

Semiconductor Sector

Key message

1. June sales growth was above average in YoY and MoM terms.
2. Advanced OSAT will outperform other sub-sectors, as projected shipments of AI chips have been revised up markedly.
3. The AI frenzy has rippled out to non-AI sub-sectors, driving structural changes in memory and analog IC markets.

Semiconductor firms registered above-average sales growth in June amid rising AI demand

Event

This edition of Radar Monthly - Semiconductor (share prices as of July 13) focuses on: (1) analysis of June sales; and (2) our outlook on 2H26-2027F.

Impact

June sales growth was above average in YoY & MoM terms. The aggregate sales of Taiwan semiconductor firms reached NT\$1,086.3bn in June, up 73.9% YoY and 8.6% MoM, well above their five-year historic averages of 22.9% YoY growth and a 1.2% MoM decline, driven by sustained AI demand and pull in demand ahead of anticipated price hikes. By sub-sector, foundries and OSAT providers delivered stronger YoY sales growth than IC design firms. Within the foundry segment, TSMC (2330 TT, NT\$2,420, OP), which accounts for more than 90% of sector sales, reported 67.9% YoY sales growth. Semiconductor distributors continued to benefit from AI driven demand for communication and data center products, with sales surging by 156.1% YoY. Test interface vendors, semiconductor equipment manufacturers and ASIC design houses also benefitted from accelerating AI/ HPC demand and TSMC's capacity expansion, with sales increasing by 90.2%, 57.6% and 49.5% YoY, respectively. All semiconductor sub-sectors recorded MoM growth in June. Among them, ASIC design houses posted the strongest MoM increase, at 31.6%, driven by Alchip Technologies (3661 TT, NT\$3,725, OP), which benefited from the initial ramp-up of Amazon Web Services' (AWS; US) Trainium3 (T3) and reported 64.6% MoM sales growth. Semiconductor equipment vendors also benefitted from tight back-end OSAT capacity, which has prompted customers to pull forward equipment orders.

Advanced OSAT to outperform other sub-sectors; shipment forecasts for AI chips have been revised up markedly. Strong demand for Anthropic's (US) Claude and Google's (US) Gemini have led to upward revisions to TPU demand forecasts. Among TSMC's major CoWoS customers for next year, Nvidia (US), Broadcom (US) and MediaTek (2454 TT, NT\$3,660, OP) are expected to account for the most significant sales growth, reflecting robust demand for both GPUs and TPUs. In addition, CPUs account for more than 40% of the workload in agentic AI inference. With major CSPs (except for Meta (US)) expected to double procurement volumes in 2026F, we estimate a CPU supply gap of 15-20%, with shortages potentially extending through 2028F. At the same time, accelerating product cycles and increasing chip design complexity are driving strong growth in testing demand, supported by higher pin counts and rising chip shipments. TSMC's outsourcing of chip probe (CP) testing to OSAT providers in order to optimize internal capacity utilization is also contributing to upward revisions in OSAT capex. Meanwhile, as co-packaged optics (CPO) emerges as a key solution for providing AI infrastructure high speed data transmission, the integration of optical components has created more challenges related to production yields, while making electro-optical co-testing increasingly critical for reducing defect rates at the same time. Overall, we believe the advanced packaging and testing supply chain is well positioned to outperform other semiconductor sub-sectors, supported by the demand drivers outlined above.

The AI frenzy has rippled out to non-AI sub-sectors; structural changes in the memory & analog IC markets. Robust AI demand is consuming industry resources, resulting in broad-based crowding out effects across the semiconductor supply chain. This trend initially emerged in the memory sector and has since spread to the analog IC, mature node foundries, and passive components sectors. Given a lack of sufficient memory supply expansion, we expect shortages to persist through end-2027F. Within the analog IC sector, demand from automotive and industrial applications is expected to resume growth in 2H26, while sales exposure to data centers should increase alongside growth in AI demand. In addition, crowding out effects are driving migration from 8-inch to 12-inch wafer production. As a result, we favor suppliers with higher exposure to automotive, industrial, and data center applications, particularly those that have proactively expanded 12-inch manufacturing capacity.

Stocks for Action

Our stock recommendations are TSMC, Hon Precision (7769 TT, NT\$6,395, OP), WinWay (6515 TT, NT\$7,040, OP), MPI (6223 TT, NT\$6,340, OP), MediaTek, Global Unichip (3443 TT, NT\$4,020, OP), Alchip, Chipbond Technology (6147 TT, NT\$186, OP), Nanya Technology (2408 TT, NT\$448, OP), and Macronix International (2337 TT, NT\$139.5, OP).

Risks

Downward revisions for AI capex; economic recession.

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Monthly sales review – June

June sales growth was above average in YoY and MoM terms

Thanks to sustained AI demand and pull in demand ahead of anticipated price hikes for chips, Taiwan's semiconductor industry generated NT\$1,086.3bn in sales in June, up 73.9% YoY and 8.6% MoM, significantly outperforming their five-year historic averages of 22.9% YoY growth and a 1.2% MoM decline. Foundries and OSAT providers posted stronger YoY growth than IC design firms, driven by robust AI and HPC demand. Within the foundry segment, TSMC, which accounts for more than 90% of sector sales, reported June sales of NT\$442.68bn, up 67.9% YoY and 6.2% MoM. IC design houses saw June sales increase by 13.1% YoY and 6.3% MoM, reflecting growth in smart edge applications, which more than offset weakness in smartphone demand.

Individual sub-sectors also maintained decent YoY sales growth in June

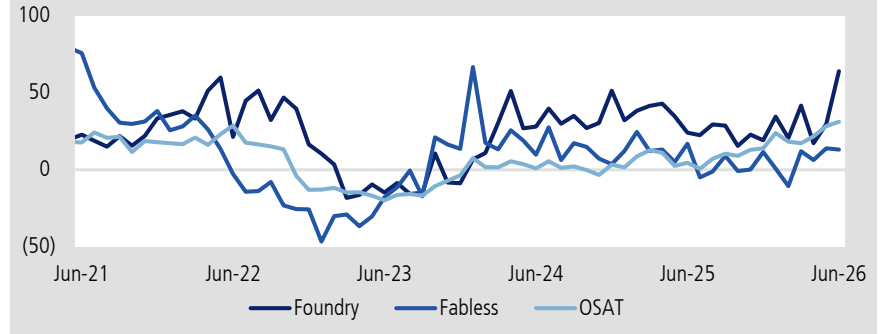
All semiconductor sub-sectors delivered strong sales growth in June. Distributors were the key beneficiaries of AI demand for communication and data center products, with June sales once again reaching record highs, up 156.1% YoY. Among them, WT Microelectronics (3036 TT, NT\$203.5, OP) posted the strongest growth, with sales growth of 188.1% YoY. Test interface vendors, semiconductor equipment manufacturers, and ASIC design houses also benefitted from surging AI/ HPC demand and TSMC's ongoing capacity expansion, with sales growing by 90.2%, 57.6%, and 49.5% YoY, respectively.

ASIC design firms posted the strongest MoM sales growth on surging project commencements

All semiconductor sub-sectors reported MoM sales growth in June, led by ASIC design houses, semiconductor equipment vendors, fabless design firms, and distributors. Within the ASIC design sub-sector, Alchip Technologies benefited from the initial ramp-up of AWS' T3, driving 64.6% MoM sales growth. In the equipment segment, continued tightness in OSAT capacity has prompted customers to pull forward equipment orders. Among equipment vendors, Hon Precision and C Sun Manufacturing (2467 TT, NT\$536, OP) reported stronger 2Q26 sales growth than consensus or our forecasts.

