**	**3,197**	**3,188**
Profit Before Taxes	**2,347**	**7,281**	**3,518**	**3,853**	**4,994**	**5,692**	**6,003**	**6,151**	**12,429**	**9,516**	**16,998**	**22,840**	**32,489**
Percent of Revenues	*16.8%*	*47.9%*	*21.1%*	*21.4%*	*24.7%*	*25.1%*	*25.6%*	*25.2%*	*19.8%*	*15.7%*	*26.6%*	*25.2%*	*28.7%*
Change vs Year Ago	*10.0%*	*218.2%*	*60.8%*	*32.5%*	*112.8%*	*-21.8%*	*70.7%*	*59.7%*					
Taxes	(451)	(1,456)	(879)	(963)	(1,249)	(1,423)	(1,501)	(1,538)	(2,590)	(2,205)	(3,750)	(5,710)	(8,122)
Tax Rate	*19.2%*	*20.0%*	*25.0%*	*25.0%*	*25.0%*	*25.0%*	*25.0%*	*25.0%*	*20.8%*	*23.2%*	*22.1%*	*25.0%*	*25.0%*
Net Income, Cont Ops	1,896	5,825	2,638	2,889	3,746	4,269	4,502	4,613	9,839	7,312	13,248	17,130	24,367
Percent of Revenues	*13.6%*	*38.3%*	*15.8%*	*16.1%*	*18.5%*	*18.8%*	*19.2%*	*18.9%*	*15.7%*	*12.1%*	*20.7%*	*18.9%*	*21.5%*
Minority Interest	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	7	0	(0)	(0)	(0)
Reported Income (TW GAAP)	**1,896**	**5,825**	**2,638**	**2,889**	**3,746**	**4,269**	**4,502**	**4,613**	**9,846**	**7,312**	**13,248**	**17,130**	**24,367**
Percent of Revenues	*13.6%*	*38.3%*	*15.8%*	*16.1%*	*18.5%*	*18.8%*	*19.2%*	*18.9%*	*15.7%*	*12.1%*	*20.7%*	*18.9%*	*21.5%*
Change vs Year Ago	*30.2%*	*246.4%*	*34.0%*	*31.0%*	*97.6%*	*-26.7%*	*70.7%*	*59.7%*	*-50.2%*	*-25.7%*	*81.2%*	*29.3%*	*42.2%*
Reported Diluted EPS (NT$, TW GAAP)	**3.96**	**12.18**	**5.52**	**6.04**	**7.83**	**8.92**	**9.41**	**9.64**	**21.14**	**15.28**	**27.70**	**35.81**	**50.94**
Reported Basic EPS (NT$, GAAP)	**3.97**	**12.18**	**5.52**	**6.04**	**7.83**	**8.93**	**9.42**	**9.65**	**21.06**	**15.29**	**27.71**	**35.83**	**50.96**

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

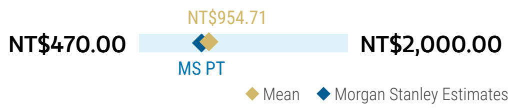
Risk Reward – GlobalWafers Co Ltd (6488.TWO)

We see a more balanced setup from here

PRICE TARGET NT$900.00

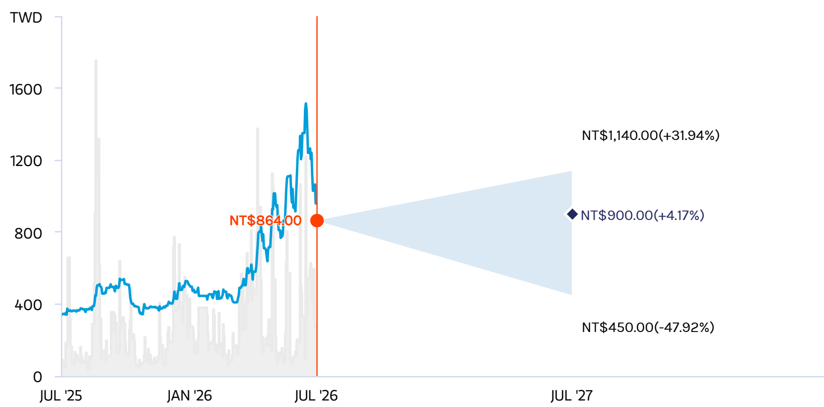
Base-case, residual income model. We assume a cost of equity of 11.0% (risk-free rate of 2.0%, beta of 1.5 and equity risk premium of 6.0%), intermediate-term growth rate of 13%, and terminal growth rate of 4.0%.

Consensus Price Target Distribution



Source: Refinitiv, Morgan Stanley Research

RISK REWARD CHART



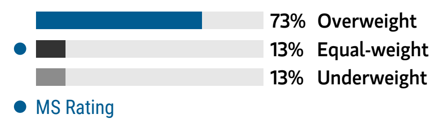
Key: Historical Stock Performance ● Current Stock Price ◆ Price Target

Source: Refinitiv, Morgan Stanley Research

EQUAL-WEIGHT THESIS

- The 2H26 pricing recovery, improving LTA fulfillment, and compound semiconductor progress are constructive.
- However, we believe much of this is increasingly reflected in expectations.
- At the same time, higher production costs and new capacity ramp up could limit the pace of margin recovery.
- With pricing upside back-end-loaded and cost pressure still visible, we see a more balanced setup from here.

Consensus Rating Distribution



Source: Refinitiv, Morgan Stanley Research

Risk Reward Themes

Secular Growth: *Positive*

View descriptions of Risk Rewards Themes here

BULL CASE NT$1,140.00

32x 2027e EPS

Semiconductor industry recovers faster than expected. Pure foundry players' utilization rates rebound to 100%, and memory players start to pull in more raw wafers. GWC's total revenue CAGR picks up to >30% in 2025-28 vs. 8% in 2021-23. Gross margin recovers to over 40% vs. 37.4% in 2023.

BASE CASE NT$900.00

25x 2027e EPS

Semiconductor industry recovers from a down-cycle. Pure foundry and memory players start to see recovery in utilization rate, while both spot price and LTA amount also increase gradually. GWC's total revenue CAGR rises to >15% in 2025-28 vs. 8% in 2021-23. Gross margin stays above 25%.

BEAR CASE NT$450.00

13x 2027e EPS

Semiconductor industry recovers more slowly than expected during this down-cycle. Pure foundry players start to breach LTAs and memory players start to cut more raw wafer orders. GWC's total revenue CAGR slows to 0% in 2025-28 vs. 8% in 2021-23. Gross margin declines to <20% vs. 37.4% in 2023.

