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Greater China Technology Hardware | Asia Pacific

Optics Drives the Board: PCB Beneficiaries of the AI Interconnect Build-out

MORGAN STANLEY TAIWAN LIMITED+

Howard Kao
Equity Analyst
Howard.Kao@morganstanley.com +886 2 2730-2989

Irene Yen
Research Associate
Irene.Yen@morganstanley.com +886 2 2730-2869

Sharon Shih
Equity Analyst
Sharon.Shih@morganstanley.com +886 2 2730-2865

Although incumbent suppliers, including Unimicron and Shennan Circuits, will likely benefit from the growth in transceiver PCB demand and content expansion, we view ZDT as the most compelling beneficiary, given its potential to capture meaningful share as the industry transitions to higher speeds.

The AI investment cycle is entering a new phase in which optical connectivity is becoming as critical as compute. As hyperscalers scale AI clusters from tens of thousands to hundreds of thousands of GPUs, the number of optical transceivers required to connect these systems is growing rapidly. While investors have largely focused on beneficiaries such as GPUs, networking chips, and optical module vendors, we believe there are also opportunities further down the supply chain: *printed circuit board (PCB) manufacturers*. These companies provide a differentiated way to participate in the secular growth of AI infrastructure spend.

The opportunity is not solely driven by unit growth; content is also rising. As the industry migrates from 400G to 800G and eventually 1.6T optical transceivers, PCB complexity is increasing materially. Higher layer counts (10L to 16L), higher grade CCL (M6 to M8), and the adoption of advanced manufacturing technologies (HDI to mSAP) are driving a step-function increase in PCB content per module (US$10 to US $25). As a result, we expect the optical transceiver PCB market to grow substantially faster (83% CAGR) than underlying transceiver shipments (60% CAGR) from CY25-28. We are forecasting AI transceiver PCB TAM growing from ~US $620M in CY25 to ~US$3,773M by CY28, and this content-driven growth should also translate into improved profitability and expanding returns for suppliers with the requisite technological capabilities.

ZDT is best positioned to capture share: We expect incumbent leaders to benefit from both volume and content growth; however, we believe the most attractive investment opportunity is Zhen Ding (ZDT). The transition to 1.6T and beyond is raising qualification barriers and increasing the importance of advanced manufacturing know-how, particularly in mSAP processes. As the market expands and customers seek additional qualified suppliers, companies with proven high-end PCB capabilities are positioned to capture disproportionate growth. In our view, this combination of secular AI demand, rising content intensity, and market share gains creates a compelling angle for ZDT, hence we raise our PT to NT$666, implying 20x CY28 P/E (0.5x PEG). We reiterate our OW on Unimicron, with a raised PT of NT $1,285, implying 25x CY28 P/E (0.25x PEG), but stay EW on Shennan with a raised PT of Rmb400, implying 25x CY28 P/E (0.6x PEG). We prefer ZDT (15x CY28 P/E) and Unimicron (17x CY28 P/E) but are EW Shennan (25x CY28 P/E) on valuation.

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Industry View **In-Line**

Exhibit 1 : What's changed?

Company	Ticker	Rating		PT		Last close	Upside (%)	EPS change (%)			PEG		
		New	Old	New	Old			26e	27e	28e	26e	27e	28e
Unimicron	3037.TW	OW	OW	1,285.0	1,225.0	884.0	45%	2%	5%	4%	0.63	0.45	0.25
Zhen Ding	4958.TW	OW	OW	660.0	570.0	502.0	31%	5%	15%	17%	0.42	0.40	0.52
Shennan Circuits	002916.SZ	EW	EW	400.0	320.0	383.1	4%	9%	17%	24%	1.21	0.63	0.63

Source: Bloomberg, Morgan Stanley Research estimates. Pricing as of the close on June 10, 2026.

Contextualizing the AI Transceiver PCB Opportunity

To put the opportunity into perspective, we forecast the global AI transceiver PCB TAM to expand from approximately US$620mn in CY25 to ~US$3.8bn by CY28. For comparison, we estimate that Apple (covered by Erik Woodring) – currently the world's largest consumer of HDI PCBs – accounts for roughly US$3.0-3.5B of annual HDI PCB demand. On our estimates, the AI transceiver PCB market will grow from a niche, sub-US $1B segment today to a market comparable in size to Apple's HDI PCB demand by CY27, before surpassing it by CY28.

The significance of this comparison extends beyond the absolute market size. For years, Apple has been the primary driver of technology advancement, capacity investment, and profitability within the HDI PCB industry. We believe AI optical connectivity is emerging as the next major demand engine, creating a new growth vector for PCB suppliers and potentially reshaping the industry's competitive landscape.

Given the pace of market expansion, increasing technology requirements, and improving economics associated with next-generation transceiver PCBs, we believe AI transceiver PCBs are rapidly evolving into one of the most compelling structural growth opportunities within the global PCB sector.

Viewed from another angle, Prismark estimates the global HDI PCB market at approximately US$16.2bn. Based on our forecast of a ~US$3.8bn AI transceiver PCB market by CY28, AI optical connectivity alone could generate incremental demand equivalent to roughly 23% of the current global HDI market, underscoring the significance of this emerging growth driver for the PCB industry

In February 2026, our global team highlighted that the AI transceiver market is entering an 'exponential' growth phase, driven by scale-out, scale-up and even scale-across in AI datacenters (report link: AI Transceivers: Growth Dominates Disruption). While CPO (co-packaged optics) remains a fundamental architectural shift and a legitimate long-term risk to pluggable transceivers, the impact on transceivers vendors and their supply chains is limited in the medium term, as large-scale adoption of CPO is unlikely before 2027-28, considering its manufacturing yield, thermal complexity, cost, ecosystem, and serviceability. Thus, our global team expects AI transceiver growth to dominate the disruption from CPO in the medium term, and that transceivers and CPO will coexist through the 3.2T transition expected in CY28.

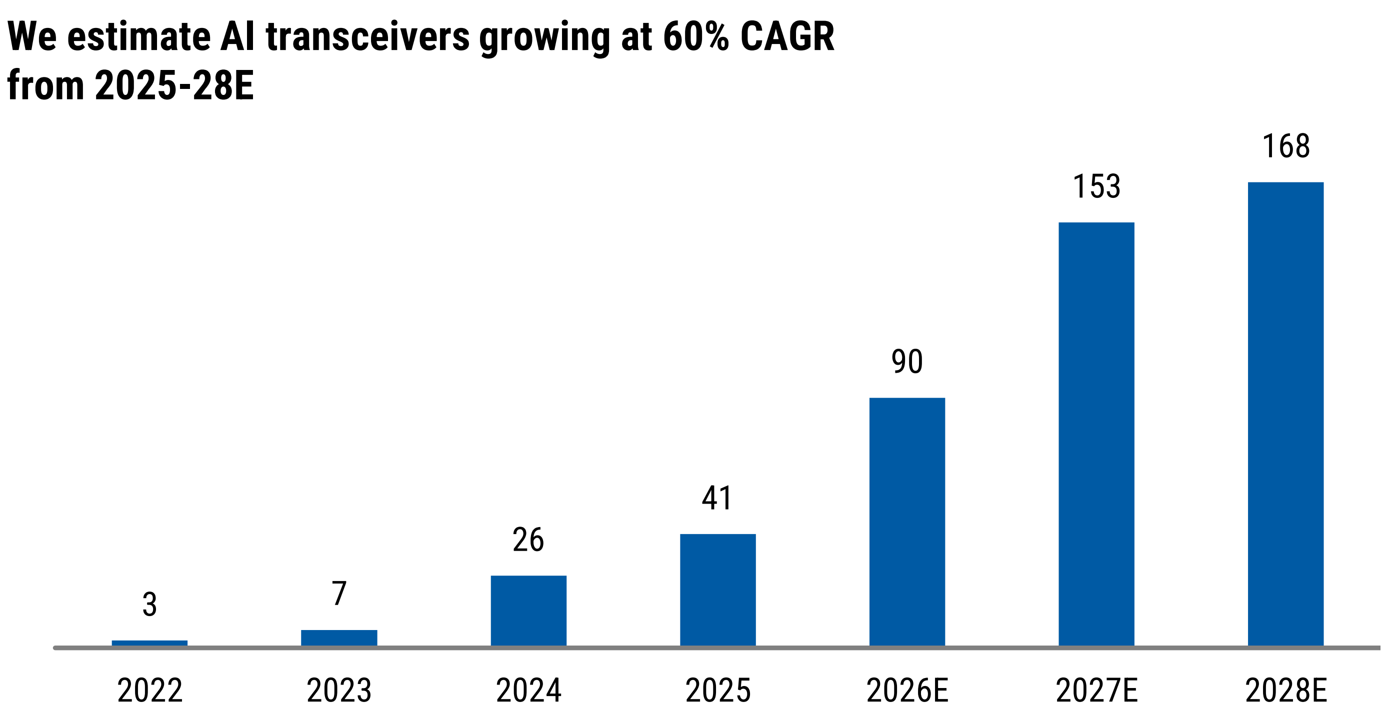
Our Global team expects strong optical transceiver volumes in CY26-28: In May 2026, our global team raised (link) its CY26-28 AI transceiver shipments forecast from 53 / 71 / 80mn units to 73 / 141 / 158 M units, respectively, within which 29 / 79 / 87M are 1.6T optical transceivers, with 8mn 3.2T optical transceivers expected in CY28 (Exhibit 1). This translates into a ~99% CAGR over CY25-28, creating a significant surge in demand for supply chain capacity. This signal a robust growth prospect not only for the optical transceivers vendors but also for the entire supply chain, including the PCB manufacturers. This is because within each optical transceiver module, there is 1 PCB, so it is a one-for-one opportunity for PCB manufacturers.

Exhibit 2: Our Global team raised forecasts for 800G and 1.6T optical transceiver shipments

(mn units)			
New Estimates	**2026E**	**2027E**	**2028E**
800G	44	63	64
1.6T	29	79	87
3.2T	0	0	8
Total	**73**	**141**	**158**
Previous Estimates	**2026E**	**2027E**	**2028E**
800G	34	48	54
1.6T	19	24	27
3.2T	0	0	5
Total	**53**	**71**	**85**
Pct. of change	**2026E**	**2027E**	**2028E**
800G	29%	31%	19%
1.6T	52%	233%	226%
3.2T	--	--	60%
Total	38%	98%	86%

Source: Company data, Morgan Stanley Research estimates.

Exhibit 3: Our Global team estimates AI optical transceivers growing at ~60% CAGR from 2025-28E



Source: Morgan Stanley Research estimates.

Aside from volume growth, optical transceiver PCB is also seeing content growth… Our industry checks suggest optical transceiver PCBs will see content growth mainly coming from three aspects.

1. **Upgrades in CCL material (M6 to M8):** The migration from 400G to 800G and 1.6T transceivers is driving increased adoption of higher-specification CCL materials. Whereas 400G modules generally utilized M6-grade CCL, next-generation transceivers increasingly require M7- or M8-grade CCL to meet more demanding signal integrity requirements, supporting higher PCB ASPs.
2. **Increased layer count (10L to 16L):** Increasing PCB layer counts represent another tailwind for ASP growth. Layer requirements rise from 10–12 layers in 400G transceivers to 12-14 layers in 800G and 14-16 layers in 1.6T modules, reflecting greater design complexity and supporting higher PCB ASPs.
3. **More complex manufacturing process (HDI to mSAP):** The adoption of more advanced fabrication technologies is another driver of PCB ASP expansion. While 400G transceivers typically rely on HDI (high density interconnect) processes, next-generation 800G and 1.6T modules increasingly require mSAP (modified semi-additive process), reflecting higher design complexity and supporting higher ASPs.

The combination of the three drivers mentioned above is driving a strong growth of the overall PCB market for optical transceiver modules. The reason why mSAP is required is that it saves space by allowing denser conducting path layouts, which makes it the perfect material for optical transceivers. This is commonly found in compact devices, such as smartphone mainboards and smartphone camera modules. Apple is one of the first companies to start using mSAP technology in its smartphone PCB, going back to 2017, for the iPhone 8/X generation. Which is why today, a lot of the optical transceiver modules makers are also companies that have been HDI/SLP PCB suppliers for Apple iPhone, including Unimicron, ZDT, and Compeq.

…why is why we estimate PCB ASP per transceiver module will rise from US$5-15 for a 400G transceiver to US$20-30 for a 1.6T transceiver. We expect the transition from 400G to 1.6T transceivers to drive a substantial increase in PCB content and complexity. PCB designs are likely to upgrade from 10- to 12-layer HDI structures with 2-3 lamination cycles and M6-grade CCL to 14- to 16-layer mSAP-based architectures with 6-10 mSAP layers and M8-grade CCL. Consequently, we estimate PCB ASPs could rise ~2.5x, from approximately US$10 to US$25 per unit. Moreover, the higher technical barriers and value-add should drive gross margins from 20-30% to 40-50%+, approaching those of ABF substrates. **The combination of strong volume growth and rising PCB content per transceiver is expected to drive AI transceiver PCB TAM growth well ahead of underlying module shipments.** We estimate the global AI transceiver PCB market will grow at an 83% CAGR over CY25-28E, versus a 60% CAGR growth in AI transceiver unit volumes, reflecting increasing PCB complexity and higher content per module as the industry migrates to 800G and 1.6T transceivers.