Figure 1: Foundries posted solid YoY sales growth in June

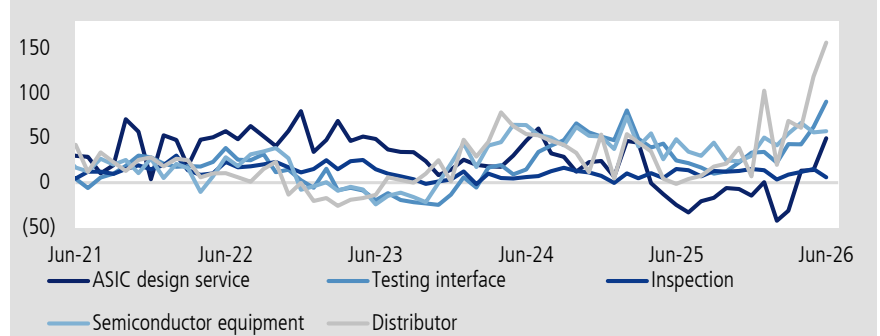
Monthly sales growth YoY, percent



Source: TEJ; KGI Research

Figure 2: Other sub-sectors also maintained decent YoY sales growth in June

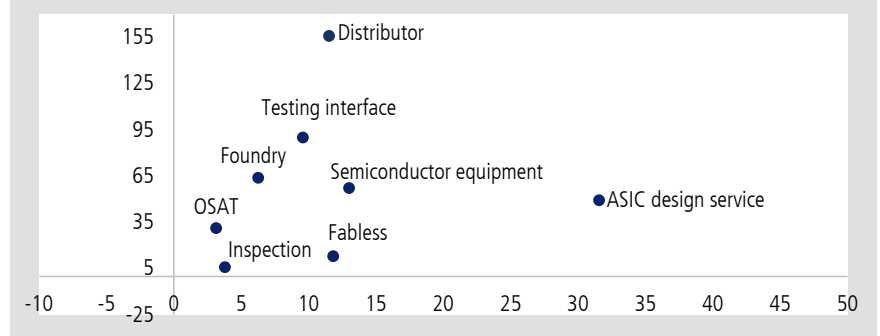
Monthly sales growth YoY, percent



Source: TEJ; KGI Research

Figure 3: Individual sub-sectors also delivered MoM sales growth in June, with ASIC design houses leading the pack on surging project commencements

June sales YoY, percent (x-axis); MoM growth, percent (y-axis)



Source: TEJ; KGI Research

Figure 4: Monthly sales review – June

Sector	Ticker	Company	Jun sales (NT\$m)	MoM (%)	YoY (%)	KGI 2Q26F sales (NT\$m)	Achievement (%)	KGI 2Q26F QoQ (%)	Consensus sales 2Q26F (NT\$m)	Achievement (%)	2Q26 QoQ (%)
Fabless											
Driver IC	3034	Novatek	10,023	6.5	19.0	24,349	117.7	5.2	28,741	99.7	24.2
	3592	Raydium	2,230	(1.8)	18.6	5,428	125.7	(0.2)	6,541	104.3	20.3
	4961	Fitipower	1,860	5.9	24.8				5,030	107.1	11.7
Communication	2379	Realtek	12,311	(1.7)	20.6	37,065	101.3	1.8	37,163	101.0	2.0
	2454	MediaTek	58,012	22.3	2.8	144,271	105.5	(3.3)	144,920	105.0	(2.8)
	6526	Airoha	2,210	7.7	14.4	5,945	105.8	9.0	5,939	105.9	8.9
PC/ server	4966	Parade	1,672	27.9	12.2	4,166	102.0	4.4	4,253	99.9	6.6
	5269	ASMedia	867	(3.3)	(22.4)				2,961	92.0	(15.4)
	5274	Aspeed	1,310	2.2	67.5	3,884	99.7	23.4	3,782	102.4	20.2
	6756	VIA Labs	183	0.1	50.1				N.A.	N.M.	N.M
Sensor	2458	Elan	1,059	5.5	7.1				3,328	96.3	3.2
	3227	PixArt	820	(5.5)	21.0				2,473	102.6	11.9
	6679	ZillTek	179	(1.1)	9.9	545	100.3	1.6	545	100.4	1.5
Design service & IP	3035	Faraday	1,417	52.4	26.6	2,817	117.6	8.8	2,836	116.8	9.6
	3443	GUC	4,929	5.4	103.7	13,567	102.4	18.5	12,713	109.3	11.1
	3529	eMemory	178	(41.5)	47.0				1,103	99.5	0.8
	3661	Alchip	3,572	84.6	15.4	10,076	75.8	140.6	9,271	82.4	121.4
	6531	AP Memory	811	8.4	59.5				2,403	98.4	14.5
	6533	Andes	372	326.6	247.0	371	152.6	13.7	384	147.4	17.7
	6643	M31	125	(2.0)	(23.5)	504	83.7	27.7	505	83.6	27.9
PMIC	6415	Silergy	2,084	9.1	37.8	5,640	106.5	16.1	5,707	105.3	17.4
	6719	uPI	372	1.2	(3.6)	1,243	90.3	26.9	1,105	101.5	12.8
	6799	M3TEK	84	(0.8)	6.5				268,213	0.1	110,554.4
	8081	GMT	743	(0.7)	7.2	2,329	96.1	10.3	2,239	100.0	6.0
MCU	4919	Nuvoton	2,711	(0.1)	1.2				8,402	94.5	5.2
	5236	Sunplusit	192	(4.4)	12.8				N.A.	N.M.	N.M
	5471	Sonix	316	4.9	47.7				914	103.4	19.8
	6202	Holtek	352	12.6	30.9				947	103.8	14.7
Foundry											
Silicon-based	2330	TSMC	442,680	6.2	67.9	1,274,266	99.7	12.4	1,266,224	100.3	11.6
	2303	UMC	23,125	0.8	22.9	68,297	100.6	11.9	67,515	101.8	10.6
	5347	Vanguard	5,977	40.9	33.6	14,627	97.4	16.7	14,469	98.5	15.5
	6770	PSMC	6,474	12.2	68.8				16,879	102.4	24.4
Compound semi	2455	VPEC	326	1.6	23.6	1,023	94.4	6.6	999	96.7	4.1
	3105	Win Semi	1,768	0.7	29.6	4,166	126.2	(9.2)	5,298	99.2	15.4
	8086	AWSC	408	(7.9)	16.1	1,136	114.3	(7.1)	1,294	100.4	5.8
OSAT and testing interface											
OSAT	2369	Lingsen	631	(2.2)	36.5				N.A.	N.M.	N.M
	2441	Greatek	1,875	7.5	33.2				N.A.	N.M.	N.M
	2449	KYEC	3,622	(4.1)	28.6				11,249	99.0	10.4
	3711	ASEH	65,783	4.4	32.9	189,832	100.6	9.3	188,647	101.3	8.6
	3374	Xintec	764	9.6	61.0				2,108	103.7	10.1
	6147	Chipbond	2,288	6.0	27.1				6,307	105.1	9.6
	6239	Powertech	7,623	(3.7)	21.7				23,094	100.1	8.3
	6257	Sigurd	1,959	(0.9)	21.0				5,902	99.6	11.5
	6261	YTEC	390	11.8	33.7				N.A.	N.M.	N.M
	6271	THEIL	1,080	4.0	10.6				3,042	103.7	7.9
	8150	ChipMOS	2,538	6.5	37.2				7,486	98.6	N.M
	6510	CHPT	574	5.8	40.2	1,823	89.9	34.3	1,608	102.0	18.4
	6515	WinWay	1,460	36.0	287.9	3,221	109.4	8.1	3,377	104.3	13.3
	6223	MPI	1,833	(3.9)	65.1	4,653	112.3	18.3	4,891	106.9	24.4
Testing interface	6683	KSMT	231	14.1	24.5				N.A.	N.M.	N.M
	3289	iST	426	10.5	(1.6)				1,294	91.5	19.4
	3587	MA-tek	558	2.6	11.0				1,563	105.1	9.7
Inspection analysis	6830	MSSCorp	206	(5.0)	10.4				N.A.	N.M.	N.M
Distributor											
Distributor	3036	WT Micro	181,749	(8.2)	188.1	575,645	102.6	16.5	579,489	101.9	17.2
	3702	WPG	192,916	39.8	131.9				359,081	127.6	N.M
Equipment											
Equipment	2360	Chroma	4,114	(9.6)	73.0				13,094	103.3	10.4
	7769	Hon.Precision	5,302	28.4	106.5	12,517	110.2	16.7	13,917	99.1	29.8
	3413	Fiti Group	2,451	24.2	39.8				6,413	98.1	15.3
	6937	Skytech	374	96.2	64.2				824	87.2	41.5
	3131	GPTC	631	12.9	15.2				2,326	74.2	45.7
	3583	Scientech	1,035	6.6	(2.7)				3,222	92.9	3.3
	6187	Allring	1,012	38.9	87.1				2,660	88.5	88.4
	2467	C Sun	869	(15.0)	94.1	2,544	109.4	12.5	2,756	101.0	21.8
	6640	GMM	341	131.6	0.3				1,455	56.5	75.2
	5443	GPM	466	82.5	(10.1)				N.A.	N.M.	N.M
	7822	V5 Technologies	253	4.4	50.7	768	95.7	12.1	1,016	72.4	48.4
	3455	Utechzone	84	(42.6)	(30.0)				N.A.	N.M.	N.M