Risk Reward – GlobalWafers Co Ltd (6488.TWO)

KEY EARNINGS INPUTS

Drivers	Dec 2025	Dec 2026e	Dec 2027e	Dec 2028e
Total Wafer Shipment (NT$, 000s)	32,501	33,713	37,333	32,035
GWC Utilization Rate (%)	60.1	59.9	63.7	60.4
Blended ASP Per Wafer (NT$)	60	62	78	61

INVESTMENT DRIVERS

- Monthly sales inflection
- Stronger outlooks from key customers
- Extension of LTA pricing or shipments by GWC or peers

GLOBAL REVENUE EXPOSURE

- 10-20% Europe ex UK
- 10-20% North America
- 20-30% Mainland China
- 30-40% APAC, ex Japan, Mainland China and India

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

MS ALPHA MODELS

5/5 MOST	3 Month Horizon

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

RISKS TO PT/RATING

RISKS TO UPSIDE

- Margins improve as loosening competition boosts overall wafer ASP.
- Wafer supply remains stable or even goes into shortage amid stronger-than-expected wafer demand.

RISKS TO DOWNSIDE

- Global semiconductor growth slows again, triggering less wafer demand.
- Margins erode as rising competition lowers overall wafer ASP.
- Global wafer supply rises unexpectedly from new projects.

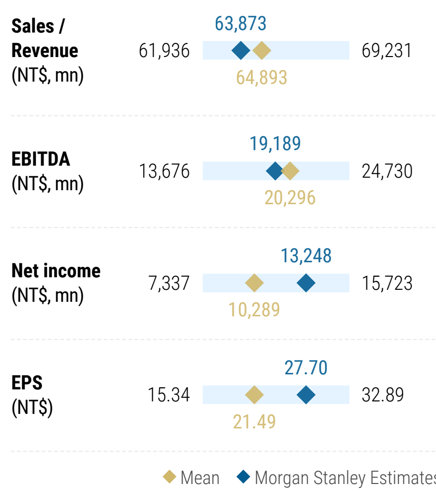
OWNERSHIP POSITIONING

Inst. Owners, % Active 65.4%

Source: Refinitiv, Morgan Stanley Research

MS ESTIMATES VS. CONSENSUS

FY Dec 2026e



Source: Refinitiv, Morgan Stanley Research

Financial Summary

Income Statement, 2024-2028e, Year End Dec

(NT$ mn)	2024	2025	2026e	2027e	2028e
Turnover	**62,626**	**60,598**	**63,873**	**90,728**	**113,214**
YoY Growth	*-11.4%*	*-3.2%*	*5.4%*	*42.0%*	*24.8%*
Less: COGS	**(42,823)**	**(45,974)**	**(48,520)**	**(64,461)**	**(76,490)**
Variable costs	(35,056)	(37,362)	(38,957)	(52,622)	(61,135)
Depreciation & amort	(7,766)	(8,612)	(9,563)	(11,839)	(15,354)
Gross profit	**19,804**	**14,624**	**15,353**	**26,267**	**36,724**
YoY Growth	*-25.1%*	*-26.2%*	*5.0%*	*71.1%*	*39.8%*
% margin	*31.6%*	*24.1%*	*24.0%*	*29.0%*	*32.4%*
Operating Expenses:	**(5,685)**	**(5,987)**	**(6,020)**	**(6,623)**	**(7,423)**
R&D	(2,363)	(2,218)	(1,914)	(2,445)	(2,740)
Sales and Marketing	(1,352)	(1,600)	(1,715)	(1,633)	(2,038)
General and Admin	(1,970)	(2,169)	(2,391)	(2,545)	(2,645)
Operating Profit	**14,118**	**8,636**	**9,333**	**19,643**	**29,301**
YoY Growth	*-29.6%*	*-38.8%*	*8.1%*	*110.5%*	*49.2%*
% margin	*22.5%*	*14.3%*	*14.6%*	*21.7%*	*25.9%*
Total Non-op	**(1,690)**	**880**	**7,666**	**3,197**	**3,188**
Pretax Profit	12,429	9,516	16,998	22,840	32,489
YoY Growth	*-53.1%*	*-23.4%*	*78.6%*	*34.4%*	*42.2%*
% margin	*19.8%*	*15.7%*	*26.6%*	*25.2%*	*28.7%*
Tax	(2,590)	(2,205)	(3,750)	(5,710)	(8,122)
Reported Net Income	9,846	7,312	13,248	17,130	24,367
EPS (NT$)	**21.14**	**15.28**	**27.70**	**35.81**	**50.94**

Key Ratios

	2024	2025	2026e	2027e	2028e
Return (%)					
ROAA	*4.4%*	*2.7%*	*4.6%*	*5.5%*	*7.2%*
ROAE	*11.2%*	*7.1%*	*12.4%*	*15.4%*	*20.9%*
OP. ATO	*51.1%*	*38.6%*	*39.8%*	*54.5%*	*67.0%*
Gearing (x)					
Net Debt/ Equity	(0.0x)	0.3x	0.1x	0.1x	(0.0x)
Current Ratio	1.3x	1.6x	1.9x	2.6x	3.5x
Quick Ratio	0.8x	0.5x	1.1x	1.8x	2.7x
Operating Cycle					
AR/NR Turnover (days)	63	87	89	70	64
Inventory Turnover (days)	93	114	114	95	89
AP Turnover (days)	41	44	42	35	33
Cash Conversion (days)	115	157	161	131	120

e = Morgan Stanley Research Estimates
Source: Company Data, Morgan Stanley Research

Balance sheet

(NT$ mn)	2024	2025	2026e	2027e	2028e
Assets					
Cash & Equivalents	38,929	19,484	58,656	101,787	153,324
Marketable Security	29	1	21	21	21
A/R & N/R	10,265	10,113	13,028	17,681	22,429
Inventories	11,238	10,399	13,279	17,232	20,720
Other Current Asset	20,030	46,632	31,636	31,636	31,636
Total current assets	**81,349**	**87,237**	**117,283**	**169,019**	**228,793**
LT Investment	14,280	14,811	15,495	15,495	15,495
Total Fixed Assets	119,074	107,241	116,933	115,588	110,943
Total Other Assets	9,877	9,054	9,270	9,502	9,734
Total Assets	**224,581**	**218,343**	**258,981**	**309,604**	**364,966**
A/P & N/P	5,371	4,161	4,845	6,287	7,560
Accrued Expenses	0	0	0	0	0
Other Payable	4,650	3,613	5,597	5,597	5,597
Total Current Liab.	**65,065**	**54,109**	**63,202**	**64,644**	**65,917**
L-T Liabilities	37,678	43,244	69,221	109,221	149,221
Total Other L-T Liab	30,810	27,695	26,213	26,213	26,213
Total Liabilities	**133,553**	**125,048**	**158,636**	**200,078**	**241,351**
Common Stock	4,781	4,781	4,781	4,781	4,781
Preferred Stock					
Capital Reserve	45,720	44,764	44,764	44,764	44,764
Retained earnings	40,530	43,753	50,803	59,984	74,073
Treasury Stock	0	0	0	0	0
Total Equity	**91,028**	**93,295**	**100,345**	**109,526**	**123,615**