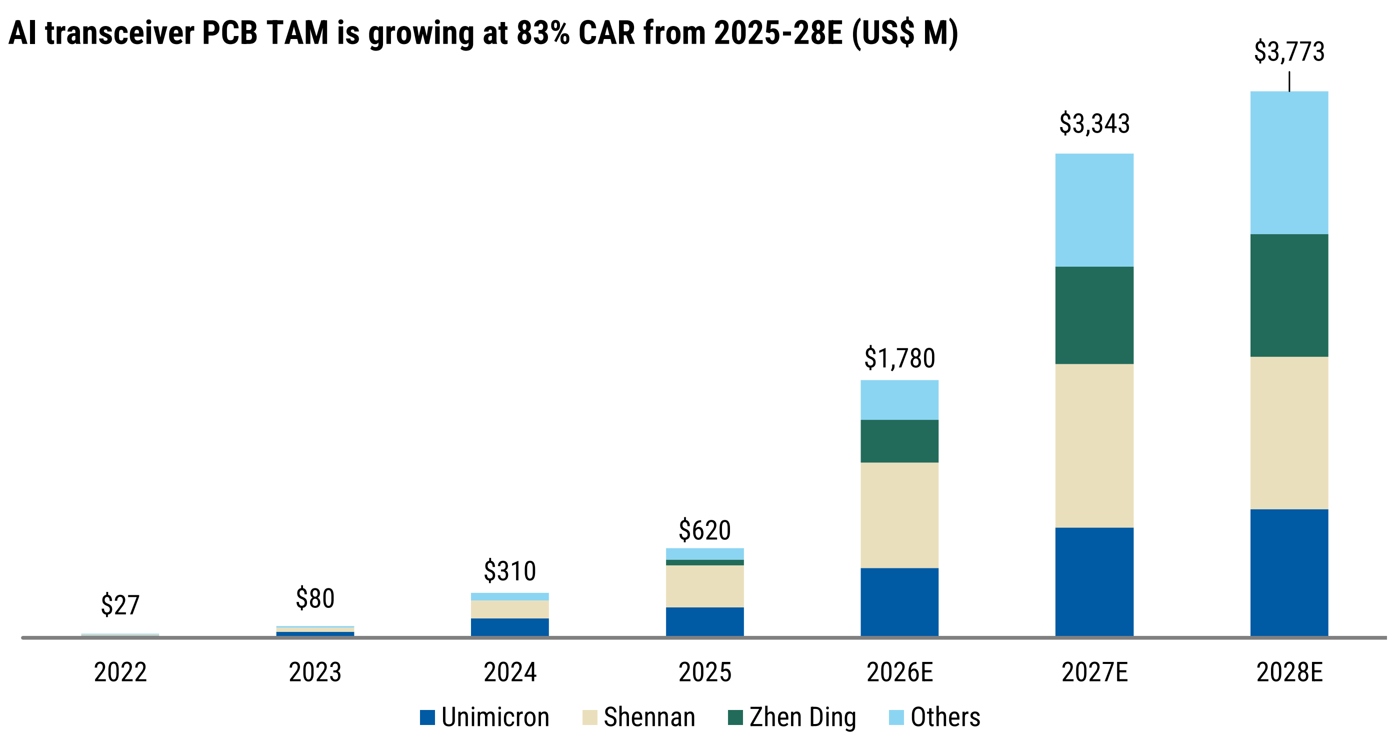
Simply put, as the AI transceiver speeds migrate from 400G to 1.6T or 3.2T, the electrical signals needs to travel at much higher speeds, and the PCB traces start to make a difference, where signal loss, reflections, crosstalk, and timing variations become major challenges. To preserve signal integrity, the PCB needs to be designed with lower-loss laminate materials are required (M8 grade CCL), tighter impedance control, more sophisticated routing, optimized vias, etc. As a result, each generation of faster optical transceivers increases the technical complexity and value-added content of the PCB, creating a structural tailwind for advanced PCB suppliers with expertise in mSAP capability.

Exhibit 4: Optical transceiver PCB specs

	400G	800G	1.6T
Layers	10-12L 2-3 press HDI	12-14L, 4-8L mSAP or HDI	14-16L 6-10L mSAP
Process	HDI	HDI or mSAP	mSAP
CCL Spec	M6	M7(LDK1) / M7+ (LDK2)	M7+ / M8 (LDK2)
ASP (US$)	$5-15	$15-25	$20-30
GM Est.	20-30%	30-40%	40-50%+
Suppliers	Unmicron, Shennan, WUS, other smaller suppliers.	Unimicron, Shennan, Zhen Ding, WUS, Compeq, etc.	Unimicron, Shennan, Zhen Ding, Compeq, WUS, etc.

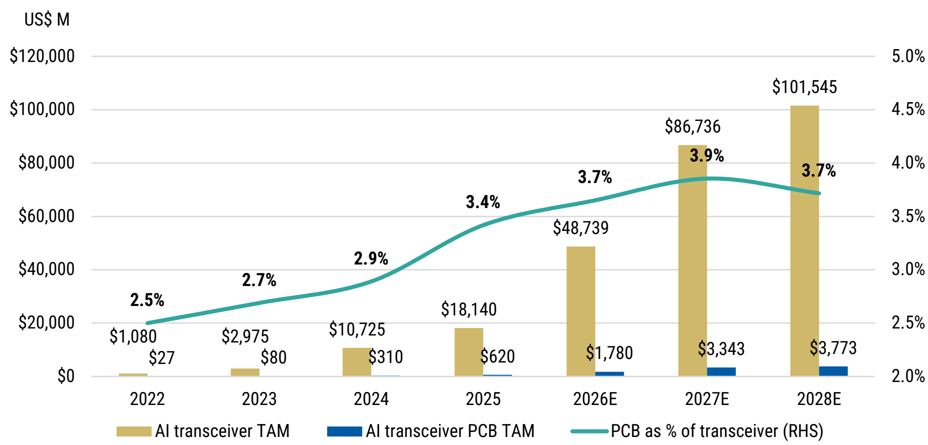
Source: Morgan Stanley Research.

Exhibit 5: We estimate Global AI Transceiver PCB TAM to grow at 83% CAGR from 2025-28E



Source: Morgan Stanley Research estimates.

Exhibit 6: TAM comparison: AI transceiver vs. AI transceiver PCB



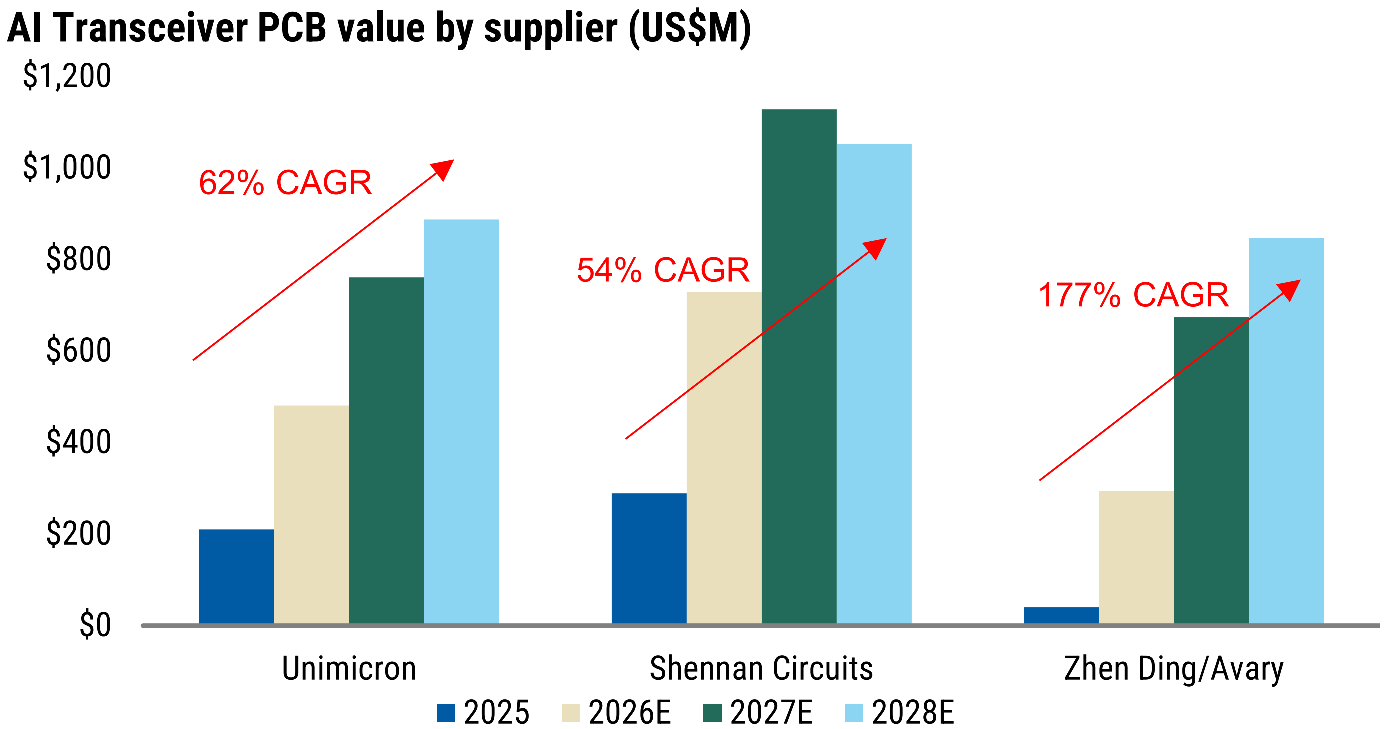
Source: Morgan Stanley Research estimates.

Incumbents like Unimicron and Shennan should continue to do well in the optical transceiver market, but we see ZDT as being aggressive and gaining share: We believe incumbent optical transceiver PCB suppliers, including Shennan and Unimicron, are well positioned to benefit from both volume growth and rising PCB content per transceiver over CY26-28. At the same time, the expanding addressable market is creating opportunities for new entrants, as existing industry capacity appears insufficient to meet anticipated demand.

Our channel checks indicate that ZDT and Compeq (2313.TW, not covered) are actively expanding capacity to support the ramp of 800G and 1.6T optical transceiver PCBs. We believe ZDT's share gains began with the initial ramp-up of 800G transceivers in CY25, and we estimate its supply share increased to approximately 7.5% in CY25, with the potential to reach ~20% by CY28. In the 1.6T segment, we estimate that ZDT entered the market with roughly 5% share in CY25 and could expand its position to ~25% by CY28E.

We expect ZDT's share gains to accelerate with the industry's migration toward 1.6T transceivers and beyond, where PCB technology requirements become increasingly demanding. Specifically, 1.6T+ transceiver PCBs are expected to require mSAP manufacturing processes, raising both technical barriers and qualification requirements. We believe ZDT is particularly well positioned to capitalize on this transition, given its extensive experience with mSAP technology, developed and refined through its participation in Apple's iPhone mainboard supply chain since the adoption of mSAP-based SLP architectures in 2017.

Exhibit 7: AI transceiver PCB value contribution to suppliers - we expect suppliers to see 50-176% CAGR over CY25-28E



Source: Morgan Stanley Research estimates.

MSe vs. Consensus

Our 2026-28 revenue estimates are 1%, 2% and -3% different from Consensus, while our net income estimates are 0%, 3% and 4% higher than Consensus. We think the variance comes from our incorporation of higher AI transceiver PCB supply share assumptions for ZDT at 17%/20%/22% for 2026/2027/2028. The stock has rallied ~145% since April 1, vs. TAIEX +26% over the same period, driven primarily by the progress of its ABF substrate business and its potential share gains in the transceiver PCB market. Our global team raised its AI transceiver volume forecasts on May 15; thus, we are adjusting our model for ZDT accordingly to reflect the transceiver volume higher estimates.

Although our estimates are not materially above Street expectations, we see scope for further upward revisions as AI demand continues to exceed expectations. We believe technological leadership in mSAP processes, financial capacity to support aggressive expansion, and a willingness to invest ahead of demand will be key differentiators. On these metrics, ZDT appears well positioned to capture outsized share gains as the AI transceiver PCB market develops.

Exhibit 8: Zhen Ding: MSe vs. Consensus

Zhen Ding	MSe			Consensus			Variance		
	2026	2027	2028	2026	2027	2028	2026	2027	2028
Revenue	226,287	291,591	337,349	223,059	285,120	346,952	1%	2%	-3%
GM	24.4%	26.7%	28.8%	23.8%	25.6%	26.9%	1%	1%	2%
OpM	11.5%	14.9%	17.9%	11.2%	14.3%	16.2%	0%	1%	2%
Net income	15,470	25,909	35,713	15,413	25,150	34,349	0%	3%	4%
EPS	14.46	24.21	33.37	14.40	23.50	32.10	0%	3%	4%

Source: Visible Alpha, Morgan Stanley Research estimates.

Our 2026-28 revenue estimates are 2%, 4% and 8% above Consensus, while our net income estimates are 20%, 17% and 8% below Consensus. We think the variance comes from our lower price hikes assumptions for its ABF substrate business compared to the Street's, which resulted in lower margins and profits. We are still of the view that price hikes this year for ABF substrates are primarily to reflect the raw material shortages and cost increases, but heading into 2027, the pricing upsides will be driven by undersupply of substrate capacity itself.

Exhibit 9: Unimicron: MSe vs. Consensus

Unimicron	MSe			Consensus			Variance		
	2026	2027	2028	2026	2027	2028	2026	2027	2028
Revenue	184,777	262,464	354,693	181,665	252,649	328,690	2%	4%	8%
GM	20.0%	26.2%	34.1%	22.7%	31.3%	35.3%	-3%	-5%	-1%
OpM	10.4%	18.6%	27.9%	13.7%	23.4%	27.9%	-3%	-5%	0%
Net income	18,220	38,875	78,482	22,804	47,008	72,397	-20%	-17%	8%
EPS	11.84	25.26	50.99	14.82	30.54	47.04	-20%	-17%	8%

Source: Visible Alpha, Morgan Stanley Research estimates.