Source: TEJ; Bloomberg; KGI Research estimates

Figure 5: Taiwan semiconductor sector – June sales growth

Sub-sector	Weighting (%)	YoY (%)	Avg. YoY (%)	MoM (%)	Avg. MoM (%)
Foundry	44	64	25	6	(7)
Fabless	10	13	4	12	6
OSAT	8	31	9	3	2
ASIC design service	1	49	35	32	11
Testing interface	0.4	90	30	10	6
Inspection	0.1	6	13	4	6
Semiconductor equipment	2	57	35	13	6
Distributor	34	156	41	12	3
Total semiconductor	100	74	23	9	(1)
Total monthly sales (in NT\$mn)	1,086,299				

Source: TEJ; KGI Research

What's next?

AI demand on the rise; focus on advanced OSAT, CPU & memory

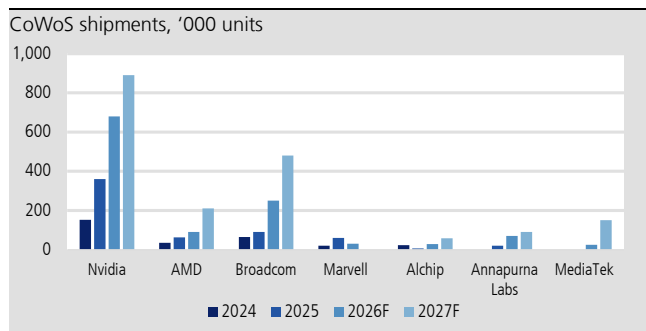
Key Takeaways

1. GPUs and TPUs will continue to drive AI chip shipments growth in 2027F, while the rise of agentic AI is catalyzing strong demand for server CPUs.
2. Greater optical integration and increasing AI chip design complexity are expected to raise testing demand and ASPs; electro-optical co-testing will emerge as a key focus in 2027F.
3. The impact of AI demand is extending beyond AI-centric sectors, with memory and analog IC markets undergoing structural shifts, and other spillover effects likely.

Robust demand for GPUs, TPUs & CPU to prompt advanced OSAT capacity expansions

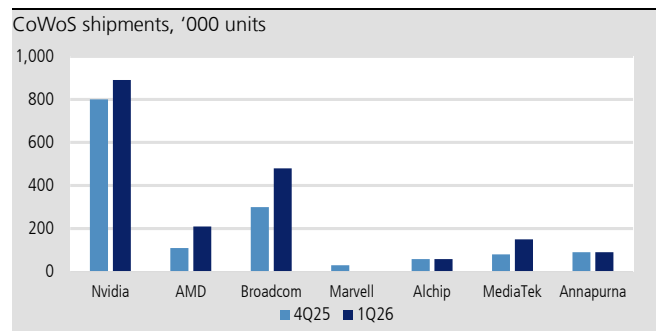
We remain optimistic in our outlook on AI semiconductor demand, although growth will no longer be driven solely by Nvidia GPUs. From an end-demand perspective, Anthropic's Claude accounts for a relatively high share of agent-based applications and the enterprise segment, while Google's Gemini has steadily encroached on OpenAI's website traffic share. This trend suggests AI model competition is shifting away from OpenAI-dominated training demand, and toward broader inference and agent deployment. The rapid market share expansion of Claude and Gemini is being directly reflected in robust TPU demand. In the last six months, 2027F CoWoS demand forecasts for Nvidia, AMD (US), Broadcom, and MediaTek have all been meaningfully revised up. Broadcom's and MediaTek's respective CoWoS demand forecasts have been raised by 60% and 90%, to 480k and 150k units. Meanwhile, AMD's 2027F CoWoS demand at TSMC has also been sharply revised up, doubling to 210k units, largely reflecting strong demand for MI450 and MI455 chips and Nvidia's 10% upward revision to 890k units. In addition, the rise of agentic AI is driving a notable recovery in general server demand, given that CPUs account for more than 40% of workloads in agentic AI inference. As major CSPs (excluding Meta) are expected to double CPU procurement in 2026F, we estimate a CPU supply gap of 15-20%, with tightness potentially persisting through 2028F. As TSMC's capacity may be insufficient to fully meet AMD's Venice CPU requirements, AMD is likely to rely more heavily on ASE Technology (ASEH; 3711 TT, NT\$641, OP) and Spil (TW; unlisted).

Figure 6: TSMC 2025-27F CoWoS shipment forecasts by client



Source: KGI Research estimates

Figure 7: Change in TSMC 2027F CoWoS shipments, 4Q25 vs. 1Q26

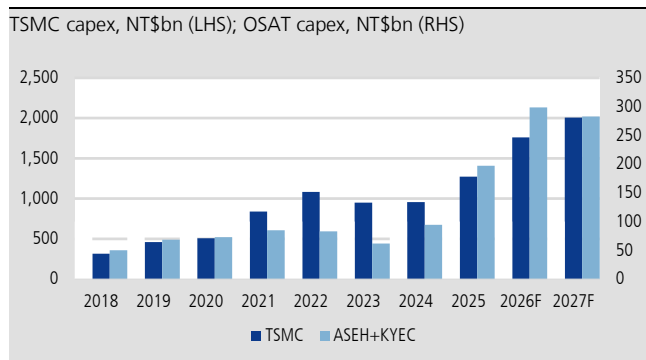


Source: KGI Research estimates

Testing supply chain to outperform other subsectors

King Yuan Electronics (KYEC; 2449 TT, NT\$337.5, OP) and ASEH have raised their 2026 capex by 28% and 24% to NT\$50bn and US\$8.5bn, respectively, representing strong AI demand. As TSMC outsources CP testing to OSAT providers to optimize internal capacity allocations, and demand related to US fab buildouts increases, we expect upside to OSAT

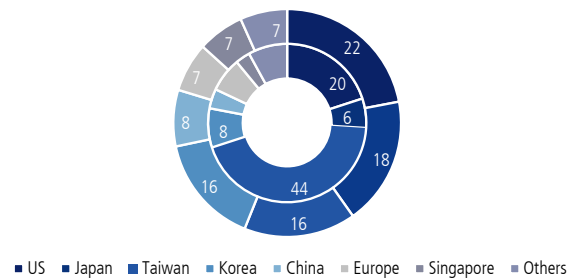
capex. Overall, the simultaneous expansion of capex by TSMC and OSAT vendors is expected to support demand for back-end equipment, and we believe the testing segment will outgrow packaging, as the rapid iteration of AI chip designs and increasing design complexity are driving both longer test times and higher testing difficulty, boosting testing demand and prices. We believe testing equipment vendors and test interface manufacturers will stand out as major beneficiaries. In addition, investment in AI infrastructure has gradually expanded beyond GPU to encompass data transmission and interconnect technologies. CPO has emerged as a key solution for enhancing bandwidth and transmission efficiency, while electro optical co testing is becoming increasingly critical for reducing defect rates. We expect that as the penetration rate of CPO and optical integration continues to rise, demand for related testing equipment and test interface solutions will expand further.