Cash Flow Statement

(NT$ mn)	2024	2025	2026e	2027e	2028e
Net Income	9,846	7,312	13,248	17,130	24,367
Depreciation	8,069	8,949	9,856	12,301	15,954
Net Investment Losses (Gains)	(49)	48	(89)	(89)	(89)
Others	(2,825)	(3,564)	(7,595)	(7,163)	(6,964)
Cash Flow-Operating	**15,041**	**12,745**	**15,420**	**22,179**	**33,267**
(Purchase) of FA	(48,319)	(33,497)	(19,117)	(10,867)	(11,220)
Sale of Fix Asset	380	86	35	0	0
(Purchase)L-T Inv.	0	0	0	0	0
Sale of L-T Inv.	0	0	0	0	0
Sale(Pur.)S-T Inv.	(6,846)	(106)	13	0	0
Cash Flow-Investing	**(29,620)**	**(34,049)**	**(3,633)**	**(11,099)**	**(11,452)**
Inc(Dec)-S-T Debt	8,222	(3,977)	(3,382)	0	0
Dividend Paid	(8,748)	(5,259)	(5,343)	(7,949)	(10,278)
Dir.&Emp.Bonus	0	0	0	0	0
Proceed from New Issue	21,891	0	0	0	0
Dec/Inc-TreasureSt	0	0	0	0	0
Others	4,375	10,540	35,568	40,000	40,000
Cash Flow-Financing	**25,740**	**1,303**	**26,843**	**32,051**	**29,722**
Change in Cash	**12,765**	**(19,445)**	**39,172**	**43,131**	**51,537**
Net cash/(debt), b/f	26,165	38,929	19,484	58,656	101,787
Net cash/(debt), c/f	**38,929**	**19,484**	**58,656**	**101,787**	**153,324**

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

Disclosure Section

The information and opinions in Morgan Stanley Research were prepared or are disseminated by Morgan Stanley Asia Limited (which accepts the responsibility for its contents) and/or Morgan Stanley Asia (Singapore) Pte. (Registration number 199206298Z) and/or Morgan Stanley Asia (Singapore) Securities Pte Ltd (Registration number 200008434H), regulated by the Monetary Authority of Singapore (which accepts legal responsibility for its contents and should be contacted with respect to any matters arising from, or in connection with, Morgan Stanley Research), and/or Morgan Stanley Taiwan Limited and/or Morgan Stanley & Co International plc, Seoul Branch, and/or Morgan Stanley Australia Limited (A.B.N. 67 003 734 576, holder of Australian financial services license No. 233742, which accepts responsibility for its contents), and/or Morgan Stanley Wealth Management Australia Pty Ltd (A.B.N. 19 009 145 555, holder of Australian financial services license No. 240813, which accepts responsibility for its contents), and/or Morgan Stanley India Company Private Limited having Corporate Identification No (CIN) U22990MH1998PTC115305, regulated by the Securities and Exchange Board of India ("SEBI") and holder of licenses as a Research Analyst (SEBI Registration No. INH000001105); Stock Broker (SEBI Stock Broker Registration No. INZ000244438), Merchant Banker (SEBI Registration No. INM000011203), and depository participant with National Securities Depository Limited (SEBI Registration No. IN-DP-NSDL-567-2021) having registered office at Altimus, Level 39 & 40, Pandurang Budhkar Marg, Worli, Mumbai 400018, India; Telephone no. +91-22-61181000; Compliance Officer Details: Mr. Tejarshi Hardas, Tel. No.: +91-22-61181000 or Email: tejarshi.hardas@morganstanley.com; Grievance officer details: Mr. Tejarshi Hardas, Tel. No.: +91-22-61181000 or Email: msic-compliance@morganstanley.com which accepts the responsibility for its contents and should be contacted with respect to any matters arising from, or in connection with, Morgan Stanley Research, and their affiliates (collectively, "Morgan Stanley"). Morgan Stanley India Company Private Limited (MSICPL) may use AI tools in providing research services. All recommendations contained herein are made by the duly qualified research analysts.

For important disclosures, stock price charts and equity rating histories regarding companies that are the subject of this report, please see the Morgan Stanley Research Disclosure Website at www.morganstanley.com/eqr/disclosures/webapp/generalresearch, or contact your investment representative or Morgan Stanley Research at 1585 Broadway, (Attention: Research Management), New York, NY, 10036 USA.

For valuation methodology and risks associated with any recommendation, rating or price target referenced in this research report, please contact the Client Support Team as follows: US/Canada +1 800 303-2495; Hong Kong +852 2848-5999; Latin America +1 718 754-5444 (U.S.); London +44 (0)20-7425-8169; Singapore +65 6834-6860; Sydney +61 (0)2-9770-1505; Tokyo +81 (0)3-6836-9000. Alternatively you may contact your investment representative or Morgan Stanley Research at 1585 Broadway, (Attention: Research Management), New York, NY 10036 USA.

Analyst Certification

The following analysts hereby certify that their views about the companies and their securities discussed in this report are accurately expressed and that they have not received and will not receive direct or indirect compensation in exchange for expressing specific recommendations or views in this report: Charlie Chan; Daisy Dai, CFA; Tiffany Yeh; Daniel Yen, CFA.

.