Our 2026-28 revenue estimates are 4%, 7% and 13% above Consensus, while our net income estimates are 5% below Consensus for 2026 and 5%/15% above Consensus for 2027/2028. We think the variance comes from our higher assumptions for revenue contribution and profitability from the AI transceiver business, for which Shennan is a share leader. It is primarily valuation that keeps us EW on Shennan.

Exhibit 10: Shennan Circuits: MSe vs. Consensus

Shennan Circuits	MSe			Consensus			Variance		
	2026	2027	2028	2026	2027	2028	2026	2027	2028
Revenue	32,234	42,154	53,710	30,853	39,416	47,667	4%	7%	13%
GM	29.9%	32.1%	33.1%	30.9%	32.2%	32.9%	-3%	-1%	1%
OpM	18.0%	20.7%	22.3%	18.4%	20.2%	21.3%	-2%	3%	5%
Net income	4,785	7,493	10,496	5,020	7,138	9,150	-5%	5%	15%
EPS	7.18	11.24	15.74	7.53	10.71	13.72	-5%	5%	15%

Source: Visible Alpha, Morgan Stanley Research estimates.

Risks to our call

- Weaker demand for general and AI servers;
- Meaningful capacity expansion plans;
- Faster-than-expected adoption of CPO.

ZDT: Estimate Changes

We raise our CY2026, 2027 and 2028 EPS estimates by 5%, 15%, and 17%, respectively. Our earnings increases are driven by our raised demand, pricing, and margin assumptions on AI optical transceiver PCBs.

Exhibit 11: Estimate Changes

	2026E			2027E			2028E		
NT$mn	**New**	**Old**	**Variance**	**New**	**Old**	**Variance**	**New**	**Old**	**Variance**
Net sales	**226,287**	**220,957**	**2%**	**291,591**	**272,268**	**7%**	**337,349**	**312,343**	**8%**
COGS	-170,996	-167,319	2%	-213,614	-201,052	6%	-240,162	-224,876	7%
Gross profit	**55,291**	**53,638**	**3%**	**77,976**	**71,216**	**9%**	**97,187**	**87,467**	**11%**
Operating expenses	-29,376	-29,024	1%	-34,573	-33,545	3%	-36,776	-36,126	2%
Operating income	**25,914**	**24,614**	**5%**	**43,403**	**37,671**	**15%**	**60,411**	**51,341**	**18%**
Non-operating income	1,039	1,039	0%	1,406	1,406	0%	1,406	1,406	0%
Pre-tax income	**26,953**	**25,652**	**5%**	**44,809**	**39,077**	**15%**	**61,817**	**52,747**	**17%**
Net income	**15,470**	**14,729**	**5%**	**25,909**	**22,596**	**15%**	**35,713**	**30,487**	**17%**
EPS (NT$)	**14.46**	**13.76**	**5%**	**24.21**	**21.11**	**15%**	**33.37**	**28.49**	**17%**
Margins (%)			***ppt***			***ppt***			***ppt***
Gross margin	24.4%	24.3%	0.2	26.7%	26.2%	0.6	28.8%	28.0%	0.8
Operating margin	11.5%	11.1%	0.3	14.9%	13.8%	1.0	17.9%	16.4%	1.5
Pre-tax margin	11.9%	11.6%	0.3	15.4%	14.4%	1.0	18.3%	16.9%	1.4
Net margin	6.8%	6.7%	0.2	8.9%	8.3%	0.6	10.6%	9.8%	0.8

Source: Morgan Stanley Research (E) estimates.

Price Target and Valuation Methodology

Our base-case value/price target rises ~17% to NT$666: It is derived from our multi-stage residual income (RI) model. We use the company's beginning equity plus the present value of all expected residual income of earnings in excess of the cost of capital.

We use the company's beginning equity plus the present value of all expected residual income of earnings in excess of the cost of capital. The RI is positive when ROAE is above the cost of capital and negative when it is below the cost of capital. We assume a cost of equity of 10%, a medium-term growth rate of 15% and a terminal growth rate of 3% (all unchanged).

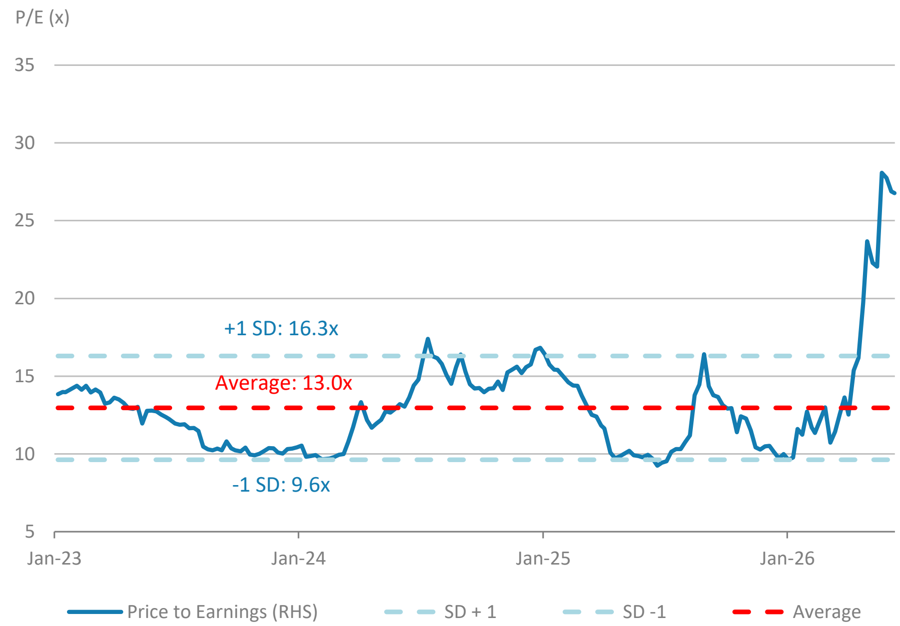
Our bull- and bear-case values also rises by similar magnitudes to NT$946 and NT $386, respectively.

Exhibit 12: Residual income (RI) model

NT$ mn		**2026E**	**2027E**	**2028E**	**2029E**	**2030E**	**2031E**	**2032E**	**2033E**	**2034E**	**2035E**	**2036E**
Total Equity		182,543	201,499	225,567	236,401	248,860	263,189	279,666	298,615	320,407	345,467	374,286
Core Net Profit		15,470	25,909	35,713	41,070	47,230	54,315	62,462	71,831	82,606	94,997	109,246
Return on Equity		9.1%	14.2%	17.7%	18.2%	20.0%	21.8%	23.7%	25.7%	27.7%	29.6%	31.6%
Beta (Last 60 Mths)	1.20											
Equity Risk Premium (Rm-Rf)	6%											
Risk Free Rate (Rf)	3%											
Cost of Equity	10%											
Terminal Growth Rate	3%											
Continuing Value Spread	-2%											
Medium-term growth rate	15.0%											
Residual Income		-1,089	8,202	16,167	19,190	24,299	30,175	36,933	44,704	53,640	63,917	75,736
Spread		-1%	4%	8%	9%	10%	12%	14%	16%	18%	20%	22%
Beginning Equity Capital		182,543										
PV of Forecast Period		165,498										
PV of Continuing Value		364,731										
Equity Value		712,772										
No. of Shares		1,070										
Projected Price (EoY)		**666.0**										
Implied 2027 P/E (x)		27.5										
Implied 2028 P/E (x)		20.0										

Source: Morgan Stanley Research estimates.

Exhibit 13: ZDT P/E



Source: TEJ, Morgan Stanley Research estimates.

Financials

Exhibit 14: Quarterly Estimates

NT$ mn	1Q25	2Q25	3Q25	4Q25	1Q26	2Q26E	3Q26E	4Q26E	2025	2026E	2027E	2028E
Sales	**40,082**	**38,203**	**47,366**	**56,870**	**40,728**	**48,174**	**64,781**	**72,604**	**182,522**	**226,287**	**291,591**	**337,349**
COGS	-34,197	-31,193	-36,956	-44,040	-31,917	-37,150	-48,224	-53,706	-146,385	-170,996	-213,614	-240,162
Gross profit	**5,885**	**7,011**	**10,410**	**12,830**	**8,812**	**11,024**	**16,556**	**18,899**	**36,136**	**55,291**	**77,976**	**97,187**
Operating expenses	-4,829	-4,586	-5,880	-6,909	-6,308	-7,165	-7,801	-8,103	-22,205	-29,376	-34,573	-36,776
- Promotion	-486	-493	-630	-744	-616	-692	-838	-845	-2,352	-2,990	-3,781	-4,152
- ADM	-1,781	-1,483	-2,270	-2,512	-2,147	-2,489	-2,677	-2,791	-8,046	-10,104	-12,171	-13,367
- R&D	-2,563	-2,611	-2,981	-3,653	-3,545	-3,984	-4,286	-4,467	-11,807	-16,282	-18,621	-19,256
Operating profit	**1,056**	**2,425**	**4,530**	**5,921**	**2,503**	**3,859**	**8,756**	**10,796**	**13,932**	**25,914**	**43,403**	**60,411**
Non-operating income	401	-153	131	-248	-103	314	414	414	131	1,039	1,406	1,406
Interest income	119	91	49	95	64	64	64	64	355	256	256	256
Investment income	-97	203	242	53	2	100	200	200	401	502	550	550
Disposal of investment	0	0	0	0	0	0	0	0	0	0	0	0
Disposal of fixed assets	16	58	-258	-102	0	0	0	0	-286	0	0	0
Exchange gain	103	-103	0	0	-930	0	0	0	0	-930	0	0
Other	259	-401	98	-294	761	150	150	150	-338	1,211	600	600
Pre-tax profit	1,457	2,272	4,661	5,673	2,400	4,173	9,170	11,210	14,063	26,953	44,809	61,817
Income tax	-431	-885	-1,072	-1,070	-353	-918	-1,724	-1,345	-3,458	-4,340	-6,944	-9,605
Net profit	**632**	**605**	**2,392**	**3,161**	**1,426**	**2,121**	**4,954**	**6,970**	**6,791**	**15,470**	**25,909**	**35,713**
EPS (NT$)	**0.66**	**0.63**	**2.46**	**3.22**	**1.33**	**1.98**	**4.63**	**6.51**	**6.91**	**14.46**	**24.21**	**33.37**
Margins												
Gross margin	15%	18%	22%	23%	22%	23%	26%	26%	20%	24%	27%	29%
Operating margin	3%	6%	10%	10%	6%	8%	14%	15%	8%	11%	15%	18%
Pre-tax margin	4%	6%	10%	10%	6%	9%	14%	15%	8%	12%	15%	18%
Net margin	2%	2%	5%	6%	4%	4%	8%	10%	4%	7%	9%	11%
QoQ Growth												
Sales	-29%	-5%	24%	20%	-28%	18%	34%	12%				
Gross profit	-49%	19%	48%	23%	-31%	25%	50%	14%				
Operating profit	-81%	130%	87%	31%	-58%	54%	127%	23%				
Pre-tax profit	-81%	56%	105%	22%	-58%	74%	120%	22%				
Net profit	-86%	-4%	295%	32%	-55%	49%	134%	41%				
YoY Growth												
Sales	23%	18%	-6%	1%	2%	26%	37%	28%	6%	24%	29%	16%
Gross profit	10%	65%	-9%	12%	50%	57%	59%	47%	11%	53%	41%	25%
Operating profit	42%	-477%	-24%	7%	137%	59%	93%	82%	20%	86%	67%	39%
Pre-tax profit	-3%	346%	-12%	-27%	65%	84%	97%	98%	-7%	92%	66%	38%
Net profit	-35%	25%	-29%	-28%	125%	251%	107%	120%	-26%	128%	67%	38%

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

Exhibit 15: Consolidated Financial Summary

Income Statement

NT$ mn	2025	2026E	2027E	2028E
Net sales	**182,522**	**226,287**	**291,591**	**337,349**
COGS	-146,385	-170,996	-213,614	-240,162
Gross profit	**36,136**	**55,291**	**77,976**	**97,187**
Operating expenses	-22,205	-29,376	-34,573	-36,776
- Promotion	-2,352	-2,990	-3,781	-4,152
- ADM	-8,046	-10,104	-12,171	-13,367
- R&D	-11,807	-16,282	-18,621	-19,256
Operating income	**13,932**	**25,914**	**43,403**	**60,411**
Non-operating income	131	1,039	1,406	1,406
Interest income	355	256	256	256
Investment income	401	502	550	550
Disposal of investment	0	0	0	0
Disposal of fixed assets	-286	0	0	0
Exchange gain	0	-930	0	0
Other	-338	1,211	600	600
Pre-tax income	14,063	26,953	44,809	61,817
Income tax	-7,272	-11,483	-18,900	-26,104
Net income	**6,791**	**15,470**	**25,909**	**35,713**
EPS (NT$)	**6.91**	**14.46**	**24.21**	**33.37**

Balance Sheet

NT$ mn	2025	2026E	2027E	2028E
Cash	71,116	61,840	73,189	88,287
Mkt securities	36	36	36	36
Accounts/Notes receivables	31,412	38,944	50,183	58,058
Inventory	19,616	22,914	28,625	32,183
Other current assets	5,460	5,460	5,460	5,460
Current Assets	127,641	129,195	157,494	184,024
Long-term investments	9,866	10,367	10,917	11,467
Fixed assets	123,737	145,693	148,605	152,383
Other assets	18,799	18,799	18,799	18,799
Total Assets	**280,043**	**304,054**	**335,815**	**366,673**
S/T borrowings	23,839	23,839	23,839	23,839
AP/NP	23,501	27,452	34,295	38,557
Other ST liabilities	25,481	33,710	39,674	42,202
Other liabilities	21,151	21,151	21,151	21,151
L/T debt	15,359	15,359	15,359	15,359
Total Liabilities	**109,330**	**121,511**	**134,316**	**141,106**
Common shares	10,706	10,706	10,706	10,706
Capital Collection	0	0	0	0
APIC	52,902	52,902	52,902	52,902
Retained earnings	61,549	73,328	92,283	116,351
Treasury Stock	-52	0	0	0
Other shareholders' equity	45607	45607	45607	45607
Shareholders' equity	**170,713**	**182,543**	**201,499**	**225,567**
Total Liab./Shrhldr's Equity	**280,043**	**304,054**	**335,815**	**366,673**