Figure 8: Capex by TSMC & OSAT providers


Source: Bloomberg; KGI Research

Figure 9: The market for AI chip testing is dominated by Taiwanese providers

Total testing market share, percent (outer); AI testing market share, percent (inner)



Source: KGI Research estimates

Figure 10: CPO testing process

Test Insertion	Insertion 1	Insertion 2	Insertion 3	Insertion 4	CPO FT			
				Joint Development	Mass Production			
Test Content								
	PIC	EIC-PIC	Optical Engine	ASIC + Optical Engine	ASIC + Optical Engine	ASIC	ASIC	Optical Engine
HON.PREC Test Equipment	Wafer Level (Foundry)	Wafer Level (Foundry)	DIE/Chip Level (OSAT)	Package-Level(OSAT)				
				O/E	E/E	E/E	E/E	
	NA			ATE Tester + ATC (3KW) Handler	ATE Tester + ATC (2KW) Handler	ATE Tester + ATC (1KW) Handler	ATE Tester + ATC (1KW) Handler	

Source: Company data

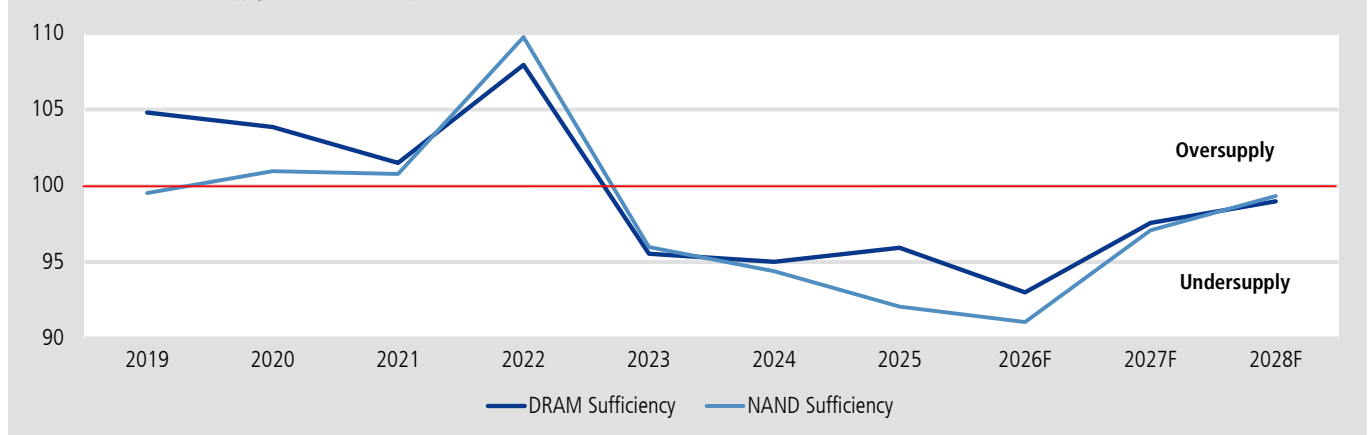
Structural changes in memory & analog IC demand

We expect general purpose server demand to grow by more than 30% YoY in 2026F. Demand for high capacity 128GB and 96GB modules is expected to drive approximately 30% YoY growth in server DRAM content, resulting in 46% YoY growth in overall server DRAM bit demand. On the supply side, constraints in cleanroom availability and tight supply for advanced manufacturing equipment are expected to limit DRAM wafer start growth to only 9% and 10% YoY in 2026-27F, respectively, while NAND flash wafer starts are projected to fall by 2% YoY in 2026F before rising 4% YoY in 2027F. We estimate DRAM and NAND flash supply demand gaps of approximately 8-9% in 2026F, with shortages expected to persist into 2027F. Customers have entered into long term

agreements (LTAs), yet spot prices are more than double official contract prices, suggesting substantial upside to server memory pricing. Enterprise SSD prices increased by approximately 80% in 1H26, and we expect price hikes of greater than 70% in 3Q26F. Analog IC demand for automotive and industrial applications is expected to resume growth in 2H26F. Although data centers currently account for only 5-10% of sales, pricing is approximately 20-30% higher than for general purpose products. Combined with crowding out effects that are accelerating the industry's migration from 8-inch to 12-inch production, we are positive on Texas Instruments' (US) competitive advantage stemming from its early investment in 12-inch capacity. We also favor Silergy (6415 TT, NT\$493.5, OP), given its high exposure to automotive, industrial, and data center applications, as well as its ownership of 12-inch manufacturing capacity.

Figure 11: Memory supply-demand ratio

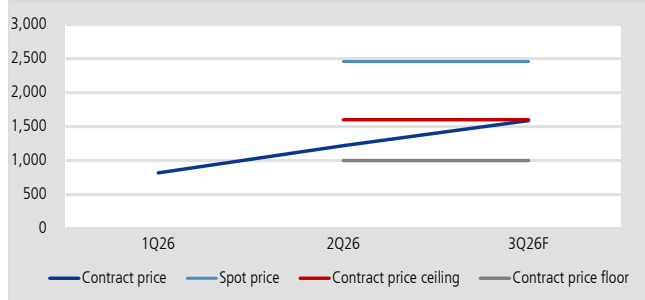
DRAM and NAND flash supply-demand ratios, percent



Source: TrendForce; KGI Research estimates

Figure 12: 3Q26F RDIMM official & spot price estimates

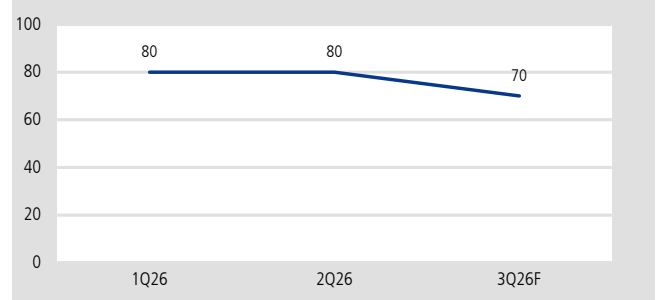
Projected price of 64GB RDIMM, US\$



Source: KGI Research estimates

Figure 13: 3Q26F enterprise SSD contract price estimates

Projected QoQ growth in enterprise SSD contract prices, percent



Source: KGI Research estimates

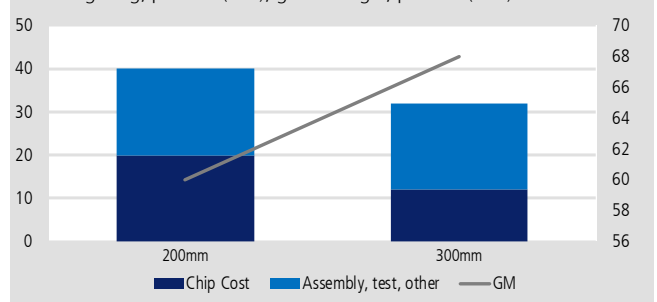
Figure 14: Data center sales weightings of major analog semiconductor vendors

	2025	2026F	Comment
MPWR	25%	32%	AI-related revenue reached 32.7% in 1Q26, and the full-year AI revenue growth forecast has been raised from 50% to 85%.
ADI	17%	22%	ATE and data center businesses are expected to achieve double-digit annual growth.
Infineon	9%	14%	AI power revenue is projected to reach €1.5bn/€2.5bn in 2026/27, representing approximately 9.3/13.6% of total revenue.
TXN	9%	11%	Demand for AI-specific power solutions is expected to increase significantly during 2H26-2027.
MCHP	6%	8%	
ON	4%	6%	AI data center revenue is expected to double in 2026, while the related TAM is projected to grow at a 40% CAGR.
STM	0%	4%	AI data center revenue is expected to exceed US\$500mn/US\$1bn in 2026/27, accounting for approximately 3.5/6.1% of total revenue.
NXPI	2%	4%	Data center revenue is expected to increase from approximately US\$200mn in 2025 (1.6% of revenue) to over US\$500mn in 2026 (3.5% of revenue).