Global Research Conflict Management Policy

Morgan Stanley Research has been published in accordance with our conflict management policy, which is available at www.morganstanley.com/institutional/research/conflictpolicies. A Portuguese version of the policy can be found at www.morganstanley.com.br

Important Regulatory Disclosures on Subject Companies

As of June 30, 2026, Morgan Stanley beneficially owned 1% or more of a class of common equity securities of the following companies covered in Morgan Stanley Research: ACM Research Inc, Advanced Micro-Fabrication Equipment Inc, Advanced Wireless Semiconductor Co, Alchip Technologies Ltd, AllRing Tech Co., AP Memory Technology Corp, ASE Technology Holding Co. Ltd., ASMPT Ltd, Cambricon Technology Corporation, Dosilicon Co Ltd, FOCI Fiber Optic Communications Inc, GigaDevice Semiconductor Beijing Inc, **GlobalWafers Co Ltd**, Gudeng Precision, Hangzhou Silan Microelectronics Co. Ltd., King Yuan Electronics Co Ltd, Macronix International Co Ltd, MediaTek, Montage Technology Co Ltd, Parade Technologies Ltd, Phison Electronics Corp, Powerchip Semiconductor Manufacturing Co, SG Micro Corp., Shanghai Fudan Microelectronics, Silergy Corp., Silicon Motion, TSMC, UMC, Unigroup Guoxin Microelectronics Co Ltd, Vanguard International Semiconductor, WIN Semiconductors Corp, Winbond Electronics Corp, WPG Holdings, WT Microelectronics Co. Ltd..

Within the last 12 months, Morgan Stanley managed or co-managed a public offering (or 144A offering) of securities of Alchip Technologies Ltd, Iluvatar CoreX Semiconductor Co., Ltd., Montage Technology Co Ltd, Powerchip Semiconductor Manufacturing Co.

Within the last 12 months, Morgan Stanley has received compensation for investment banking services from ASMPT Ltd, Iluvatar CoreX Semiconductor Co., Ltd., Montage Technology Co Ltd, Powerchip Semiconductor Manufacturing Co.

In the next 3 months, Morgan Stanley expects to receive or intends to seek compensation for investment banking services from Advanced Micro-Fabrication Equipment Inc, Alchip Technologies Ltd, AP Memory Technology Corp, ASE Technology Holding Co. Ltd., ASMedia Technology Inc, ASMPT Ltd, Aspeed Technology, Espressif Systems, GigaDevice Semiconductor Beijing Inc, **GlobalWafers Co Ltd**, Gudeng Precision, Himax Technologies Inc, Hua Hong Semiconductor Ltd, Iluvatar CoreX Semiconductor Co., Ltd., Innoscience, King Yuan Electronics Co Ltd, Macronix International Co Ltd, MediaTek, MetaX Integrated Circuits, Montage Technology Co Ltd, Novatek, Phison Electronics Corp, Powerchip Semiconductor Manufacturing Co, Realtek Semiconductor, SG Micro Corp., Shenzhen Longsys Electronics Co Ltd, SICC Co Ltd, Silergy Corp., Silicon Motion, TSMC, UMC, Universal Scientific Ind. (Shanghai), Vanguard International Semiconductor, Winbond Electronics Corp, WinWay Technology Co Ltd, WPG Holdings, WT Microelectronics Co. Ltd..

Within the last 12 months, Morgan Stanley has received compensation for products and services other than investment banking services from ASE Technology Holding Co. Ltd., King Yuan Electronics Co Ltd, MediaTek, Nanya Technology Corp., Novatek, Nuvoton Technology Corporation, Realtek Semiconductor, Silicon Motion, SMIC, TSMC, UMC, Universal Scientific Ind. (Shanghai), Winbond Electronics Corp, WT Microelectronics Co. Ltd..

Within the last 12 months, Morgan Stanley has provided or is providing investment banking services to, or has an investment banking client relationship with, the following company: Advanced Micro-Fabrication Equipment Inc, Alchip Technologies Ltd, AP Memory Technology Corp, ASE Technology Holding Co. Ltd., ASMedia Technology Inc, ASMPT Ltd, Aspeed Technology, Espressif Systems, GigaDevice Semiconductor Beijing Inc, **GlobalWafers Co Ltd**, Gudeng Precision, Himax Technologies Inc, Hua Hong Semiconductor Ltd, Iluvatar CoreX Semiconductor Co., Ltd., Innoscience, King Yuan Electronics Co Ltd, Macronix International Co Ltd, MediaTek, MetaX Integrated Circuits, Montage Technology Co Ltd, Novatek, Phison Electronics Corp, Powerchip Semiconductor Manufacturing Co, Realtek Semiconductor, SG Micro Corp., Shenzhen Longsys Electronics Co Ltd, SICC Co Ltd, Silergy Corp., Silicon Motion, TSMC, UMC, Universal Scientific Ind. (Shanghai), Vanguard International Semiconductor, Winbond Electronics Corp, WinWay Technology Co Ltd, WPG Holdings, WT Microelectronics Co. Ltd..

Within the last 12 months, Morgan Stanley has either provided or is providing non-investment banking, securities-related services to and/or in the past has entered into an agreement to provide services or has a client relationship with the following company: ASE Technology Holding Co. Ltd., Iluvatar CoreX Semiconductor Co., Ltd., King Yuan Electronics Co Ltd, MediaTek, Montage Technology Co Ltd, Nanya Technology Corp., Novatek, Nuvoton Technology Corporation, Realtek Semiconductor, Silicon Motion, SMIC, TSMC, UMC, Universal Scientific Ind. (Shanghai), Winbond Electronics Corp, WT Microelectronics Co. Ltd..

The equity research analysts or strategists principally responsible for the preparation of Morgan Stanley Research have received compensation based upon various factors, including quality of research, investor client feedback, stock picking, competitive factors, firm revenues and overall investment banking revenues. Equity Research analysts' or strategists' compensation is not linked to investment banking or capital markets transactions performed by Morgan Stanley or the profitability or revenues of particular trading desks.

Morgan Stanley and its affiliates do business that relates to companies/instruments covered in Morgan Stanley Research, including market making, providing liquidity, fund management, commercial banking, extension of credit, investment services and investment banking. Morgan Stanley sells to and buys from customers the securities/instruments of companies covered in Morgan Stanley Research on a principal basis. Morgan Stanley may have a position in the debt of the Company or instruments discussed in this report. Morgan Stanley trades or may trade as principal in the debt securities (or in related derivatives) that are the subject of the debt research report.

Certain disclosures listed above are also for compliance with applicable regulations in non-US jurisdictions.

STOCK RATINGS

Morgan Stanley uses a relative rating system using terms such as Overweight, Equal-weight, Not-Rated or Underweight (see definitions below). Morgan Stanley does not assign ratings of Buy, Hold or Sell to the stocks we cover. Overweight, Equal-weight, Not-Rated and Underweight are not the equivalent of buy, hold and sell. Investors should carefully read the definitions of all ratings used in Morgan Stanley Research. In addition, since Morgan Stanley Research contains more complete information concerning the analyst's views, investors should carefully read Morgan Stanley Research, in its entirety, and not infer the contents from the rating alone. In any case, ratings (or research) should not be used or relied upon as investment advice. An investor's decision to buy or sell a stock should depend on individual circumstances (such as the investor's existing holdings) and other considerations.