Cash Flow Statement

NT$ mn	2025	2026E	2027E	2028E
Cashflow from operations	**27,617**	**24,364**	**28,302**	**36,742**
Net Profits	10,605	15,470	25,909	35,713
Depreciation	18,552	8,044	7,088	6,222
Equity investment losses (income)	0	-502	-550	-550
Other adjustments	-1,541	1,351	-4,145	-4,643
Cashflow from investing	**-31,960**	**-30,000**	**-10,000**	**-10,000**
(Purchases) sale of FA (capex)	-32,673	-30,000	-10,000	-10,000
(Purchases) sale of L/T investment	342	0	0	0
(Purchases) sale of S/T investment	-601	0	0	0
Other adjustments	972	0	0	0
Cashflow from financing	**-1,865**	**-3,640**	**-6,953**	**-11,645**
Increase in L/T debt	6,344	0	0	0
Increase in S/T debt	2,191	0	0	0
Issuance of stock	730	0	0	0
Cash dividends	-7,221	-3,692	-6,953	-11,645
Dir.& Emp. Bonus	0	0	0	0
Changes in Treasury Stocks	288	52	0	0
Other adjustments	-4,196	0	0	0
Exchange rate adjustment	-2,177	0	0	0
Net change in cash	-8,386	-9,276	11,349	15,097

Financial Ratios

	2025	2026E	2027E	2028E
Margins				
Gross margin	19.8%	24.4%	26.7%	28.8%
Operating margin	7.6%	11.5%	14.9%	17.9%
Pretax margin	7.7%	11.9%	15.4%	18.3%
Net margin	3.7%	6.8%	8.9%	10.6%
YoY growth				
Sales	6.3%	24.0%	28.9%	15.7%
Operating profits	20.2%	86.0%	67.5%	39.2%
Pretax profits	-6.5%	91.7%	66.2%	38.0%
Net profits	-26.0%	127.8%	67.5%	37.8%
EPS	-28.6%	109.3%	67.5%	37.8%
Net Debt/Equity (Net of mkt secs.)	-19%	-12%	-17%	-22%
Net Debt/Equity	-19%	-12%	-17%	-22%
Liabilities/Equity	64%	67%	67%	63%
Liabilities/Assets	39%	40%	40%	38%
ROAE	4.2%	8.8%	13.5%	16.7%
ROAA	2.5%	5.3%	8.1%	10.2%
AR/NR Turnover (days)	62	57	56	59
AP/NP Turnover (days)	56	54	53	55
Inventory Turnover (days)	47	45	44	46
Cash conversion cycle (days)	52	48	47	49

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

Unimicron: Estimate Changes

We raise our 2026, 2027 and 2028 EPS estimates by 2%, 5% and 4%, respectively, primarily driven by higher assumptions for AI optical transceiver PCBs.

Exhibit 16: Estimate Changes

Year to Dec. 31 (NT$m)	2026E			2027E			2028E		
	New	Old	% diff	New	Old	% diff	New	Old	% diff
P&L Summary									
Net sales	**184,777**	**186,189**	**-1%**	**262,464**	**260,849**	**1%**	**354,693**	**352,349**	**1%**
COGS	(147,780)	(149,522)		(193,803)	(194,590)		(233,768)	(235,051)	
Gross profit	**36,997**	**36,667**	**1%**	**68,660**	**66,260**	**4%**	**120,924**	**117,299**	**3%**
Operating expenses	(17,713)	(17,794)		(19,966)	(19,966)		(21,971)	(22,086)	
Operating income	**19,284**	**18,872**	**2%**	**48,695**	**46,293**	**5%**	**98,953**	**95,212**	**4%**
Non-operating income	5,027	5,027		2,180	2,180		2,180	2,180	
Pre-tax income	**24,311**	**23,899**	**2%**	**50,874**	**48,473**	**5%**	**101,133**	**97,392**	**4%**
Net income	**18,220**	**17,879**	**2%**	**38,875**	**36,979**	**5%**	**78,482**	**75,534**	**4%**
Diluted EPS (NT$)	**11.84**	**11.62**	**2%**	**25.26**	**24.03**	**5%**	**50.99**	**49.08**	**4%**
Margins			***ppt***			***ppt***			***ppt***
Gross margin	20.0%	19.7%	0.3	26.2%	25.4%	0.8	34.1%	33.3%	0.8
Operating margin	10.4%	10.1%	0.3	18.6%	17.7%	0.8	27.9%	27.0%	0.9
Pretax margin	13.2%	12.8%	0.3	19.4%	18.6%	0.8	28.5%	27.6%	0.9
Net margin	9.9%	9.6%	0.3	14.8%	14.2%	0.6	22.1%	21.4%	0.7

Source: Morgan Stanley Research (E) estimates.

Price Target and Valuation Methodology

Our 12-month price target increases ~5% to NT$1,285 (from NT$1,225), driven by our increased earnings estimates for CY26-28e: We believe the company's earnings have returned to a growth track from 2026 onwards and will see stronger earnings growth in 2027, driven by the high-end ABF substrate market's reversion to undersupply and Unimicron's dominant supply share in AI ASICs and also server CPUs, which puts it in a favorable position to benefit from rising AI investments.

We believe the overall ABF substrate market bottomed in 2H24, and growth will accelerate from 2H26 onwards with the ramp of multiple next-generation, large body size ABF substrates for new server GPUs, CPUs, ASICs, and networking chips. New technologies, such as embedded passives and Intel's EMIB-T, will also increase the manufacturing complexity of the package substrates, which adds to the under-capacity as usable output decreases.

Similar to our analysis of other tech hardware companies within our coverage, we use a residual income (RI) valuation model to value Unimicron – we think it derives the most accurate value of the firm as it takes into account cost of equity. Key assumptions are all unchanged, including:

- Cost of equity of 9.2%;
- Risk-free rate of 1% (10-year Taiwan government note yield);
- Equity risk premium of 8.7%;
- Beta of 1.0;
- Medium-term growth rate of 15%
- Terminal growth rate of 3% (similar to the rest of the companies under our tech hardware coverage).

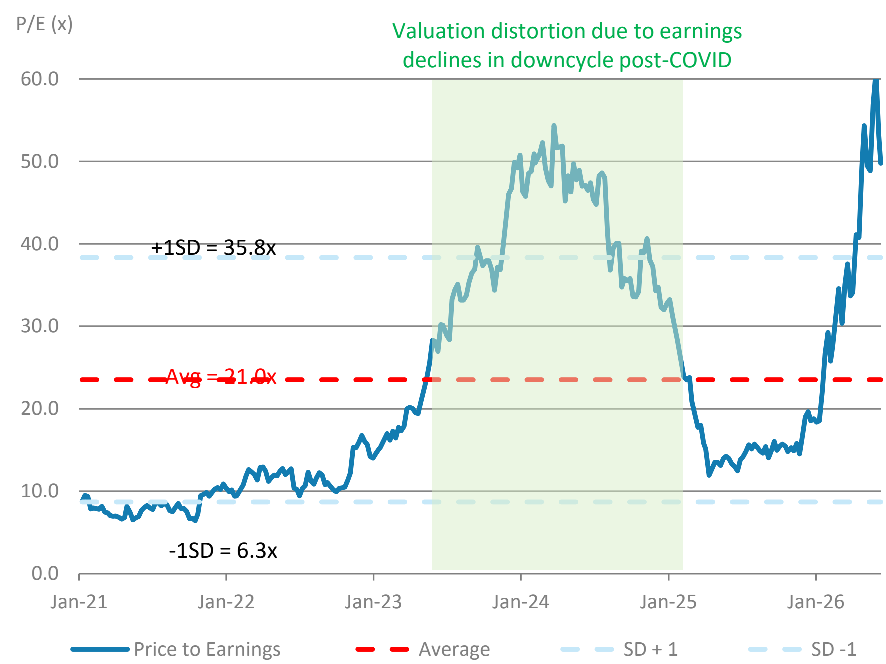
Our bull and bear case values increase by similar magnitudes, to NT$2,190 and NT $430, respectively.

Exhibit 17: Unimicron residual income (RI) model

		2027E	2028E	2029E	2030E	2031E	2032E	2033E	2034E	2035E	2036E	2037E
Total Equity		**152,160**	**212,630**	**246,731**	**285,946**	**331,044**	**382,906**	**442,548**	**511,136**	**590,012**	**680,719**	**756,223**
Net Profit		**38,875**	**78,482**	**90,254**	**103,792**	**119,361**	**137,265**	**157,855**	**181,533**	**208,763**	**240,077**	**247,280**
Return on Equity		**28.4%**	**43.0%**	**39.3%**	**39.0%**	**38.7%**	**38.5%**	**38.2%**	**38.1%**	**37.9%**	**37.8%**	**34.4%**
Beta	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Equity Risk Premium (Rm-Rf)	8.7%	8.7%	8.7%	8.7%	8.7%	8.7%	8.7%	8.7%	8.7%	8.7%	8.7%	8.7%
Risk Free Rate (Rf)	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%
Cost of Equity	9.2%	9.2%	9.2%	9.2%	9.2%	9.2%	9.2%	9.2%	9.2%	9.2%	9.2%	9.2%
Residual Income		**23,387**	**51,508**	**64,040**	**73,507**	**84,394**	**96,912**	**111,308**	**127,863**	**146,900**	**168,792**	**171,813**
Spread		**19.2%**	**33.9%**	**30.1%**	**29.8%**	**29.5%**	**29.3%**	**29.1%**	**28.9%**	**28.7%**	**28.6%**	**25.2%**
Beginning Equity Capital		152,160										
PV of Forecast Period		634,902										
PV of Continuing Value		1,190,556										
Equity Value		**1,977,619**										
No. of Shares		1,539										
Projected Price		**1,285.0**										

Source: Morgan Stanley Research estimates.

Exhibit 18: Unimicron P/E



Source: TEJ, Morgan Stanley Research estimates.

Financials

Exhibit 19: Quarterly Estimates

NT$ mn	1Q25	2Q25	3Q25	4Q25	1Q26E	2Q26E	3Q26E	4Q26E	2025	2026E	2027E	2028E
Sales	**30,090**	**32,466**	**33,994**	**34,691**	**37,446**	**43,621**	**51,100**	**52,609**	**131,241**	**184,777**	**262,464**	**354,693**
Cost of goods sold	-26,063	-28,221	-29,446	-29,219	-30,720	-35,125	-40,558	-41,377	-112,949	-147,780	-193,803	-233,768
Gross profit	**4,026**	**4,246**	**4,549**	**5,472**	**6,726**	**8,497**	**10,542**	**11,232**	**18,292**	**36,997**	**68,660**	**120,924**
Operating expenses	-2,759	-2,736	-3,016	-3,106	-3,969	-4,331	-4,696	-4,717	-11,618	-17,713	-19,966	-21,971
Operating profit	**1,267**	**1,509**	**1,533**	**2,366**	**2,757**	**4,166**	**5,846**	**6,516**	**6,674**	**19,284**	**48,695**	**98,953**
Interest income (loss)	103	62	-7	25	25	25	25	25	183	100	100	100
Investment income (loss)	32	-13	-1	-10	20	20	20	20	8	80	80	80
Gains (Losses) from investment disposal	0	0	0	3	0	0	0	0	3	0	0	0
Gains from FAs disposal	3	337	-29	507	0	0	0	0	817	0	0	0
Exchange gain	452	-1,281	487	349	300	0	0	0	7	300	0	0
Others	-483	-257	964	910	3,197	450	450	450	1,134	4,547	2,000	2,000
Pre-tax profit	1,373	357	2,947	4,150	6,299	4,661	6,341	7,010	8,827	24,311	50,874	101,133
Net Income for Minority	9	231	256	381	338	338	338	338	877	1,351	1,351	1,351
Income tax	-450	-97	-496	-235	-918	-1,165	-1,395	-1,262	-1,277	-4,740	-10,648	-21,300
Net profit	**915**	**30**	**2,194**	**3,535**	**5,043**	**3,158**	**4,608**	**5,411**	**6,673**	**18,220**	**38,875**	**78,482**
EPS (NT$)	**0.59**	**0.02**	**1.43**	**2.30**	**3.28**	**2.05**	**2.99**	**3.52**	**4.34**	**11.84**	**25.26**	**50.99**
Margins (%)												
Gross margin	13.4%	13.1%	13.4%	15.8%	18.0%	19.5%	20.6%	21.4%	13.9%	20.0%	26.2%	34.1%
Operating margin	4.2%	4.6%	4.5%	6.8%	7.4%	9.6%	11.4%	12.4%	5.1%	10.4%	18.6%	27.9%
Pre-tax margin	4.6%	1.1%	8.7%	12.0%	16.8%	10.7%	12.4%	13.3%	6.7%	13.2%	19.4%	28.5%
Net margin	3.0%	0.1%	6.5%	10.2%	13.5%	7.2%	9.0%	10.3%	5.1%	9.9%	14.8%	22.1%
QoQ Growth												
Sales	2%	8%	5%	2%	8%	16%	17%	3%				
Gross profit	18%	5%	7%	20%	23%	26%	24%	7%				
Operating profit	86%	19%	2%	54%	17%	51%	40%	11%				
Pre-tax profit	331%	-74%	726%	41%	52%	-26%	36%	11%				
Net profit	1531%	-97%	7310%	61%	43%	-37%	46%	17%				
YoY Growth												
Sales	14%	16%	7%	18%	24%	34%	50%	52%	14%	41%	42%	35%
Gross profit	-6%	15%	-8%	61%	67%	100%	132%	105%	12%	102%	86%	76%
Operating profit	-20%	68%	-22%	248%	118%	176%	281%	175%	30%	189%	153%	103%
Pre-tax profit	-59%	-83%	95%	1201%	359%	1207%	115%	69%	21%	175%	109%	99%
Net profit	-62%	-98%	120%	6204%	451%	10567%	110%	53%	31%	173%	113%	102%