Source: Company data; KGI Research

Figure 15: Migration to 12-inch wafers will significantly reduce the unit cost of chips

Cost weighting, percent (LHS); gross margin, percent (RHS)



Source: KGI Research estimates

Share prices & valuations

Taiex semiconductor & SOX indices both in consolidation mode

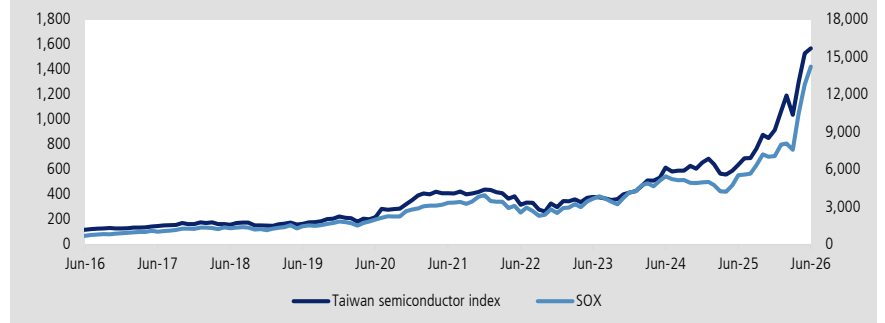
Over the past month, the Taiwan semiconductor index and the Philadelphia Semiconductor Index (SOX) gained 2.7% and 11.0%, respectively, representing a modest slowdown from May, mainly as FINI took profits and as investors in general leaned away from risk. Market capital continued to concentrate in themes related to AI demand and semiconductor price hikes, including foundries, AI ASICs, advanced packaging, memory, semiconductor equipment, test interfaces, and silicon wafers. This reflects tightening supply conditions following improving fab utilization rates, as well as semiconductor supply chain price hikes driven by higher raw material costs. From a valuation perspective, both the Taiwan semiconductor index and the SOX are trading at relatively elevated levels based on PE and PB metrics. This suggests that while earnings forecasts associated with AI demand still have room for upward revisions, part of the anticipated growth has already been priced in.

Over the past month, the Taiex has trended up despite moderate consolidations, with valuations across many AI-related sectors reaching elevated levels. At the same time, strong US labor market data has increased expectations that the US Federal Reserve (Fed) could shift toward a rate hike cycle, contributing to greater index volatility. From a fundamental perspective, however, there are still no signs of a reversal in AI demand, and the AI supply chain is expected to drive another phase of growth and earnings upgrades in 2026-27F. Looking ahead, TSMC is scheduled to hold a 2Q26 earnings call on July 16. We expect the firm to guide high single-digit QoQ sales growth in 3Q26 and reiterate a promising long term outlook for AI demand. In addition, TSMC's aggressive capacity expansion plans should help alleviate investor concerns regarding potential capacity constraints and the risk of market share gains by Intel (US) or Samsung (KR).

In summary, we are positive on the sales growth outlook for the semiconductor supply chain for three key reasons: (1) strong GPU and TPU demand are driving significant growth in TSMC's CoWoS demand; (2) the OSAT supply chain is expected to benefit from robust growth in testing demand as AI chips become increasingly complex, while TSMC's continued outsourcing of CP testing is supporting OSAT capex; and (3) AI-driven demand is spilling over into non-AI segments, with capacity crowding out effects expanding beyond memory into the analog IC, mature-node foundry, and passive components sub-sectors. In particular, memory shortages are expected to persist through end-2027F. Looking ahead, our recommended stocks are TSMC, Hon Precision, WinWay, MPI, MediaTek, Alchip Technologies, Global Unichip, Chipbond, Nanya Tech and Macronix.

Figure 16: SOX & Taiwan Semiconductor Index

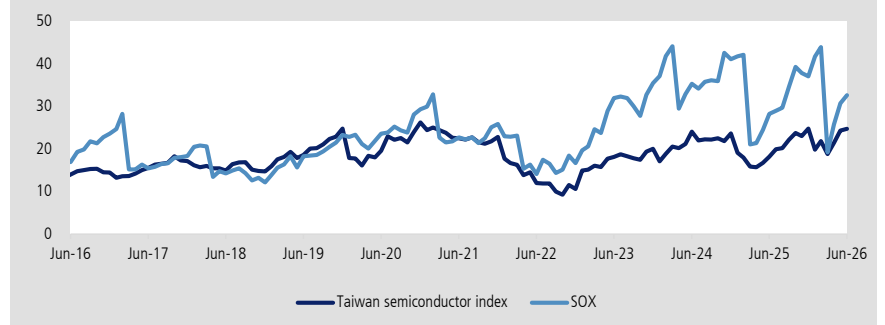
SOX & Taiwan Semiconductor Index, points



Source: Bloomberg; KGI Research

Figure 17: SOX & Taiwan Semiconductor Index one-year forward PE

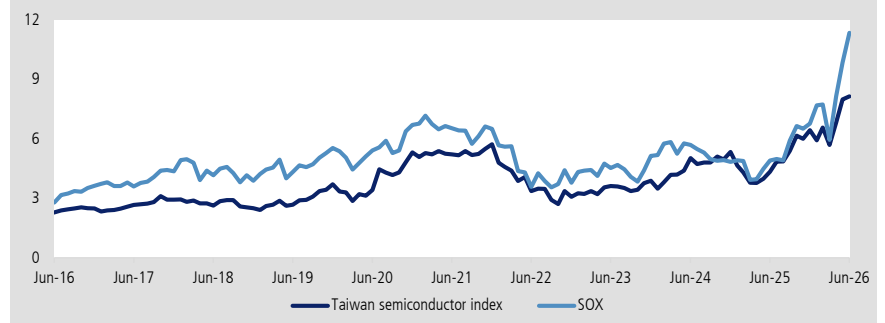
One-year forward PE, x



Source: Bloomberg; KGI Research

Figure 18: SOX & Taiwan Semiconductor Index one-year forward PB

One-year forward PB, x



Source: Bloomberg; KGI Research

Valuation matrix tables

Figure 19: Foundries

Company	Code	Market cap (US\$ mn)	Share price (LCY)	EPS (LCY)		EPS CAGR (%) (2025-2027F)	PER (x)		PBR (x)		ROE (%)		Dividend yield (%)	
				2026F	2027F		2026F	2027F	2026F	2027F	2026F	2027F	2026F	2027F
TSMC	2330 TT	1,965,062	2,440.0	103.21	131.31	40.8	23.6	18.6	8.4	6.2	41.4	38.6	1.1	1.2
United Microelectronics Corp	2303 TT	59,956	153.5	5.36	5.63	29.8	28.6	27.3	4.7	4.3	17.0	16.4	1.9	1.9
VIS	5347 TT	10,419	178.5	5.78	6.56	23.5	30.9	27.2	4.3	4.0	16.9	18.0	2.5	2.5
Powerchip Semiconductor	6770 TT	9,994	69.0	5.52	5.31	N.M.	12.5	13.0	2.2	1.8	21.5	15.6	0.0	1.6
Intel	INTC US	518,281	103.1	1.24	2.12	N.M.	83.2	48.6	4.3	4.0	3.7	6.5	0.0	0.0
Samsung Electronics	005930 KS	1,009,454	258,500.0	46,583.58	66,452.40	217.2	5.5	3.9	2.4	1.6	51.4	46.2	2.9	2.6
SMIC	688981 CH	121,553	163.6	0.85	1.17	260.2	193.4	140.1	58.1	54.5	4.5	5.9	0.0	N.M.
GlobalFoundries	GFS US	35,084	63.9	1.92	2.55	26.7	33.4	25.0	2.9	2.7	8.3	10.3	0.0	0.0
Hua Hong Semiconductor	1347 HK	50,287	172.3	0.11	0.17	127.8	1,524.8	1,038.0	44.3	40.8	2.8	3.8	0.0	0.1
Peer Average							215.1	149.1	14.6	13.3	18.6	17.9	0.9	1.2