Global Stock Ratings Distribution

(as of June 30, 2026)

The Stock Ratings described below apply to Morgan Stanley's Fundamental Equity Research and do not apply to Debt Research produced by the Firm.

For disclosure purposes only (in accordance with FINRA requirements), we include the category headings of Buy, Hold, and Sell alongside our ratings of Overweight, Equal-weight, Not-Rated and Underweight. Morgan Stanley does not assign ratings of Buy, Hold or Sell to the stocks we cover. Overweight, Equal-weight, Not-Rated and Underweight are not the equivalent of buy, hold, and sell but represent recommended relative weightings (see definitions below). To satisfy regulatory requirements, we correspond Overweight, our most positive stock rating, with a buy recommendation; we correspond Equal-weight and Not-Rated to hold and Underweight to sell recommendations, respectively.

	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

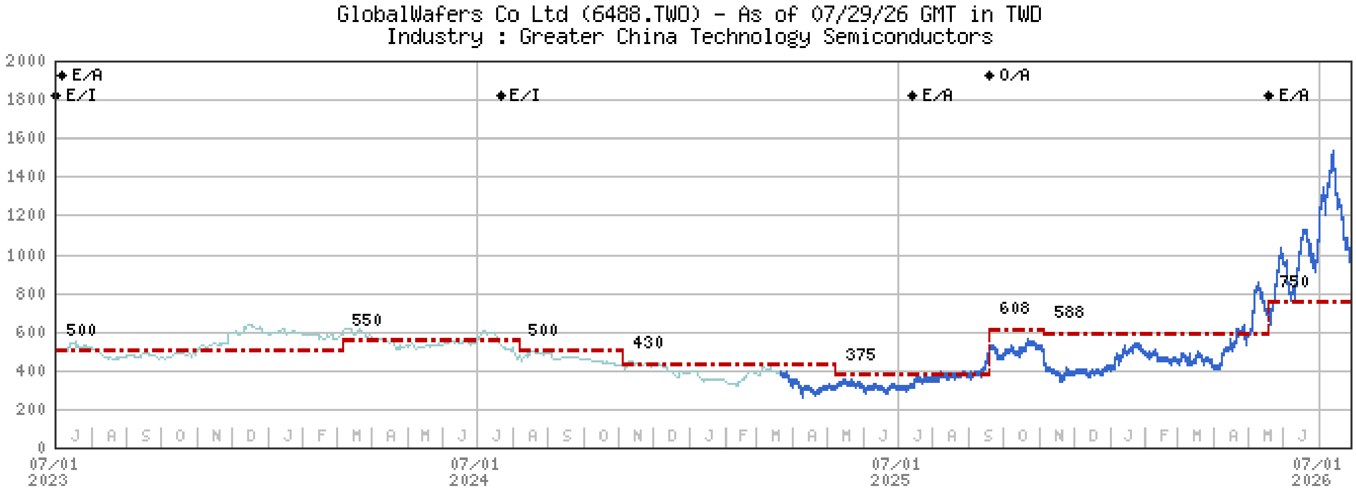
Attractive (A): The analyst expects the performance of his or her industry coverage universe over the next 12-18 months to be attractive vs. the relevant broad market benchmark, as indicated below.

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; 10/4/22 : O/A; 2/22/23 : E/I; 7/7/23 : E/A; 7/21/24 : E/I; 7/14/25 : E/A; 9/19/25 : O/A; 5/19/26 : E/A

Price Target History: 6/29/21 : 1020; 2/7/22 : 920; 3/15/22 : 800; 7/12/22 : 580; 11/1/22 : 500; 3/6/24 : 550; 8/6/24 : 500; 11/5/24 : 430; 5/8/25 : 375; 9/19/25 : 608; 11/5/25 : 588; 5/19/26 : 750

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.

Important Disclosures for Morgan Stanley Smith Barney LLC Customers

Important disclosures regarding any material conflict of interest that can reasonably be expected to have influenced Morgan Stanley Smith Barney LLC's choice of a third-party research provider or the subject company of a third-party research report, are available on the Morgan Stanley Wealth Management disclosure website at www.morganstanley.com/online/researchdisclosures. For Morgan Stanley specific disclosures, you may refer to https://www.morganstanley.com/eqr/disclosures/webapp/generalresearch.

Each Morgan Stanley research report is reviewed and approved on behalf of Morgan Stanley Smith Barney LLC. This review and approval is conducted by the same person who reviews the research report on behalf of Morgan Stanley. This could create a conflict of interest.

Other Important Disclosures

Morgan Stanley Research policy is to update research reports as and when the Research Analyst and Research Management deem appropriate, based on developments with the issuer, the sector, or the market that may have a material impact on the research views or opinions stated therein. In addition, certain Research publications are intended to be updated on a regular periodic basis (weekly/monthly/quarterly/annual) and will ordinarily be updated with that frequency, unless the Research Analyst and Research Management determine that a different publication schedule is appropriate based on current conditions.

Morgan Stanley is not acting as a municipal advisor and the opinions or views contained herein are not intended to be, and do not constitute, advice within the meaning of Section 975 of the Dodd-Frank Wall Street Reform and Consumer Protection Act.

Morgan Stanley produces an equity research product called a "Tactical Idea." Views contained in a "Tactical Idea" on a particular stock may be contrary to the recommendations or views expressed in research on the same stock. This may be the result of differing time horizons, methodologies, market events, or other factors. For all research available on a particular stock, please contact your sales representative or go to Matrix at http://www.morganstanley.com/matrix.

Morgan Stanley Research is provided to our clients through our proprietary research portal on Matrix and also distributed electronically by Morgan Stanley to clients. Certain, but not all, Morgan Stanley Research products are also made available to clients through third-party vendors or redistributed to clients through alternate electronic means as a convenience. For access to all available Morgan Stanley Research, please contact your sales representative or go to Matrix at http://www.morganstanley.com/matrix.