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

Exhibit 20: Consolidated Financial Summary

Income Statement

NT$ mn; FY End Dec	2025	2026E	2027E	2028E
Net sales	**131,241**	**184,777**	**262,464**	**354,693**
Cost of goods sold	-112,949	-147,780	-193,803	-233,768
Gross profit	**18,292**	**36,997**	**68,660**	**120,924**
Operating expenses	-11,618	-17,713	-19,966	-21,971
Sales & Marketing	-1,607	-2,514	-3,249	-3,994
G&A	-5,012	-7,806	-8,136	-8,550
R&D	-4,999	-7,392	-8,581	-9,428
Operating profit	**6,674**	**19,284**	**48,695**	**98,953**
Interest income	183	100	100	100
Investment income	8	80	80	80
Gains from investment disposal	3	0	0	0
Gains from fixed assets disposal	817	0	0	0
Exchange gain	7	300	0	0
Other non-operating income	1,134	4,547	2,000	2,000
Net non-operating profit	**2,153**	**5,027**	**2,180**	**2,180**
Pre-tax profit	8,827	24,311	50,874	101,133
Net Income for Minority	-877	-1,351	-1,351	-1,351
Income tax	-1,277	-4,740	-10,648	-21,300
Net profit	**6,673**	**18,220**	**38,875**	**78,482**
Reported EPS (NT$)	**4.34**	**11.84**	**25.26**	**50.99**

Balance Sheet

NT$ mn; FY End Dec	2025	2026E	2027E	2028E
Cash	54,872	81,793	141,429	229,011
Mkt Securities	38	38	38	38
AR/NR	27,570	38,816	55,136	74,511
Inventory	17,802	23,292	30,545	36,844
Others	5,016	7,062	10,031	13,556
Current Assets	**105,298**	**151,001**	**237,179**	**353,960**
Long-term Investments	836	836	836	836
Fixed Assets	125,866	129,535	121,838	114,413
Other Assets	23,792	23,792	23,792	23,792
Total Assets	**255,792**	**305,164**	**383,645**	**493,001**
S-t Borrowings	10,845	10,845	10,845	10,845
AP/NP	17,494	22,889	30,018	36,208
Other S-T Liabilities	47,115	61,645	80,843	97,514
Other LT Liabilities	38,457	54,144	76,908	103,934
L-t Debt	34,873	33,872	32,871	31,870
Total Liabilities	**148,785**	**183,395**	**231,485**	**280,371**
Common Shares	15,296	15,296	15,296	15,296
Other Shareholders' Equity	91,711	106,473	136,864	197,334
Total Equity	**107,007**	**121,769**	**152,160**	**212,630**
Total Liab./Shrhldr's Equity	**255,792**	**305,164**	**383,645**	**493,001**

Cash Flow Statement

NT$ mn; FY End Dec	2025	2026E	2027E	2028E
Cashflow from Operations	**14,967**	**39,169**	**58,657**	**90,949**
Net Profits	6,673	18,220	38,875	78,482
Depreciation	18,773	19,887	20,078	18,885
Investment losses (income)	0	-80	-80	-80
Investment Disposal Loss	-3	0	0	0
Change in Working Capital	-2,943	3,188	2,753	-2,812
Other adjustments	-7,533	-2,046	-2,969	-3,525
Cashflow from Investing	**-23,018**	**-23,556**	**-12,381**	**-11,460**
(Purchases) Sale of fixed asset	-24,307	-23,556	-12,381	-11,460
(Purchases) Sale of LT investment	-77	0	0	0
Other adjustments	1,367	0	0	0
Cashflow from financing	**19,073**	**11,608**	**13,359**	**8,093**
Increase in L-T debt	9,950	-1,001	-1,001	-1,001
Increase in S-T debt	4,331	0	0	0
Issuance of stock	0	0	0	0
Other adjustments	7,087	15,687	22,764	27,025
Exchange Rate Adjustment	96	-300	0	0
Net change in cash	11,118	26,921	59,636	87,582

Financial Ratios

	2025	2026E	2027E	2028E
Margins				
Gross margin	13.9%	20.0%	26.2%	34.1%
Operating expenses/sales	-8.9%	-9.6%	-7.6%	-6.2%
Operating margin	5.1%	10.4%	18.6%	27.9%
Tax rate	14.5%	19.5%	20.9%	21.1%
Pre-tax margin	6.7%	13.2%	19.4%	28.5%
Net Margin	5.1%	9.9%	14.8%	22.1%
YoY Growth				
Turnover	13.8%	40.8%	42.0%	35.1%
Gross Profit	12.1%	102.3%	85.6%	76.1%
Operating Profits	30.4%	188.9%	152.5%	103.2%
Pretax Profits	20.6%	175.4%	109.3%	98.8%
Net Profits	31.3%	173.0%	113.4%	101.9%
Adjusted Cash Dividend (NT$)	2.00	5.46	11.65	23.52
Net Debt/Equity	-8.6%	-30.5%	-64.2%	-87.6%
Liabilities/Equity	139.0%	150.6%	152.1%	131.9%
Liabilities/Assets	58.2%	60.1%	60.3%	56.9%
ROAE	6.5%	15.9%	28.4%	43.0%
ROAA	2.7%	6.5%	11.3%	17.9%
A/R Turnover (days)	71.2	65.6	65.3	66.7
A/P Turnover (days)	52.7	49.9	49.8	51.7
Inventory Turnover (days)	52.8	50.7	50.7	52.6
Cash conversion (days)	71.3	66.4	66.2	67.6

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

Shennan Circuits: Estimate Changes

We raise our 2026, 2027 and 2028 EPS estimates by 9%, 17% and 24%, respectively, primarily driven by higher assumptions for AI optical transceiver PCBs.

Exhibit 21: Estimate Changes

Year to Dec. 31	2026E			2027E			2028E		
(RMB mn)	New	Old	% diff	New	Old	% diff	New	Old	% diff
P&L Summary									
Net sales	**32,234**	**30,721**	**5%**	**42,154**	**37,580**	**12%**	**53,710**	**44,952**	**19%**
COGS	(22,602)	(21,691)		(28,642)	(25,773)		(35,954)	(30,356)	
Gross profit	**9,632**	**9,030**	**7%**	**13,512**	**11,807**	**14%**	**17,756**	**14,596**	**22%**
Operating expenses	(3,843)	(3,664)		(4,794)	(4,277)		(5,752)	(4,821)	
Operating income	**5,789**	**5,366**	**8%**	**8,717**	**7,530**	**16%**	**12,004**	**9,775**	**23%**
Non-operating income	(531)	(531)		(515)	(515)		(515)	(515)	
Pre-tax income	**5,258**	**4,835**	**9%**	**8,202**	**7,015**	**17%**	**11,489**	**9,260**	**24%**
Income tax	(472)	(435)		(710)	(606)		(993)	(799)	
Minority interest	(1)	(1)		-	-		-	-	
Net income	**4,785**	**4,399**	**9%**	**7,493**	**6,409**	**17%**	**10,496**	**8,461**	**24%**
EPS (RMB)	**7.18**	**6.60**	**9%**	**11.24**	**9.61**	**17%**	**15.74**	**12.69**	**24%**
Margins			***ppt***			***ppt***			***ppt***
Gross margin	29.9%	29.4%	0.5	32.1%	31.4%	0.6	33.1%	32.5%	0.6
Operating margin	18.0%	17.5%	0.5	20.7%	20.0%	0.6	22.3%	21.7%	0.6
Pretax margin	16.3%	15.7%	0.6	19.5%	18.7%	0.8	21.4%	20.6%	0.8
Net margin	14.8%	14.3%	0.5	17.8%	17.1%	0.7	19.5%	18.8%	0.7

Source: Morgan Stanley Research (E) estimates.

Price Target and Valuation Methodology

We raise our 12-month price target to Rmb400 (implies 36x 2027e EPS or 25x 2028e EPS), up from Rmb320, primarily driven by the increases in our earnings estimates for CY26, CY27 and CY28: Our base case scenario value is derived from a residual income (RI) model.

Our key assumptions are all unchanged, including a cost of equity of 6.7% (beta of 1.1, equity risk premium 5.0%, and risk-free rate of 1.3%), a medium-term growth rate of 7.0%, and a terminal growth rate of 4.0%.

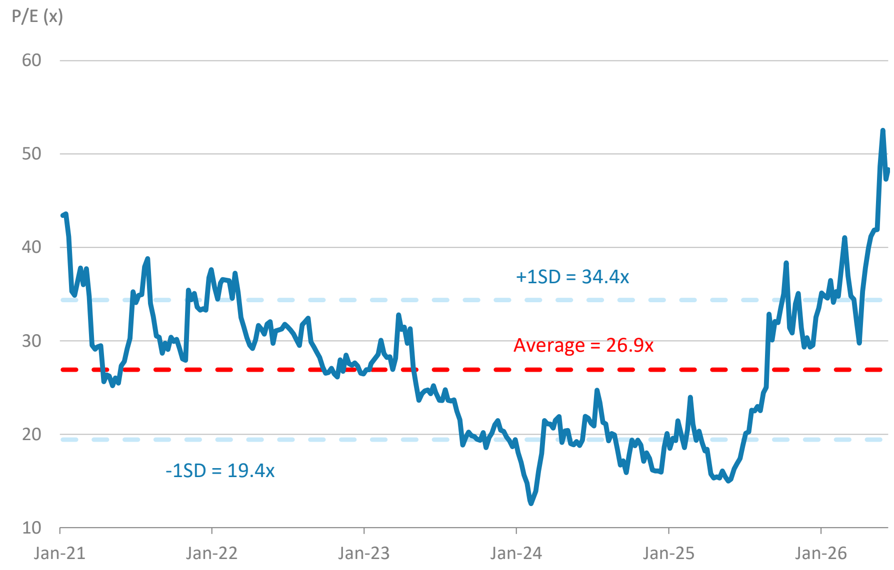
Our bull and bear case values increase to Rmb555 and Rmb230, respectively: This is in line with the magnitude of increase in our base case value.

Exhibit 22: Shennan Circuits residual income (RI) model

RMB mn	2026E	2027E	2028E	2029E	2030E	2031E	2032E	2033E	2034E	2035E	2036E
Total Equity	**20,731**	**26,645**	**34,668**	**43,604**	**53,164**	**63,394**	**74,340**	**86,053**	**98,585**	**111,994**	**126,342**
Net Profit	**4,785**	**7,493**	**10,496**	**11,231**	**12,017**	**12,858**	**13,758**	**14,721**	**15,752**	**16,854**	**18,034**
Return on Equity	**25.2%**	**31.6%**	**34.2%**	**28.7%**	**24.8%**	**22.1%**	**20.0%**	**18.4%**	**17.1%**	**16.0%**	**15.1%**
Beta	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
Equity Risk Premium (Rm-Rf)	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%
Risk Free Rate (Rf)	1.3%	1.3%	1.3%	1.3%	1.3%	1.3%	1.3%	1.3%	1.3%	1.3%	1.3%
Cost of Equity	6.7%	6.7%	6.7%	6.7%	6.7%	6.7%	6.7%	6.7%	6.7%	6.7%	6.7%
Beginning Equity Capital	20,731										
PV of Forecast Period	56,125										
PV of Continuing Value	189,872										
Equity Value	**266,727**										
No. of Shares	667										
Projected Price (RMB)	**400.0**										

Source: Morgan Stanley Research estimates.

Exhibit 23: Shennan Circuits 5Y P/E Band



Source: TEJ, Morgan Stanley Research estimates.