Source: Bloomberg; KGI Research estimates

Note: Share prices as of 2026/07/13

Figure 20: Analog IC

Company	Code	Market cap (US\$ mn)	Share price (LCY)	EPS (LCY)		EPS CAGR (%) (2025-2027F)	PER (x)		PBR (x)		ROE (%)		Dividend yield (%)		
				2026F	2027F		2026F	2027F	2026F	2027F	2026F	2027F	2026F	2027F	
IDM															
Texas Instruments	TXN US	271,726	298.6	7.64	9.50	31.8	39.1	31.4	14.9	14.0	0.0	11.4	10.6	1.8	
NXP Semiconductors	NXPI US	70,285	278.4	14.60	17.00	45.8	19.1	16.4	5.8	5.0	0.0	11.3	3.6	1.4	
Infineon Technologies	IFX GR	104,069	70.0	1.75	2.73	88.2	40.0	25.7	4.9	4.3	11.5	16.8	0.5	0.6	
STMicroelectronics	STMPA FP	63,864	61.6	1.32	2.72	278.2	46.6	22.7	3.0	2.7	6.3	12.4	0.5	0.5	
Renesas Electronics	6723 JP	50,021	4,344.0	259.08	277.36	N.M.	16.8	15.7	2.8	2.5	15.2	12.9	0.7	0.7	
ON Semiconductor	ON US	35,416	90.4	3.15	4.16	278.7	28.7	21.7	4.9	4.5	0.0	10.0	26.0	0.0	
IDM Average							31.7	22.3	6.1	5.5	5.5	12.5	7.0	0.9	
Fabless															
Silergy	6415 TT	6,338	524.0	10.81	19.79	75.8	48.5	26.5	1.2	1.0	10.6	16.9	0.9	1.3	
Global Mixed Mode	8081 TT	740	276.5	19.00	N.M.	N.M.	14.6	N.M.	2.9	N.M.	20.0	N.M.	5.5	5.5	
UPI Semiconductor	6719 TT	827	252.5	7.69	N.M.	N.M.	32.8	N.M.	1.8	N.M.	5.8	N.M.	2.1	2.5	
M3 Technology	6799 TT	130	95.8	N.M.	N.M.	N.M.	N.M.	N.M.	N.M.	N.M.	N.M.	N.M.	186.9	250.4	
Monolithic Power Systems	MPWR US	63,445	1,291.4	24.05	30.30	53.0	53.7	42.6	15.2	12.6	28.2	29.8	0.6	0.7	
SG Micro	300661 CH	11,366	116.3	1.34	1.93	47.4	86.7	60.1	12.0	10.3	14.1	17.2	0.2	0.3	
JoulWatt Technology	688141 CH	9,189	138.4	(0.85)	0.13	N.M.	N.M.	1,064.2	53.3	42.6	(33.5)	21.5	N.M.	N.M.	
3peak	688536 CH	5,953	292.3	2.88	4.13	78.3	101.6	70.7	6.1	5.6	6.1	8.1	0.1	0.2	
Novosense Microelectronics	688052 CH	5,444	238.8	0.46	1.95	N.M.	515.7	122.3	5.1	4.9	1.0	4.0	0.0	0.0	
Southchip Semiconductor	688484 CH	2,700	42.8	1.13	1.52	64.8	37.7	28.2	4.1	3.8	9.8	12.4	N.M.	N.M.	
Awinic Technology	688798 CH	2,238	65.1	1.68	2.15	25.6	38.8	30.3	3.4	3.1	8.9	10.5	0.8	1.0	
Fabless Average							111.4	202.1	10.5	10.5	7.1	15.0	19.8	26.3	
Peer Average							74.7	112.8	8.9	8.3	6.5	13.9	15.0	16.8	