Any access and/or use of Morgan Stanley Research is subject to Morgan Stanley's Terms of Use (http://www.morganstanley.com/terms.html). By accessing and/or using Morgan Stanley Research, you are indicating that you have read and agree to be bound by our Terms of Use (http://www.morganstanley.com/terms.html). In addition you consent to Morgan Stanley processing your personal data and using cookies in accordance with our Privacy Policy and our Global Cookies Policy (http://www.morganstanley.com/privacy_pledge.html), including for the purposes of setting your preferences and to collect readership data so that we can deliver better and more personalized service and products to you. To find out more information about how Morgan Stanley processes personal data, how we use cookies and how to reject cookies see our Privacy Policy and our Global Cookies Policy (http://www.morganstanley.com/privacy_pledge.html). Please use the provided link to review the Terms and Conditions and Most Important Terms and Conditions for Morgan Stanley India Company Private Limited (https://www.morganstanley.com/assets/pdfs/about-us-global-offices/india/Terms_and_conditions.pdf) and the following link to review the audit report (https://ny.matrix.ms.com/eqr/research/webapp/researchdocs/MSICPL_Morgan_Stanley_Research_Audit_Report.pdf).

If you do not agree to our Terms of Use and/or if you do not wish to provide your consent to Morgan Stanley processing your personal data or using cookies please do not access our research.

Morgan Stanley Research does not provide individually tailored investment advice. Morgan Stanley Research has been prepared without regard to the circumstances and objectives of those who receive it. Morgan Stanley recommends that investors independently evaluate particular investments and strategies, and encourages investors to seek the advice of a financial adviser. The appropriateness of an investment or strategy will depend on an investor's circumstances and objectives. The securities, instruments, or strategies discussed in Morgan Stanley Research may not be suitable for all investors, and certain investors may not be eligible to purchase or participate in some or all of them. Morgan Stanley Research is not an offer to buy or sell or the solicitation of an offer to buy or sell any security/instrument or to participate in any particular trading strategy. The value of and income from your investments may vary because of changes in interest rates, foreign exchange rates, default rates, prepayment rates, securities/instruments prices, market indexes, operational or financial conditions of companies or other factors. There may be time limitations on the exercise of options or other rights in securities/instruments transactions. Past performance is not necessarily a guide to future performance. Estimates of future performance are based on assumptions that may not be realized. If provided, and unless otherwise stated, the closing price on the cover page is that of the primary exchange for the subject company's securities/instruments.

The fixed income research analysts, strategists or economists principally responsible for the preparation of Morgan Stanley Research have received compensation based upon various factors, including quality, accuracy and value of research, firm profitability or revenues (which include fixed income trading and capital markets profitability or revenues), client feedback and competitive factors. Fixed Income Research analysts', strategists' or economists' compensation is not linked to investment banking or capital markets transactions performed by Morgan Stanley or the profitability or revenues of particular trading desks.

The "Important Regulatory Disclosures on Subject Companies" section in Morgan Stanley Research lists all companies mentioned where Morgan Stanley owns 1% or more of a class of common equity securities of the companies. For all other companies mentioned in Morgan Stanley Research, Morgan Stanley may have an investment of less than 1% in securities/instruments or derivatives of securities/instruments of companies and may trade them in ways different from those discussed in Morgan Stanley Research. Employees of Morgan Stanley not involved in the preparation of Morgan Stanley Research may have investments in securities/instruments or derivatives of securities/instruments of companies mentioned and may trade them in ways different from those discussed in Morgan Stanley Research. Derivatives may be issued by Morgan Stanley or associated persons.

With the exception of information regarding Morgan Stanley, Morgan Stanley Research is based on public information. Morgan Stanley makes every effort to use reliable, comprehensive information, but we make no representation that it is accurate or complete. We have no obligation to tell you when opinions or information in Morgan Stanley Research change apart from when we intend to discontinue equity research coverage of a subject company. Facts and views presented in Morgan Stanley Research have not been reviewed by, and may not reflect information known to, professionals in other Morgan Stanley business areas, including investment banking personnel.

Morgan Stanley Research personnel may participate in company events such as site visits and are generally prohibited from accepting payment by the company of associated expenses unless pre-approved by authorized members of Research management.

Morgan Stanley may make investment decisions that are inconsistent with the recommendations or views in this report.

To our readers based in Taiwan or trading in Taiwan securities/instruments: Information on securities/instruments that trade in Taiwan is distributed by Morgan Stanley Taiwan Limited ("MSTL"). Such information is for your reference only. The reader should independently evaluate the investment risks and is solely responsible for their investment decisions. Morgan Stanley Research may not be distributed to the public media or quoted or used by the public media without the express written consent of Morgan Stanley. Any non-customer reader within the scope of Article 7-1 of the Taiwan Stock Exchange Recommendation Regulations accessing and/or receiving Morgan Stanley Research is not permitted to provide Morgan Stanley Research to any third party (including but not limited to related parties, affiliated companies and any other third parties) or engage in any activities regarding Morgan Stanley Research which may create or give the appearance of creating a conflict of interest. Information on securities/instruments that do not trade in Taiwan is for informational purposes only and is not to be construed as a recommendation or a solicitation to trade in such securities/instruments. MSTL may not execute transactions for clients in these securities/instruments.

Certain information in Morgan Stanley Research was sourced by employees of the Shanghai Representative Office of Morgan Stanley Asia Limited for the use of Morgan Stanley Asia Limited. Morgan Stanley is not incorporated under PRC law and the research in relation to this report is conducted outside the PRC. Morgan Stanley Research does not constitute an offer to sell or the solicitation of an offer to buy any securities in the PRC. PRC investors shall have the relevant qualifications to invest in such securities and shall be responsible for obtaining all relevant approvals, licenses, verifications and/or registrations from the relevant governmental authorities themselves. Neither this report nor any part of it is intended as, or shall constitute, provision of any consultancy or advisory service of securities investment as defined under PRC law. Such information is provided for your reference only.