Financials

Exhibit 24: Quarterly Estimates

RMB mn	1Q25	2Q25	3Q25	4Q25	1Q26	2Q26E	3Q26E	4Q26E	2025A	2026E	2027E	2028E
Net sales	**4,783**	**5,671**	**6,301**	**6,893**	**6,596**	**7,780**	**8,612**	**9,247**	**23,647**	**32,234**	**42,154**	**53,710**
COGS	(3,621)	(4,144)	(4,364)	(4,947)	(4,706)	(5,478)	(5,986)	(6,432)	(17,076)	(22,602)	(28,642)	(35,954)
Gross profit	**1,162**	**1,527**	**1,937**	**1,946**	**1,889**	**2,301**	**2,627**	**2,815**	**6,571**	**9,632**	**13,512**	**17,756**
Operating expenses	(622)	(668)	(860)	(887)	(804)	(934)	(1,033)	(1,073)	(3,038)	(3,843)	(4,794)	(5,752)
SG&A, R&D exp.	(622)	(668)	(860)	(887)	(804)	(934)	(1,033)	(1,073)	(3,038)	(3,843)	(4,794)	(5,752)
Employee bonus	13	14	15	16	17	18	19	20	1	2	3	4
Operating income	**540**	**858**	**1,077**	**1,058**	**1,085**	**1,368**	**1,593**	**1,743**	**3,533**	**5,789**	**8,717**	**12,004**
Non-operating income	**(17)**	**117**	**(17)**	**6**	**(145)**	**(129)**	**(129)**	**(129)**	**91**	**(531)**	**(515)**	**(515)**
Interest income	(131)	(93)	(116)	(82)	(179)	(179)	(179)	(179)	(422)	(715)	(715)	(715)
Investment income	3	0	(0)	0	(0)	(0)	(0)	(0)	3	(0)	(0)	(0)
Disposal of investment	0	0	0	0	0	0	0	0	0	0	0	0
Exchange gain	0	0	0	0	0	0	0	0	0	0	0	0
Other	111	210	100	88	34	50	50	50	509	184	200	200
Pre-tax income	**523**	**976**	**1,060**	**1,065**	**941**	**1,239**	**1,464**	**1,614**	**3,624**	**5,258**	**8,202**	**11,489**
Income tax	(31)	(106)	(93)	(114)	(89)	(136)	(117)	(129)	(345)	(472)	(710)	(993)
Minority interest	(1)	(0)	(1)	(0)	(1)	0	0	0	(3)	(1)	0	0
Net income	**491**	**869**	**966**	**950**	**850**	**1,103**	**1,347**	**1,485**	**3,276**	**4,785**	**7,493**	**10,496**
Adj.wtd.avg.shrs (mn)	667	667	667	667	667	667	667	667	667	667	667	667
EPS (RMB)	**0.74**	**1.30**	**1.45**	**1.42**	**1.28**	**1.65**	**2.02**	**2.23**	**4.91**	**7.18**	**11.24**	**15.74**
Fully diluted shares (mn)	667	667	667	667	667	667	667	667	667	667	667	667
Diluted EPS (RMB)	**0.74**	**1.30**	**1.45**	**1.42**	**1.28**	**1.65**	**2.02**	**2.23**	**4.91**	**7.18**	**11.24**	**15.74**
Margins (%)												
Gross Margin	24.3	26.9	30.7	28.2	28.6	29.6	30.5	30.4	27.8	29.9	32.1	33.1
Operating Margin	11.3	15.1	17.1	15.4	16.5	17.6	18.5	18.8	14.9	18.0	20.7	22.3
Pretax Margin	10.9	17.2	16.8	15.4	14.3	15.9	17.0	17.5	15.3	16.3	19.5	21.4
Net Margin	10.3	15.3	15.3	13.8	12.9	14.2	15.6	16.1	13.9	14.8	17.8	19.5
QoQ Growth (%)												
Sales	-2	19	11	9	-4	18	11	7				
Gross Profit	12	31	27	0	-3	22	14	7				
Operating Profit	47	59	25	-2	3	26	16	9				
Pretax Profit	24	86	9	0	-12	32	18	10				
Net Profit	26	77	11	-2	-10	30	22	10				
YoY Growth (%)												
Sales	21	30	33	42	38	37	37	34	32	36	31	27
Gross Profit	20	33	66	87	63	51	36	45	52	47	40	31
Operating Profit	30	41	73	188	101	59	48	65	75	64	51	38
Pretax Profit	29	46	102	151	80	27	38	52	79	45	56	40
Net Profit	29	43	93	144	73	27	39	56	74	46	57	40

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

Exhibit 25: Consolidated Financial Summary

Consolidated Income Statement

RMBmn (Year End Dec 31)	2025A	2026E	2027E	2028E
Net sales	**23,647**	**32,234**	**42,154**	**53,710**
COGS	(17,076)	(22,602)	(28,642)	(35,954)
Gross profit	**6,571**	**9,632**	**13,512**	**17,756**
Operating expenses	(3,038)	(3,843)	(4,794)	(5,752)
Operating income	**3,533**	**5,789**	**8,717**	**12,004**
Non-operating income	**91**	**(531)**	**(515)**	**(515)**
Interest income	(422)	(715)	(715)	(715)
Investment income	3	(0)	(0)	(0)
Disposal of investment	-	-	-	-
Exchange gain	-	-	-	-
Other	509	184	200	200
Pre-tax income	**3,624**	**5,258**	**8,202**	**11,489**
Income tax	(345)	(472)	(710)	(993)
Minority interests	(3)	(1)	-	-
Net income	**3,276**	**4,785**	**7,493**	**10,496**
Adj. wtd. Avg. shrs (m)	667	667	667	667
Reported EPS (Rmb)	**4.91**	**7.18**	**11.24**	**15.74**
Diluted shrs (m)	667	667	667	667
Diluted EPS (Rmb)	**4.91**	**7.18**	**11.24**	**15.74**

Consolidated Cash Flow Statement

RMBmn (Year End Dec 31)	2025A	2026E	2027E	2028E
Operating Cashflow	**3,838**	**9,303**	**7,842**	**10,971**
Net Profits	3,276	4,785	7,493	10,496
Depreciation & Amort.	0	0	0	0
Investment losses/(income)	(3)	0	0	0
Working capital change	(802)	3,830	399	533
Other adjustments	1,368	688	(50)	(58)
Investing Cashflow	**(3,756)**	**(5,125)**	**(6,702)**	**(8,539)**
Capex	(3,765)	(5,133)	(6,712)	(8,553)
Change of L/T investment	0	0	0	0
Change of S/T investment	0	0	0	0
Other adjustments	4	0	0	0
Financing Cashflow	**(650)**	**(481)**	**(786)**	**(1,631)**
Increase in L/T debt	207	0	0	0
Increase in S/T debt	0	500	500	500
Issuance of stock	0	(154)	0	0
Cash dividends	(846)	(1,081)	(1,579)	(2,473)
Other adjustments	(11)	254	293	342
FX adjustment	12	0	0	0
Net change in cash	**(555)**	**3,697**	**355**	**801**

Consolidated Balance Sheet

RMBmn (Year End Dec 31)	2025A	2026E	2027E	2028E
Cash	**997**	**4,694**	**5,048**	**5,850**
Mkt securities	-	-	-	-
AR/NR	6,669	3,546	4,637	5,908
Inventory	5,140	3,390	4,296	5,393
Others	849	161	211	269
Current Assets	**13,654**	**11,791**	**14,192**	**17,419**
Long-term investments	3	3	3	3
Fixed assets	15,190	20,315	27,017	35,556
Other assets	1,736	1,736	1,736	1,736
Total Assets	**30,583**	**33,845**	**42,948**	**54,714**
S/T borrowings	15	515	1,015	1,515
AP/NP	5,625	3,164	4,010	5,033
Other ST liabilities	4,384	5,803	7,353	9,230
Total Current Liabilities	**10,024**	**9,482**	**12,378**	**15,779**
L/T debt	2,679	2,679	2,679	2,679
Other LT libilities	699	953	1,246	1,588
Total Liabilities	**13,402**	**13,114**	**16,303**	**20,046**
Common shares	667	513	513	513
Retained Earnings	10,024	13,728	19,642	27,666
Other SH' Equity	6,490	6,490	6,490	6,490
Total Shareholders' Equity	**17,181**	**20,731**	**26,645**	**34,668**
Total Liab./SH's Equity	**30,583**	**33,845**	**42,948**	**54,714**

Consolidated Financial Ratios

	2025A	2026E	2027E	2028E
Margins (%)				
Gross margin	27.8	29.9	32.1	33.1
Operating margin	14.9	18.0	20.7	22.3
Pretax margin	15.3	16.3	19.5	21.4
Net margin	13.9	14.8	17.8	19.5
YoY growth (%)				
Sales	32.1	36.3	30.8	27.4
Operating profits	75.4	63.8	50.6	37.7
Pretax profits	79.1	45.1	56.0	40.1
Net profits	74.5	46.1	56.6	40.1
Others				
Cash dividend payout (%)	33	33	33	-
Cash div (Rmb)	1.6	2.4	3.7	5.2
Yield (%)	1	1	2	3
Net Debt/Equity (%)	10	(7)	(5)	(5)
Liabilities/Equity (%)	78	63	61	58
Liabilities/Assets (%)	44	39	38	37
ROAE (%)	21	25	32	34
ROAA (%)	12	15	20	21
AR/NR Turnover (days)	91	58	35	36
Inventory Turnover (days)	91	69	49	49
AP/NP Turnover (days)	107	71	46	46
Cash conversion cycle	75	56	39	39

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

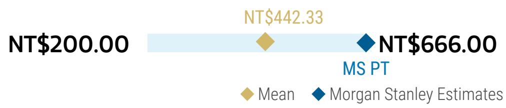
Risk Reward – Zhen Ding (4958.TW)

Growing China & International AI chip substrate and PCB vendor

PRICE TARGET NT$666.00

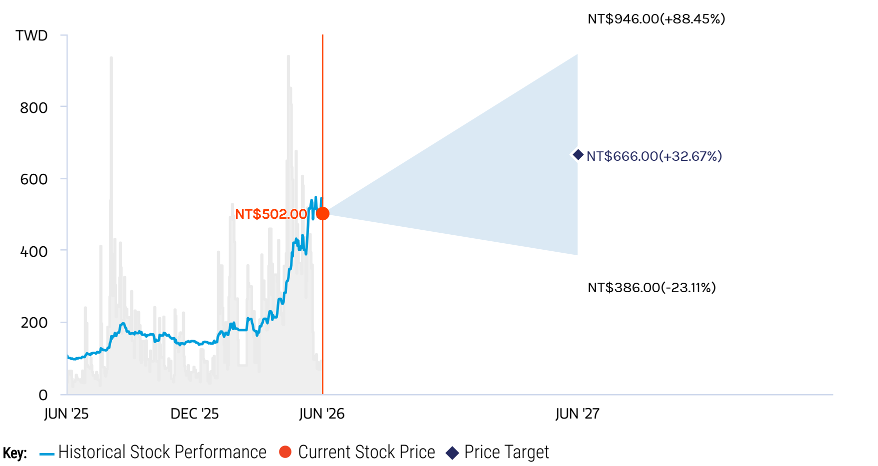
Base case, residual income model. Key assumptions include a cost of equity of 10%, a medium-term growth rate of 15% and a terminal growth rate of 3%.

Consensus Price Target Distribution



Source: Refinitiv, Morgan Stanley Research

RISK REWARD CHART

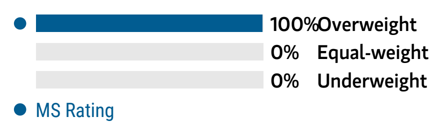


Source: Refinitiv, Morgan Stanley Research

OVERWEIGHT THESIS

- iPhone volumes are more resilient than Android given Apple's advantages on securing memory.
- ZDT is one of the key ABF substrate suppliers for China AI chips, which is expected to grow meaningfully over the next few years.
- ZDT is growing its ABF exposure to International clients as well, including Google TPU.
- AI optical transceiver module PCB is a meaningful growth driver for ZDT, with very good margins (GM 40%+).
- Shenzhen ABF fab 1 continues to ramp and has turned profitable in 1Q26, and fab 2 is now under construction. Kaohsiung fab is on track to enter mass production in 2H26.
- Our PT implies 27x/20x CY27e/28e P/E.

Consensus Rating Distribution



Source: Refinitiv, Morgan Stanley Research

Risk Reward Themes

Pricing Power: *Negative*

View descriptions of Risk Rewards Themes here

BULL CASE NT$946.00

37x 2027e P/E

Greater share gains and better earnings contribution from new projects in ABF and AI Server PCBs: In the bull case, we assume ZDT is able to do Google TPU substrate extremely well and uses it to approach other ASIC/GPU customers, expanding its international client base. Additionally, we also assume ZDT expands Nvidia AI PCB share to 20-30% share on good execution and yield.

BASE CASE NT$666.00

27.5x 2027e P/E

Stable demand for F-PCB and SLP, with share gains in BT/ABF substrates, and AI server PCBs: Zhen Ding is one of the main ABF substrate suppliers for China AI chips, while growing its share for international clients, potentially starting with Google TPU. At the same time, it continues to grow its AI server PCB share with Nvidia and other hyperscalers, and grows its exposure to optical module transceivers.

BEAR CASE NT$386.00

16x 2027e P/E

Weaker iPhone demand with share loss and ZDT does not execute on Google TPU substrates: iPhone demand misses market expectations, Zhen Ding loses share in F-PCB to Chinese peers, and SLP demand is also weak. We also assume here that ZDT fails to execute on TPU substrates and only continues to have exposure to China AI chips, with less than 5% share for Nvidia AI PCBs.