Source: Bloomberg; KGI Research estimates

Note: Share prices as of 2026/07/13

Figure 21: Logic fabless design

Company	Code	Market cap (US\$ mn)	Share price (LCY)	EPS (LCY)		EPS CAGR (%) (2025-2027F)	PER (x)		PBR (x)		ROE (%)		Dividend yield (%)	
				2026F	2027F		2026F	2027F	2026F	2027F	2026F	2027F	2026F	2027F
Driver IC														
Novatek Microelectronics	3034 TT	8,835	467.5	24.36	25.35	(2.9)	19.2	18.4	4.2	4.0	21.9	22.1	4.4	4.5
Parade Technologies	4966 TT	1,587	647.0	34.96	37.58	4.0	18.5	17.2	2.3	2.1	12.5	12.4	2.6	2.6
Raydium Semiconductor	3592 TT	602	255.5	21.89	n.a.	N.M.	11.7	N.M.	1.8	N.M.	16.0	N.M.	6.9	N.M.
Sitronix Technology	8016 TT	1,220	327.0	20.62	22.67	24.4	15.9	14.4	N.M.	N.M.	18.9	19.7	N.M.	N.M.
Fitipower Integrated	4961 TT	644	171.0	10.66	13.61	18.7	16.0	12.6	1.1	N.M.	5.8	7.9	N.M.	N.M.
FocalTech Systems	3545 TT	383	55.5	N.M.	N.M.	N.M.	N.M.	N.M.	N.M.	N.M.	N.M.	N.M.	N.M.	N.M.
Himax Technologies	HIMX US	2,489	14.3	N.M.	N.M.	N.M.	N.M.	N.M.	2.9	2.7	8.4	14.5	2.6	3.6
Will Semiconductor	603501 CH	18,744	102.5	3.41	4.42	14.5	30.1	23.2	3.9	3.4	13.4	14.7	0.5	0.6
Synaptics	SYNA US	4,604	119.2	4.61	5.31	N.M.	25.9	22.5	3.4	3.1	13.2	16.6	N.M.	N.M.
DB Hitek	000990 KS	3,206	110,500.0	8,489.96	9,749.60	24.5	13.0	11.3	1.9	1.7	15.0	15.2	1.2	1.3
LX Semicon	108320 KS	405	37,350.0	4,337.67	5,820.86	7.0	8.6	6.4	0.5	0.5	6.2	7.9	4.9	5.1
Anapass	123860 KS	107	13,230.0	N.M.	N.M.	N.M.	N.M.	N.M.	N.M.	N.M.	N.M.	N.M.	N.M.	N.M.
Magnachip Semiconductor	MX US	139	3.8	N.M.	N.M.	N.M.	N.M.	N.M.	N.M.	N.M.	N.M.	N.M.	N.M.	N.M.
Driver IC Average							17.6	15.8	2.4	2.5	13.1	14.5	3.3	3.0
PC semi														
Realtek Semiconductor	2379 TT	12,103	756.0	32.10	35.86	11.6	23.5	21.1	6.9	6.4	30.5	31.8	3.7	4.1
Parade Technologies	4966 TT	1,587	647.0	34.96	37.58	4.0	18.5	17.2	2.3	2.1	12.5	12.4	2.6	2.6
ZillTek Technology	6679 TT	407	238.5	12.22	14.40	45.4	19.5	16.6	2.4	2.3	12.1	13.5	4.1	4.8
ASMedia Technology	5269 TT	3,478	1,510.0	93.85	108.80	22.3	16.1	13.9	2.9	2.6	18.6	19.1	3.5	4.1
ELAN Microelectronics	2458 TT	1,727	183.0	9.66	11.18	14.5	19.0	16.4	4.9	4.5	27.0	28.6	4.2	4.8
Via Technologies	2388 TT	1,210	70.1	2.07	N.M.	N.M.	33.9	N.M.	N.M.	N.M.	N.M.	N.M.	0.0	N.M.
Pixart Imaging	3227 TT	948	201.0	12.59	14.61	8.6	16.0	13.8	2.3	2.2	14.5	16.2	4.6	5.3
ITE Technology	3014 TT	711	138.0	N.M.	N.M.	N.M.	N.M.	N.M.	N.M.	N.M.	N.M.	N.M.	6.5	N.M.
Nvidia	NVDA US	4,925,426	203.5	8.37	10.86	91.2	24.3	18.7	16.5	10.3	92.9	77.3	0.0	0.0
Advanced Micro Devices	AMD US	871,377	534.4	7.08	14.00	129.0	75.5	38.2	12.3	10.3	57.7	78.2	0.0	0.0
Intel	INTC US	518,281	103.1	1.24	2.12	N.M.	83.2	48.6	4.3	4.0	0.0	0.0	0.0	0.0
Qualcomm	QCOM US	193,915	184.0	10.74	9.90	40.0	17.1	18.6	8.3	7.6	47.2	36.4	1.9	1.9
PC semi Average							31.5	22.3	6.3	5.2	31.3	31.4	2.6	2.8
Data Center														
ASPEED Technology	5274 TT	17,460	13,520.0	191.62	334.60	79.4	70.6	40.4	58.3	32.1	88.7	102.5	1.1	1.9
Parade Technologies	4966 TT	1,587	647.0	34.96	37.58	4.0	18.5	17.2	2.3	2.1	12.5	12.4	2.6	2.6
Nvidia	NVDA US	4,925,426	203.5	8.37	10.86	91.2	24.3	18.7	16.5	10.3	92.9	77.3	0.0	0.0
Broadcom	AVGO US	1,827,149	384.1	11.55	17.03	86.2	33.3	22.6	16.5	10.1	36.9	44.8	0.7	0.8
Advanced Micro Devices	AMD US	871,377	534.4	7.08	14.00	129.0	75.5	38.2	12.3	10.3	57.7	78.2	0.0	0.0
Intel	INTC US	518,281	103.1	1.24	2.12	N.M.	83.2	48.6	4.3	4.0	0.0	0.0	0.0	0.0
Marvell Technology	MRVL US	190,295	217.5	3.67	5.22	N.M.	59.3	41.7	10.7	9.1	17.1	19.1	0.1	0.1
Astera Labs	ALAB US	62,058	362.1	3.00	4.45	83.6	120.7	81.4	33.8	26.9	30.8	36.8	0.0	0.0
Lattice Semiconductor	LSCC US	17,912	130.7	1.82	2.38	989.7	71.7	55.0	22.9	18.2	32.1	34.1	N.M.	N.M.
Data Center Average							61.9	40.4	19.7	13.7	41.0	45.0	0.6	0.7
High Speed Interface														
MediaTek	2454 TT	190,525	3,825.0	67.98	111.95	30.1	56.3	34.2	14.5	12.8	26.3	39.5	1.5	2.3
ASPEED Technology	5274 TT	17,460	13,520.0	191.62	334.60	79.4	70.6	40.4	58.3	32.1	88.7	102.5	1.1	1.9
Realtek Semiconductor	2379 TT	12,103	756.0	32.10	35.86	11.6	23.5	21.1	6.9	6.4	30.5	31.8	3.7	4.1
Novatek Microelectronics	3034 TT	8,835	467.5	24.36	25.35	(2.9)	19.2	18.4	4.2	4.0	21.9	22.1	4.4	4.5
ASMedia Technology	5269 TT	3,478	1,510.0	93.85	108.80	22.3	16.1	13.9	2.9	2.6	18.6	19.1	3.5	4.1
Parade Technologies	4966 TT	1,587	647.0	34.96	37.58	4.0	18.5	17.2	2.3	2.1	12.5	12.4	2.6	2.6
Genesys Logic	6104 TT	287	101.5	N.M.	N.M.	N.M.	N.M.	N.M.	N.M.	N.M.	N.M.	N.M.	N.M.	N.M.
Via Labs	6756 TT	218	100.5	N.M.	N.M.	N.M.	N.M.	N.M.	N.M.	N.M.	N.M.	N.M.	1.8	N.M.
Broadcom	AVGO US	1,827,149	384.1	11.55	17.03	86.2	33.3	22.6	16.5	10.1	36.9	44.8	0.7	0.8
Intel	INTC US	518,281	103.1	1.24	2.12	N.M.	83.2	48.6	4.3	4.0	0.0	0.0	0.0	0.0
Texas Instruments	TXN US	271,726	298.6	7.64	9.50	31.8	39.1	31.4	14.9	14.0	28.6	31.5	1.9	2.0
Marvell Technology	MRVL US	190,295	217.5	3.67	5.22	N.M.	59.3	41.7	10.7	9.1	17.1	19.1	0.1	0.1
Qualcomm	QCOM US	193,915	184.0	10.74	9.90	40.0	17.1	18.6	8.3	7.6	47.2	36.4	1.9	1.9
Montage Technology	688008 CH	45,893	252.8	3.05	4.39	49.2	83.0	57.6	19.0	14.8	23.0	25.8	0.4	0.6
Microchip Technology	MCHP US	45,738	84.2	1.57	3.15	N.M.	53.8	26.8	7.2	6.8	14.2	26.2	2.2	2.2
High Speed Interface Average							44.1	30.2	13.1	9.7	28.1	31.6	1.8	2.1
Peer Average							39.1	28.3	10.4	8.5	25.7	29.0	2.2	2.2

Source: Bloomberg; KGI Research estimates

Note: Share prices as of 2026/07/13

Figure 22: OSAT

Company	Code	Market cap (US\$ mn)	Share price (LCY)	EPS (LCY)		EPS CAGR (%) (2025-2027F)	PER (x)		PBR (x)		ROE (%)		Dividend yield (%)	
				2026F	2027F		2026F	2027F	2026F	2027F	2026F	2027F	2026F	2027F
ASE Technology	3711 TT	92,819	670.0	17.00	25.34	64.5	39.4	26.4	7.5	6.6	20.0	26.0	0.8	1.8
King Yuan Electronics Co	2449 TT	11,658	307.0	9.23	14.37	26.3	33.2	21.4	6.8	5.7	21.4	29.0	1.8	2.8
Powertech Technology	6239 TT	7,367	312.5	12.03	17.86	54.5	26.0	17.5	3.6	3.2	15.1	18.8	2.2	3.1
Chipbond Technology	6147 TT	4,579	198.0	5.30	7.45	41.1	37.4	26.6	2.8	2.6	8.2	11.2	2.0	2.8
Sigurd Microelectronics	6257 TT	3,524	234.5	8.74	10.66	31.8	26.8	22.0	N.M.	N.M.	19.8	27.0	2.5	3.4
ChipMOS Technologies	8150 TT	2,516	115.0	4.08	6.12	195.6	28.2	18.8	3.0	2.7	11.1	15.7	N.M.	2.7
XinTec	3374 TT	3,017	358.0	7.13	7.88	25.7	50.2	45.4	N.M.	N.M.	18.2	17.6	N.M.	N.M.
Winstek Semiconductor	3265 TT	711	168.0	N.M.	N.M.	N.M.	N.M.	N.M.	N.M.	N.M.	N.M.	N.M.	N.M.	N.M.
JCET Group	600584 CH	26,142	99.1	1.21	1.62	36.3	82.2	61.3	5.8	5.4	7.0	8.5	0.2	0.2
Amkor Technology	AMKR US	16,374	66.1	2.09	2.42	26.7	31.5	27.3	3.3	2.9	11.2	11.1	0.0	0.0
TongFu Microelectronics	002156 CH	16,467	73.6	1.04	1.25	25.2	71.0	58.7	6.6	6.0	9.3	10.3	0.1	0.2
Tianshui Huatian	002185 CH	11,828	24.1	0.27	0.35	26.1	91.1	68.9	4.2	3.9	4.8	6.0	0.2	0.2
China Wafer Level CSP	603005 CH	3,961	41.2	N.M.	N.M.	N.M.	N.M.	N.M.	5.4	4.8	N.M.	N.M.	N.M.	N.M.
Peer Average							47.0	35.8	4.9	4.4	13.3	8.3	1.1	1.7