Morgan Stanley Research is disseminated in Brazil by Morgan Stanley C.T.V.M. S.A. located at Av. Brigadeiro Faria Lima, 3600, 6th floor, São Paulo - SP, Brazil; and is regulated by the Comissão de Valores Mobiliários; in Mexico by Morgan Stanley México, Casa de Bolsa, S.A. de C.V which is regulated by Comision Nacional Bancaria y de Valores. Paseo de los Tamarindos 90, Torre 1, Col. Bosques de las Lomas Floor 29, 05120 Mexico City; in Japan by Morgan Stanley MUFG Securities Co., Ltd. and, for Commodities related research reports only, Morgan Stanley Capital Group Japan Co., Ltd; in Hong Kong by Morgan Stanley Asia Limited (which accepts responsibility for its contents) and by Morgan Stanley Bank Asia Limited; in Singapore by Morgan Stanley Asia (Singapore) Pte. (Registration number 199206298Z) and/or Morgan Stanley Asia (Singapore) Securities Pte Ltd (Registration number 200008434H), regulated by the Monetary Authority of Singapore (which accepts legal responsibility for its contents and should be contacted with respect to any matters arising from, or in connection with, Morgan Stanley Research) and by Morgan Stanley Bank Asia Limited, Singapore Branch (Registration number T14FC0118J); in Australia to "wholesale clients" within the meaning of the Australian Corporations Act by Morgan Stanley Australia Limited A.B.N. 67 003 734 576, holder of Australian financial services license No. 233742, which accepts responsibility for its contents; in Australia to "wholesale clients" and "retail clients" within the meaning of the Australian Corporations Act by Morgan Stanley Wealth Management Australia Pty Ltd (A.B.N. 19 009 145 555, holder of Australian financial services license No. 240813, which accepts responsibility for its contents; in Korea by Morgan Stanley & Co International plc, Seoul Branch; in India by Morgan Stanley India Company Private Limited having Corporate Identification No (CIN) U22990MH1998PTC115305, regulated by the Securities and Exchange Board of India ("SEBI") and holder of licenses as a Research Analyst (SEBI Registration No. INH000001105); Stock Broker (SEBI Stock Broker Registration No. INZ000244438), Merchant Banker (SEBI Registration No. INM000011203), and depository participant with National Securities Depository Limited (SEBI Registration No. IN-DP-NSDL-567-2021) having registered office at Altimus, Level 39 & 40, Pandurang Budhkar Marg, Worli, Mumbai 400018, India; Telephone no. +91-22-61181000; Compliance Officer Details: Mr. Tejarshi Hardas, Tel. No.: +91-22-61181000 or Email: tejarshi.hardas@morganstanley.com; Grievance officer details: Mr. Tejarshi Hardas, Tel. No.: +91-22-61181000 or Email: msic-compliance@morganstanley.com. Morgan Stanley India Company Private Limited (MSICPL) may use AI tools in providing research services. All recommendations contained herein are made by the duly qualified research analysts; in Canada by Morgan Stanley Canada Limited; in Germany and the European Economic Area where required by Morgan Stanley Europe S.E., authorised and regulated by Bundesanstalt fuer Finanzdienstleistungsaufsicht (BaFin) under the reference number 149169; in the US by Morgan Stanley & Co. LLC, which accepts responsibility for its contents. Morgan Stanley & Co. International plc, authorized by the Prudential Regulation Authority and regulated by the Financial Conduct Authority and the Prudential Regulation Authority, disseminates in the UK research that it has prepared, and research which has been prepared by any of its affiliates, only to persons who (i) are investment professionals falling within Article 19(5) of the Financial Services and Markets Act 2000 (Financial Promotion) Order 2005 (as amended, the "Order"); (ii) are persons who are high net worth entities falling within Article 49(2)(a) to (d) of the Order; or (iii) are persons to whom an invitation or inducement to engage in investment activity (within the meaning of section 21 of the Financial Services and Markets Act 2000, as amended) may otherwise lawfully be communicated or caused to be communicated. RMB Morgan Stanley Proprietary Limited is a member of the JSE Limited and A2X (Pty) Ltd. RMB Morgan Stanley Proprietary Limited is a joint venture owned equally by Morgan Stanley International Holdings Inc. and RMB Investment Advisory (Proprietary) Limited, which is wholly owned by FirstRand Limited. The information in Morgan Stanley Research is being disseminated by Morgan Stanley Saudi Arabia, regulated by the Capital Market Authority in the Kingdom of Saudi Arabia, and is directed at Sophisticated investors only.

Morgan Stanley Hong Kong Securities Limited is the liquidity provider/market maker for securities of ASMPT Ltd, GigaDevice Semiconductor Beijing Inc, Hua Hong Semiconductor Ltd, Montage Technology Co Ltd listed on the Stock Exchange of Hong Kong Limited. An updated list can be found on HKEx website: http://www.hkex.com.hk.

The information in Morgan Stanley Research is being communicated by Morgan Stanley & Co. International plc (DIFC Branch), regulated by the Dubai Financial Services Authority (the DFSA) or by Morgan Stanley & Co. International plc (ADGM Branch), regulated by the Financial Services Regulatory Authority Abu Dhabi (the FSRA), and is directed at Professional Clients only, as defined by the DFSA or the FSRA, respectively. The financial products or financial services to which this research relates will only be made available to a customer who we are satisfied meets the regulatory criteria of a Professional Client. A distribution of the different MS Research ratings or recommendations, in percentage terms for Investments in each sector covered, is available upon request from your sales representative.

The information in Morgan Stanley Research is being communicated by Morgan Stanley & Co. International plc (QFC Branch), regulated by the Qatar Financial Centre Regulatory Authority (the QFCRA), and is directed at business customers and market counterparties only and is not intended for Retail Customers as defined by the QFCRA.

As required by the Capital Markets Board of Turkey, investment information, comments and recommendations stated here, are not within the scope of investment advisory activity. Investment advisory service is provided exclusively to persons based on their risk and income preferences by the authorized firms. Comments and recommendations stated here are general in nature. These opinions may not fit to your financial status, risk and return preferences. For this reason, to make an investment decision by relying solely to this information stated here may not bring about outcomes that fit your expectations.

The trademarks and service marks contained in Morgan Stanley Research are the property of their respective owners. Third-party data providers make no warranties or representations relating to the accuracy, completeness, or timeliness of the data they provide and shall not have liability for any damages relating to such data. The Global Industry Classification Standard (GICS) was developed by and is the exclusive property of MSCI and S&P.

Indicators and trackers referenced in Morgan Stanley Research may not be used as, or treated as, a benchmark under Regulation EU 2016/1011, or any other similar framework.

The issuers and/or fixed income products recommended or discussed in certain fixed income research reports may not be continuously followed. Accordingly, investors should regard those fixed income research reports as providing stand-alone analysis and should not expect continuing analysis or additional reports relating to such issuers and/or individual fixed income products.

Morgan Stanley may hold, from time to time, material financial and commercial interests regarding the company subject to the Research report.

Registration granted by SEBI and certification from the National Institute of Securities Markets (NISM) in no way guarantee performance of the intermediary or provide any assurance of returns to investors. Investment in securities market are subject to market risks. Read all the related documents carefully before investing.