Risk Reward – Zhen Ding (4958.TW)

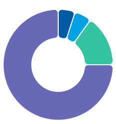
KEY EARNINGS INPUTS

Drivers	2025	2026e	2027e	2028e
F-PCB sales y/y (%)	5.0	1.2	14.6	7.3
F-PCB GM (%)	21.3	24.2	24.6	25.6
F-PCB ASP per sq ft (NT$)	59.5	60.4	63.1	65.3

INVESTMENT DRIVERS

- iPhone, MacBook, iPad demand
- F-PCB content per iPhone, MacBook, iPad
- F-PCB ASP
- Yield rate for ABF/BT substrates

GLOBAL REVENUE EXPOSURE



- 0-10% APAC, ex Japan, Mainland China and India
- 0-10% Latin America
- 10-20% Mainland China
- 70-80% North America

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

MS ALPHA MODELS

3/5 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

- Higher-than-expected F-PCB content increase for iPhones
- Better-than-expected production yield/share allocation for SLP
- Share gains on higher margin F-PCB pieces

RISKS TO DOWNSIDE

- Worse-than-expected iPhone sell-through
- Lower-than-expected F-PCB content increase for iPhones
- Worse-than-expected production yield/share allocation for SLP
- Increasing competition from Chinese peers, intensifying pricing pressure

OWNERSHIP POSITIONING

Inst. Owners, % Active 65.6%

Source: Refinitiv, Morgan Stanley Research

MS ESTIMATES VS. CONSENSUS

FY Dec 2027e

	Low	Morgan Stanley Estimates	Mean	High
Sales / Revenue (NT$, mn)	255,610	291,591	284,811	321,782
EBITDA (NT$, mn)		51,041	70,537	86,189
Net income (NT$, mn)	18,699	25,909	25,067	31,958
EPS (NT$)	17.47	24.21	23.18	29.81

◆ Mean ◆ Morgan Stanley Estimates

Source: Refinitiv, Morgan Stanley Research

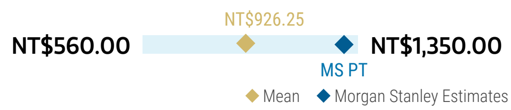
Risk Reward – Unimicron (3037.TW)

Price hikes and spec upgrades to support higher earnings estimates; OW

PRICE TARGET NT$1,285.00

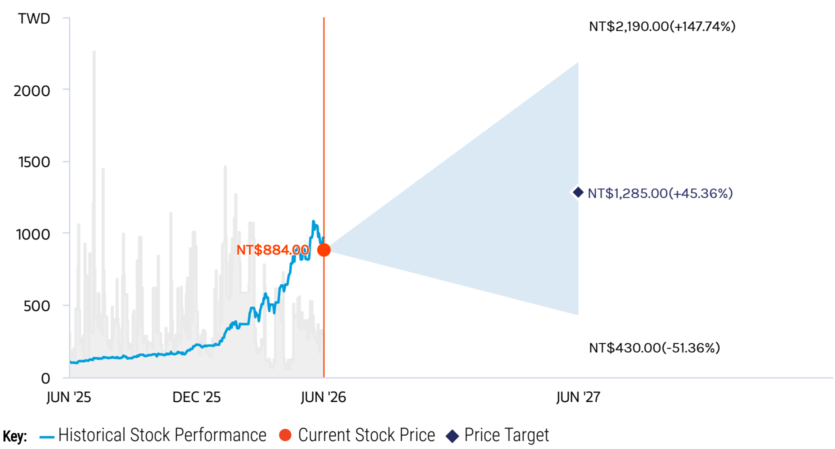
Base case, residual income (RI) valuation model, which we think derives the most accurate value of the firm given that it takes into account cost of equity. We use a cost of equity of 9.2% [risk-free rate of 1% (10-year Taiwan government note yield), equity risk premium of 8.7%, and a beta of 1.0], a medium-term growth rate of 15%, and a terminal growth rate of 3%.

Consensus Price Target Distribution



Source: Refinitiv, Morgan Stanley Research

RISK REWARD CHART

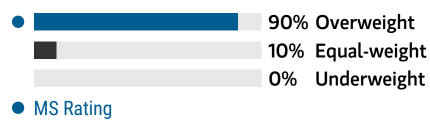


Source: Refinitiv, Morgan Stanley Research

OVERWEIGHT THESIS

- We expect the ABF substrate market to revert to undersupply from 2027 onwards, with the undersupply gap reaching 5-10% by 2030.
- This is primarily driven by AI demand, with next-gen AI/networking chips adopting larger body size ABF substrates.
- In the near to medium term, the short supply of T-glass will be a key watch point, but we believe this will mainly affect low-end ABF and BT substrates, as suppliers prioritize supply to the AI chip vendors.
- Our price target implies 51x 2027e P/E or 25x 2028e P/E, above the 10-20x range at which it traded in the previous upcycle. We deem this fair, given AI chip substrate spec upgrades and suppliers' ability to raise prices.

Consensus Rating Distribution



Source: Refinitiv, Morgan Stanley Research

Risk Reward Themes

Pricing Power:	*Positive*
Secular Growth:	*Positive*

View descriptions of Risk Rewards Themes here

BULL CASE NT$2,190.00

87x 2027e P/E

Demand for AI servers, general servers and PCs is much stronger than expected: Pricing increases more than expected, 30%+ in 2026-27, driving stronger margin expansion for Unimicron.

BASE CASE NT$1,285.00

51x 2027e P/E

Entering up-cycle driven by AI chip upgrades: Robust demand for AI GPUs and ASICs, supported by continued data center infrastructure investments by CSPs and neo cloud, leads to undersupply in the high-end ABF market from 2027e onwards. PC demand is sluggish, while general servers still show double-digit unit growth in 2026e. ASP has bottomed and started to inflect upwards, driven by raw material price hikes and substrate spec upgrades.

BEAR CASE NT$430.00

17x 2027e P/E

Demand for AI servers and general servers weakens, with PC demand weakening further: The result is greater ABF oversupply; thus, there are pricing declines of ~15-20% in 2026-27, leading to weaker margins for Unimicron over the next two years.

Risk Reward – Unimicron (3037.TW)

KEY EARNINGS INPUTS

Drivers	2025	2026e	2027e	2028e
IC substrate ASP YoY (%)	7.5	29.7	33.5	29.3
IC substrate GM (%)	15.2	22.3	28.6	37.1

INVESTMENT DRIVERS

- 5G smartphone demand
- 5G base station demand
- Automotive demand

GLOBAL REVENUE EXPOSURE

- 0-10% Latin America
- 0-10% North America
- 30-40% APAC, ex Japan, Mainland China and India
- 50-60% Mainland China

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

MS ALPHA MODELS

4/5 **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

- Better-than-expected ABF substrate demand from PC and server customers
- Capex cuts; halt to its capacity expansion plan
- Continued yield issues of alternative technology that doesn't require substrate (e.g., CoWoP)

RISKS TO DOWNSIDE

- Sudden demand shortfall
- Technological change that would not require ABF substrates
- Intensifying competition
- Yield issues or production hiccups when ramping new capacity

OWNERSHIP POSITIONING

Inst. Owners, % Active 68.8%

Source: Refinitiv, Morgan Stanley Research

MS ESTIMATES VS. CONSENSUS

FY Dec 2027e

	Low	Morgan Stanley Estimates	Mean	High
Sales / Revenue (NT$, mn)	192,100	262,464	241,969	320,188
Net income (NT$, mn)	28,608	38,875	43,767	64,392
EPS (NT$)	15.89	25.26	27.56	41.37

◆ Mean ◆ Morgan Stanley Estimates

Source: Refinitiv, Morgan Stanley Research

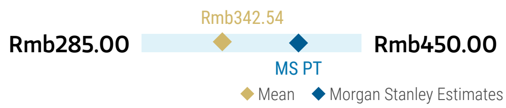
Risk Reward – Shennan Circuits Co Ltd (002916.SZ)

Beneficiary of supply chain localization; EW on valuation

PRICE TARGET Rmb400.00

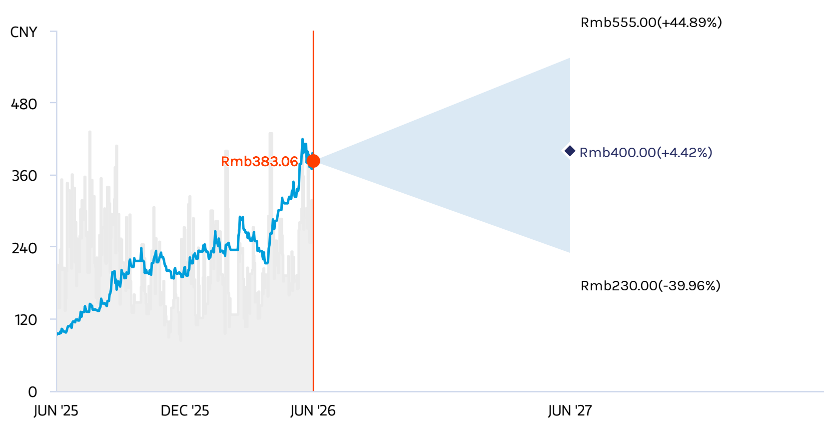
Base case, derived from a residual income (RI) model. Key assumptions include a cost of equity of 6.7% (beta of 1.1, equity premium of 5%, and risk-free rate of 1.3%), 7% medium-term growth rate, and 4% terminal growth rate.

Consensus Price Target Distribution



Source: Refinitiv, Morgan Stanley Research

RISK REWARD CHART



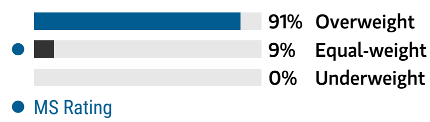
Key: Historical Stock Performance ● Current Stock Price ◆ Price Target

Source: Refinitiv, Morgan Stanley Research

EQUAL-WEIGHT THESIS

- We view the stock as fairly valued based on current demand indicators, with expectations for rising automotive and data center PCB already elevated for 2026-27.
- Shennan's "China localization" story should continue to play out in the longer term for PCB and IC substrates, and it should be the main beneficiary amid China's semiconductor self-sufficiency drive.
- Demand for 5G base station PCB was slow in 2025, and has remained slow in 2026, with limited visibility on the trajectory of demand improvement (both domestic and overseas).
- Server/Optical transceiver PCB demand is improving for cloud in China, and new platform penetration rate continues to rise.

Consensus Rating Distribution



Source: Refinitiv, Morgan Stanley Research

Risk Reward Themes

Electric Vehicles: *Positive*
New Data Era: *Positive*
Pricing Power: *Negative*

View descriptions of Risk Rewards Themes here

BULL CASE Rmb555.00

50x 2027e EPS

Shennan's share of the 5G base station market expands to 20-25% (vs. base case scenario of 15-20%), while its automotive and server PCB business doubles over the next two years and its IC substrate business grows 40-50% YoY in 2026 (vs. base case scenario of ~30%). This results in a 55-65% revenue CAGR in 2025-28e.

BASE CASE Rmb400.00

36x 2027e EPS

We expect Shennan's share of the 5G base station market to be stable at 15-20%, while its server and automotive PCB continues to rise steadily and its IC substrate business continues to outgrow the market in 2026e as they gain share, especially in the domestic market. This results in a 30-35% revenue CAGR in 2025-28e.

BEAR CASE Rmb230.00

21x 2027e EPS

Shennan's share of the 5G base station market falls to 5-10% (vs. base case scenario of 15-20%), while its server and automotive PCB fails to continue to grow and its IC substrate business grows only slightly above the market in 2026. This results in a 0-15% revenue CAGR in 2025-28e.

Risk Reward – Shennan Circuits Co Ltd (002916.SZ)

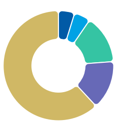
KEY EARNINGS INPUTS

Drivers	2025	2026e	2027e	2028e
PCB revenue y/y (%)	37	38	31	31
IC substrate revenue y/y (%)	31	69	36	27
PCB GM (%)	35.5	34.7	37.0	37.8
IC substrate GM (%)	22.6	30.7	33.6	33.6

INVESTMENT DRIVERS

- 5G base station deployment schedule
- Supplier share allocation
- China's data center demand
- China's semiconductor localization schedule

GLOBAL REVENUE EXPOSURE



- 0-10% Latin America
- 0-10% North America
- 10-20% APAC, ex Japan, Mainland China and India
- 10-20% Europe ex UK
- 60-70% Mainland China

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

MS ALPHA MODELS

3/5 **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

- Rising demand for 5G and data center PCB.
- Further share gain for 5G and data center PCB.
- Rising IC substrate demand driven by acceleration in China's semiconductor localization.

RISKS TO DOWNSIDE

- Rising competition for 5G and data center PCB.
- Delay in 5G network deployment.
- Escalating US-China trade tensions.

OWNERSHIP POSITIONING

Inst. Owners, % Active 85.3%

Source: Refinitiv, Morgan Stanley Research

MS ESTIMATES VS. CONSENSUS

FY Dec 2027e

	Low	Mean	Morgan Stanley Estimates	High
Sales / Revenue (Rmb, mn)	33,982.4	39,067.8	42,153.6	43,360.8
EBIT (Rmb, mn)	6,794.7	7,724.5	8,717	8,952.3
Net income (Rmb, mn)	6,163.2	7,194.9	7,493	8,477.0
EPS (Rmb)	9.2	10.6	11.2	12.4
ROE (%)	27.3	29.2	36.1	

◆ Mean ◆ Morgan Stanley Estimates

Source: Refinitiv, Morgan Stanley Research

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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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: Howard Kao; Sharon Shih.

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Global Stock Ratings Distribution

(as of May 31, 2026)
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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	1542	42%	465	51%	30%	707	43%
Equal-weight/Hold	1571	43%	369	40%	23%	723	44%
Not-Rated/Hold	3	0%	0	0%	0%	1	0%
Underweight/Sell	551	15%	86	9%	16%	201	12%
Total	3,667		920			1632	

Data include common stock and ADRs currently assigned ratings. Investment Banking Clients are companies from whom Morgan Stanley received investment banking compensation in the last 12 months. Due to rounding off of decimals, the percentages provided in the "% of total" column may not add up to exactly 100 percent.

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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.
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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.

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Attractive (A): The analyst expects the performance of his or her industry coverage universe over the next 12-18 months to be attractive vs. the relevant broad market benchmark, as indicated below.
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.
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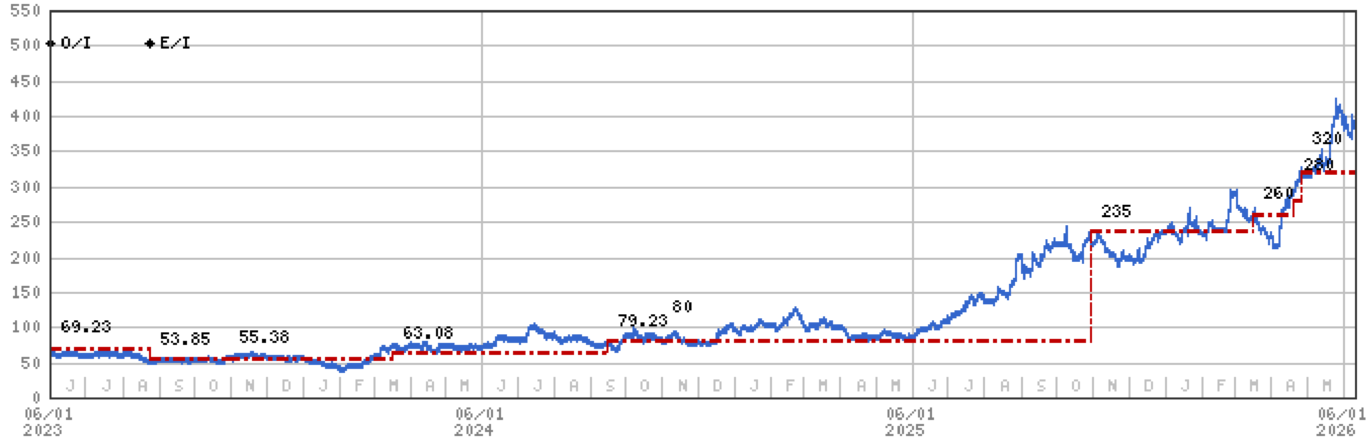
Benchmarks for each region are as follows: North America - S&P 500; Latin America - relevant MSCI country index or MSCI Latin America Index; Europe - MSCI Europe; Japan - TOPIX; Asia - relevant MSCI country index or MSCI sub-regional index or MSCI AC Asia Pacific ex Japan Index.

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

Shennan Circuits Co Ltd (002916.SZ) - As of 06/11/26 GMT in CNY
Industry : Greater China Technology Hardware



Stock Rating History: 6/1/21 : O/I; 8/24/23 : E/I

Price Target History: 10/29/20 : 111.54; 6/4/21 : 96.15; 8/22/22 : 88.46; 10/31/22 : 76.92; 12/21/22 : 69.23; 8/24/23 : 53.85; 10/30/23 : 55.38; 3/17/24 : 63.08; 9/15/24 : 79.23; 10/31/24 : 80; 10/31/25 : 235; 3/16/26 : 260; 4/20/26 : 280; 4/27/26 : 320

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.

Unimicron (3037.TW) - As of 06/11/26 GMT in TWD
Industry : Greater China Technology Hardware

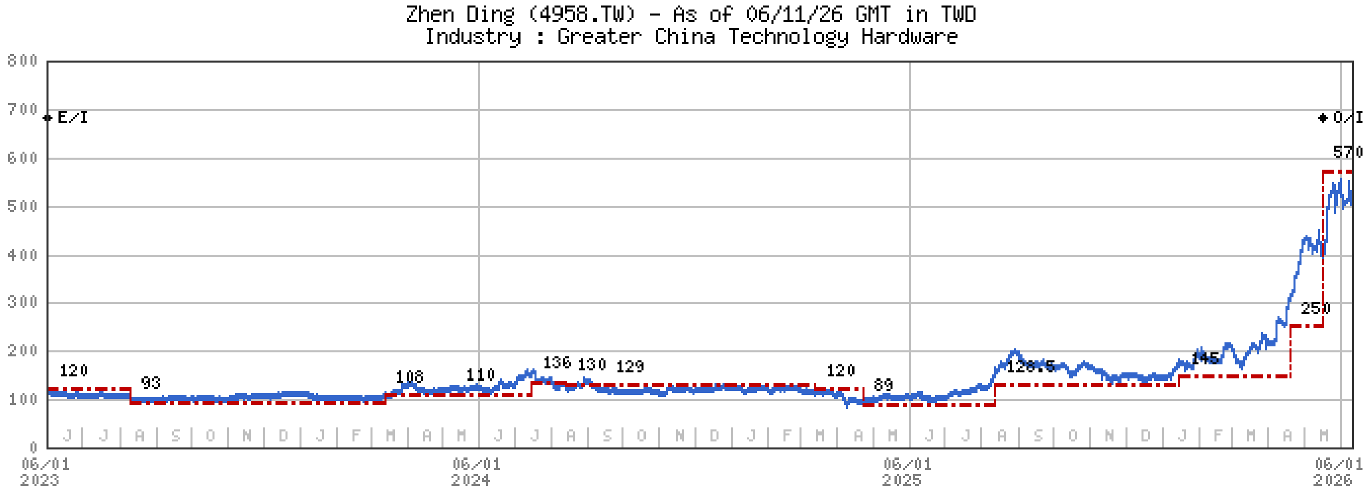
Stock Rating History: 6/1/21 : NA/I; 10/22/21 : O/I; 6/1/22 : E/I; 2/22/23 : U/I; 4/15/25 : E/I; 2/23/26 : O/I

Price Target History: 10/22/21 : 188.06; 10/27/21 : 237.55; 2/9/22 : 267.24; 2/24/22 : 366.22; 6/1/22 : 237.55; 8/23/22 : 178.16; 10/27/22 : 133.62; 12/21/22 : 123.72; 2/2/23 : 116.79; 2/22/23 : 98.98; 6/7/23 : 138.57; 11/7/23 : 125.7; 1/24/24 : 118.77; 4/15/25 : 81.66; 7/30/25 : 120.75; 2/23/26 : 500; 2/26/26 : 550; 4/20/26 : 785; 5/18/26 : 1225

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: 6/1/21 : U/I; 8/2/22 : E/I; 5/18/26 : O/I

Price Target History: 3/30/21 : 105; 8/2/22 : 124; 11/4/22 : 126; 3/14/23 : 120; 8/10/23 : 93; 3/13/24 : 108; 5/11/24 : 110; 7/15/24 : 136; 8/13/24 : 130; 9/15/24 : 129; 3/12/25 : 120; 4/23/25 : 89; 8/13/25 : 128.5; 1/16/26 : 145; 4/20/26 : 250; 5/18/26 : 570

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 Hardware

COMPANY (TICKER)	RATING (AS OF)	PRICE* (06/11/2026)
Andy Meng, CFA		
AAC Technologies Holdings (2018.HK)	O (01/29/2024)	HK$42.60
Accelink Technologies Co. Ltd. (002281.SZ)	U (05/12/2022)	Rmb205.40
BYD Electronics (0285.HK)	O (04/28/2023)	HK$24.50
China TransInfo Technology Co Ltd (002373.SZ)	E (07/18/2023)	Rmb7.22
Dahua Technology Co. Ltd. (002236.SZ)	E (12/12/2024)	Rmb15.84
Eoptolink Technology Inc Ltd (300502.SZ)	O (02/27/2026)	Rmb526.00
Genius Electronic Optical Co. Ltd. (3406.TW)	E (04/23/2025)	NT$693.00
Gosuncn Technology Group Co Ltd (300098.SZ)	U (11/07/2022)	Rmb4.90
HIKVision Digital Technology (002415.SZ)	E (12/12/2024)	Rmb29.98
Largan Precision (3008.TW)	E (10/17/2025)	NT$4,165.00
LianChuang Electronic Technology Co Ltd (002036.SZ)	U (06/12/2024)	Rmb7.96
OFILM Group Co Ltd (002456.SZ)	U (06/12/2024)	Rmb8.67
Q Technology (Group) Company Ltd (1478.HK)	U (03/23/2026)	HK$7.98
Quectel Wireless Solutions Co Ltd (603236.SS)	E (10/09/2024)	Rmb56.15
Shanghai Conant Optical Co Ltd (2276.HK)	O (04/10/2026)	HK$38.40
Shenzhen Transsion Holdings Co Ltd (688036.SS)	E (03/23/2026)	Rmb53.17
Sunny Optical (2382.HK)	E (03/23/2026)	HK$70.95
Suzhou TFC Optical Communication Co Ltd. (300394.SZ)	E (11/06/2025)	Rmb412.30
Wingtech Technology Co Ltd (600745.SS)	U (05/18/2026)	Rmb17.94
Xiaomi Corp (1810.HK)	O (04/14/2021)	HK$25.84
Yangtze Optical Fibre and Cable JSC Ltd (601869.SS)	U (10/13/2021)	Rmb442.51
Yangtze Optical Fibre and Cable JSC Ltd (6869.HK)	E (04/20/2023)	HK$230.60
Yongxin Optics Co Ltd (603297.SS)	E (11/15/2022)	Rmb117.96
Zhejiang Crystal-Optech Co Ltd (002273.SZ)	O (11/15/2022)	Rmb33.18
Zhongji Innolight Co Ltd (300308.SZ)	++	Rmb1,124.00
ZTE Corporation (0763.HK)	O (06/04/2026)	HK$26.20

ZTE Corporation (000063.SZ)	E (06/04/2026)	Rmb37.81
Derrick Yang		
Accton Technology Corporation (2345.TW)	O (06/06/2024)	NT$2,275.00
Advantech (2395.TW)	O (01/20/2021)	NT$464.00
AirTAC International (1590.TW)	O (04/16/2025)	NT$1,265.00
AU Optronics (2409.TW)	E (02/10/2026)	NT$23.15
Bizlink (3665.TW)	O (03/10/2025)	NT$2,160.00
BOE Technology (000725.SZ)	O (09/06/2019)	Rmb5.83
Chenbro (8210.TW)	O (07/23/2025)	NT$1,440.00
Chroma Ate Inc. (2360.TW)	O (10/05/2021)	NT$2,190.00
E Ink Holdings Inc. (8069.TWO)	O (05/11/2026)	NT$190.50
Ennostar Inc (3714.TW)	U (09/23/2022)	NT$63.50
Hiwin Technologies Corp. (2049.TW)	O (03/30/2026)	NT$318.50
Innolux (3481.TW)	E (04/07/2025)	NT$46.95
King Slide Works Co. Ltd. (2059.TW)	O (11/08/2023)	NT$6,400.00
Lens Technology (300433.SZ)	E (07/22/2020)	Rmb42.68
Radiant Opto-Electronics Corporation (6176.TW)	E (03/01/2024)	NT$91.70
Sanan Optoelectronics (600703.SS)	U (08/21/2023)	Rmb15.26
TCL Corp. (000100.SZ)	E (04/07/2025)	Rmb4.51
Tianma Microelectronics (000050.SZ)	U (01/24/2018)	Rmb7.66
Wuhan Jingce Electronic Group Co Ltd (300567.SZ)	E (11/26/2021)	Rmb192.90
Howard Kao		
Acer Inc. (2353.TW)	U (04/23/2025)	NT$36.90
Asustek Computer Inc. (2357.TW)	U (11/16/2025)	NT$784.00
Compal Electronics (2324.TW)	U (04/23/2025)	NT$36.15
FIT Hon Teng Ltd (6088.HK)	O (11/03/2025)	HK$7.30
Giga-Byte Technology Co. Ltd. (2376.TW)	E (11/16/2025)	NT$340.00
Gold Circuit Electronics Ltd. (2368.TW)	O (10/06/2022)	NT$1,345.00
Inspur Electronic Information (000977.SZ)	E (08/28/2023)	Rmb57.84
Lenovo (0992.HK)	E (11/16/2025)	HK$22.88
Lotes Co. Ltd. (3533.TW)	E (05/12/2025)	NT$2,145.00
Nan Ya PCB (8046.TW)	O (02/23/2026)	NT$807.00
Pegatron Corporation (4938.TW)	E (03/25/2026)	NT$95.40
Quanta Computer Inc. (2382.TW)	O (05/01/2023)	NT$370.00
Shengyi Technology Co Ltd. (600183.SS)	E (05/26/2022)	Rmb149.73
Shennan Circuits Co Ltd (002916.SZ)	E (08/24/2023)	Rmb376.16
Unimicron (3037.TW)	O (02/23/2026)	NT$854.00
Wistron Corporation (3231.TW)	O (07/12/2023)	NT$152.50
Wiwynn Corp (6669.TW)	O (11/10/2025)	NT$4,900.00
Yageo Corp. (2327.TW)	O (10/28/2025)	NT$842.00
Zhen Ding (4958.TW)	O (05/18/2026)	NT$529.00
Sharon Shih		
Asia Vital Components Co. Ltd. (3017.TW)	O (07/30/2024)	NT$2,335.00
Auras Technology Co Ltd (3324.TWO)	E (05/04/2023)	NT$998.00
Catcher Technology (2474.TW)	U (11/17/2025)	NT$205.50
Delta Electronics Inc. (2308.TW)	O (07/13/2017)	NT$2,160.00
Fositek Corp (6805.TW)	O (06/25/2025)	NT$1,750.00
Foxconn Industrial Internet Co. Ltd. (601138.SS)	O (07/10/2019)	Rmb69.52
Foxconn Technology (2354.TW)	U (04/23/2025)	NT$56.20
GoerTek Inc (002241.SZ)	U (04/23/2025)	Rmb22.72
Hon Hai Precision (2317.TW)	O (03/15/2024)	NT$258.50
LandMark Optoelectronics Corporation (3081.TWO)	E (03/26/2026)	NT$2,165.00
Lingyi Itech Guangdong Co (002600.SZ)	U (04/23/2025)	Rmb13.63
Lite-On Technology (2301.TW)	E (01/15/2025)	NT$208.50
Luxshare Precision Industry Co., Ltd. (002475.SZ)	O (10/24/2016)	Rmb64.58

Sunonwealth Electric Machine Industry Co (2421.TW)	E (02/23/2024)	NT$142.00
Tong Hsing (6271.TW)	E (03/18/2019)	NT$217.00
Visual Photonics Epitaxy Co Ltd (2455.TW)	E (09/11/2023)	NT$320.00

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