INDUSTRY COVERAGE: Greater China Technology Semiconductors

COMPANY (TICKER)	RATING (AS OF)	PRICE* (07/29/2026)
Charlie Chan		
ACM Research Inc (ACMR.O)	O (03/07/2023)	US$72.02
Advanced Micro-Fabrication Equipment Inc (688012.SS)	O (11/06/2023)	Rmb360.00
Advanced Wireless Semiconductor Co (8086.TWO)	U (07/14/2025)	NT$106.50
Alchip Technologies Ltd (3661.TW)	O (05/14/2021)	NT$2,805.00
ASE Technology Holding Co. Ltd. (3711.TW)	O (09/15/2024)	NT$499.00
Cambricon Technology Corporation (688256.SS)	O (04/27/2026)	Rmb1,146.90
Global Unichip Corp (3443.TW)	O (06/24/2026)	NT$3,295.00
GlobalWafers Co Ltd (6488.TWO)	E (05/19/2026)	NT$864.00
Gudeng Precision (3680.TWO)	O (11/25/2025)	NT$385.00
Hua Hong Semiconductor Ltd (1347.HK)	E (03/12/2026)	HK$136.80
Iluvatar CoreX Semiconductor Co., Ltd. (9903.HK)	O (04/27/2026)	HK$442.00
King Yuan Electronics Co Ltd (2449.TW)	O (03/03/2023)	NT$212.50
Maxscend Microelectronics Co Ltd (300782.SZ)	U (01/11/2021)	Rmb68.01
MediaTek (2454.TW)	O (11/28/2025)	NT$3,150.00
MetaX Integrated Circuits (688802.SS)	E (04/27/2026)	Rmb705.99
Nanya Technology Corp. (2408.TW)	O (05/28/2026)	NT$353.50
NAURA Technology Group Co Ltd (002371.SZ)	O (11/06/2023)	Rmb706.39
OmniVision Integrated Circuits Group Inc (603501.SS)	E (11/17/2025)	Rmb91.69
Phison Electronics Corp (8299.TWO)	E (02/25/2026)	NT$1,515.00
SG Micro Corp. (300661.SZ)	E (11/03/2025)	Rmb100.74
Silergy Corp. (6415.TW)	U (05/19/2026)	NT$375.50
SMIC (0981.HK)	O (10/21/2025)	HK$67.20
TSMC (2330.TW)	O (02/07/2022)	NT$2,200.00
UMC (2303.TW)	O (05/19/2026)	NT$102.50
Vanguard International Semiconductor (5347.TWO)	E (01/14/2026)	NT$133.00
WIN Semiconductors Corp (3105.TWO)	U (07/14/2025)	NT$291.00

Daisy Dai, CFA

ASMPT Ltd (0522.HK)	O (07/24/2025)	HK$136.90
China Resources Microelectronics Limited (688396.SS)	U (03/02/2026)	Rmb56.05
Empyrean Technology Co Ltd (301269.SZ)	E (01/17/2025)	Rmb90.00
Hangzhou Silan Microelectronics Co. Ltd. (600460.SS)	U (08/25/2025)	Rmb29.90
Hygon Information Technology Co., Ltd. (688041.SS)	O (07/03/2026)	Rmb284.00
Innoscience (2577.HK)	E (10/13/2025)	HK$39.48
JCET Group Co Ltd (600584.SS)	E (01/16/2026)	Rmb71.68
Shanghai Fudan Microelectronics (1385.HK)	O (03/07/2025)	HK$23.30
SICC Co Ltd (688234.SS)	O (03/20/2026)	Rmb90.39
StarPower Semiconductor Ltd (603290.SS)	E (05/14/2026)	Rmb82.45
Unigroup Guoxin Microelectronics Co Ltd (002049.SZ)	U (01/10/2023)	Rmb64.86
Universal Scientific Ind. (Shanghai) (601231.SS)	O (11/05/2025)	Rmb23.57
Yangjie Technology (300373.SZ)	O (06/10/2022)	Rmb87.60
Daniel Yen, CFA		
AP Memory Technology Corp (6531.TW)	O (07/11/2025)	NT$627.00
ASMedia Technology Inc (5269.TW)	U (10/03/2025)	NT$1,450.00
Aspeed Technology (5274.TWO)	O (06/09/2025)	NT$12,910.00
Egis Technology Inc (6462.TWO)	E (01/28/2026)	NT$91.80
Elan Microelectronics Corp (2458.TW)	O (10/03/2025)	NT$149.50
Espressif Systems (688018.SS)	O (05/15/2023)	Rmb97.28
GigaDevice Semiconductor Beijing Inc (603986.SS)	O (05/15/2025)	Rmb364.03
Macronix International Co Ltd (2337.TW)	O (09/18/2025)	NT$102.00
Montage Technology Co Ltd (6809.HK)	O (03/18/2026)	HK$269.60
Montage Technology Co Ltd (688008.SS)	O (03/18/2026)	Rmb207.50
Novatek (3034.TW)	U (02/04/2026)	NT$505.00
Nuvoton Technology Corporation (4919.TW)	U (11/10/2025)	NT$108.50
Parade Technologies Ltd (4966.TWO)	O (05/27/2026)	NT$561.00
Powerchip Semiconductor Manufacturing Co (6770.TW)	O (10/27/2025)	NT$50.40
Realtek Semiconductor (2379.TW)	E (01/30/2026)	NT$738.00
Shenzhen Goodix Technology Co Ltd (603160.SS)	U (07/14/2025)	Rmb52.59
Winbond Electronics Corp (2344.TW)	O (05/28/2026)	NT$130.00
WPG Holdings (3702.TW)	O (03/16/2026)	NT$106.00
WT Microelectronics Co. Ltd. (3036.TW)	O (01/27/2026)	NT$184.50
Duan Liu		
Dosilicon Co Ltd (688110.SS)	U (09/06/2024)	Rmb107.51
Shenzhen Longsys Electronics Co Ltd (301308.SZ)	E (02/25/2026)	Rmb329.63
Tiffany Yeh		
AllRing Tech Co. (6187.TWO)	O (09/23/2025)	NT$890.00
FOCI Fiber Optic Communications Inc (3363.TWO)	O (01/15/2025)	NT$485.50
Himax Technologies Inc (HIMX.O)	E (02/04/2026)	US$11.98
Hon Precision (7769.TW)	O (04/17/2026)	NT$5,175.00
MPI Corporation (6223.TWO)	O (04/17/2026)	NT$4,790.00
Silicon Motion (SIMO.O)	O (05/06/2024)	US$221.42
WinWay Technology Co Ltd (6515.TW)	O (04/17/2026)	NT$5,415.00

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