Source: Bloomberg; KGI Research estimates

Note: Share prices as of 2026/07/13

Figure 23: Testing interface & inspection

Company	Code	Market cap (US\$ mn)	Share price (LCY)	EPS (LCY)		EPS CAGR (%) (2025-2027F)	PER (x)		PBR (x)		ROE (%)		Dividend yield (%)	
				2026F	2027F		2026F	2027F	2026F	2027F	2026F	2027F	2026F	2027F
Hon. Precision	7769 TT	37,467	6,705.0	122.62	221.68	71.1	54.7	30.2	17.6	13.0	34.9	49.5	1.3	2.3
MPI	6223 TT	20,205	6,640.0	65.35	111.48	82.5	101.6	59.6	38.9	32.0	39.6	57.1	0.6	1.0
Winway Technology	6515 TT	8,254	7,375.0	91.71	169.35	90.0	80.4	43.5	33.2	24.5	45.2	63.9	0.9	1.7
Chunghwa Precision Test	6510 TT	2,826	2,775.0	69.26	118.70	97.6	40.1	23.4	9.2	6.6	24.3	32.8	1.2	2.1
InnoStar Service	7828 TT	2,484	1,975.0	17.88	39.61	150.2	110.5	49.9	N.M.	N.M.	49.1	72.9	0.3	0.6
Chroma Ate	2360 TT	24,432	1,850.0	41.93	63.33	51.2	44.1	29.2	18.3	13.9	46.6	55.5	1.2	1.9
Keystone Microtech	6683 TT	1,433	1,675.0	N.M.	N.M.	N.M.	N.M.	N.M.	N.M.	N.M.	N.M.	N.M.	N.M.	N.M.
Ccp Contact Probe	6217 TT	883	242.5	N.M.	N.M.	N.M.	N.M.	N.M.	N.M.	N.M.	N.M.	N.M.	N.M.	N.M.
Msscrops Co Ltd	6830 TT	634	394.5	5.11	15.42	N.M.	77.2	25.6	6.5	N.M.	N.M.	N.M.	N.M.	N.M.
Materials Analysis	3587 TT	596	276.5	12.41	14.92	56.7	22.3	18.5	3.3	N.M.	15.8	19.5	3.0	3.9
Integrated Service	3289 TT	438	162.5	6.39	7.37	23.8	25.4	22.0	N.M.	N.M.	9.7	11.0	N.M.	N.M.
Advantest	6857 JP	129,704	28,760.0	460.11	707.73	79.9	62.5	40.6	29.2	18.1	55.0	53.0	0.3	0.4
Teradyne	TER US	53,398	341.1	7.30	10.05	69.9	46.7	33.9	15.1	12.9	36.2	40.1	0.2	0.2
Keysight Technologies	KEYS US	54,828	320.8	10.20	11.88	55.3	31.5	27.0	8.0	6.7	25.9	26.4	0.0	0.0
Technoprobe SpA	TPRO IM	23,524	31.6	0.43	0.66	109.9	72.9	47.8	13.4	10.7	19.6	22.6	0.0	0.1
FormFactor	FORM US	8,598	110.3	2.46	3.19	113.4	44.8	34.6	N.M.	N.M.	15.4	18.7	0.0	0.0
NHK Spring	5991 JP	5,284	3,712.0	197.02	234.01	2.0	18.8	15.9	1.7	1.6	9.7	10.4	1.8	1.9
LEENO Industrial	058470 KS	3,726	73,200.0	1,669.00	1,916.00	(2.2)	43.9	38.2	7.9	6.9	19.1	19.1	1.2	1.4
Micronics Japan	6871 JP	3,943	15,990.0	554.52	681.24	47.9	28.8	23.5	7.4	5.8	28.8	34.5	1.0	1.1
ISC	095340 KS	2,134	150,700.0	4,348.15	6,147.48	49.7	34.7	24.5	5.2	4.5	15.6	19.2	0.7	0.9
Cohu	COHU US	2,491	52.8	0.59	1.47	N.M.	90.0	36.0	3.2	3.0	(207.6)	27.2	N.M.	N.M.
Yamaichi Electronics	6941 JP	1,094	8,650.0	456.90	526.90	42.5	18.9	16.4	3.5	3.0	18.0	18.6	1.5	1.9
Enplas	6961 JP	730	12,180.0	554.30	586.60	14.6	22.0	20.8	1.8	1.6	8.4	7.9	0.8	0.8
Yokowo	6800 JP	672	4,575.0	128.70	217.70	50.9	35.5	21.0	2.0	1.7	5.6	7.5	1.1	1.5
Japan Electronic Materials	6855 JP	618	6,840.0	347.80	371.50	16.5	19.7	18.4	N.M.	N.M.	14.0	N.M.	1.2	1.2
Peer Average							50.2	30.5	11.9	9.8	14.9	31.8	0.9	1.2

Source: Bloomberg; KGI Research estimates

Note: Share prices as of 2026/07/13

Figure 24: Front-end equipment

Company	Code	Market cap (US\$ mn)	Share price (LCY)	EPS (LCY)		EPS CAGR (%) (2025-2027F)	PER (x)		PBR (x)		ROE (%)		Dividend yield (%)	
				2026F	2027F		2026F	2027F	2026F	2027F	2026F	2027F	2026F	2027F
Foxsemicon Integrated	3413 TT	1,147	334.0	23.24	28.21	14.7	14.4	11.8	1.6	1.5	13.8	14.8	3.7	4.3
Skytech	6937 TT	536	255.0	6.40	N.M.	N.M.	39.8	N.M.	4.6	N.M.	11.1	N.M.	1.1	N.M.
ASML	ASML NA	681,004	1,540.8	32.83	42.16	30.6	46.9	36.5	24.6	18.0	49.0	47.8	0.6	0.8
Applied Material	AMAT US	456,836	575.4	11.25	14.25	27.9	51.1	40.4	17.6	14.4	34.8	38.5	0.3	0.3
Lam Research	LRCX US	412,588	329.9	5.69	7.71	36.0	58.0	42.8	35.4	22.6	59.3	59.9	0.3	0.3
KLA	KLAC US	290,320	222.3	36.49	47.93	296.2	6.1	4.6	47.8	32.1	94.9	74.2	3.4	4.4
Tokyo Electron	8035 JP	203,570	70,640.0	1,198.42	1,597.78	16.2	58.9	44.2	15.6	13.4	27.6	34.0	0.9	1.1
Hitachi	6501 JP	132,009	4,727.0	176.61	201.54	22.7	26.8	23.5	3.5	3.1	13.5	13.5	1.0	1.2
ASM International	ASM NA	49,969	889.6	21.73	27.45	36.3	40.9	32.4	8.9	7.3	23.6	24.1	0.5	0.6
Canon	7751 JP	36,036	4,388.0	365.06	401.45	4.5	12.0	10.9	1.1	1.0	9.2	9.7	3.7	3.9
Lasertec	6920 JP	25,788	44,420.0	849.73	1,076.52	7.1	52.3	41.3	16.1	13.0	33.3	34.2	0.7	0.8
Screen	7735 JP	20,907	17,800.0	467.66	621.63	10.2	38.1	28.6	7.2	6.1	19.8	22.5	0.8	1.0
Ebara	6361 JP	15,928	5,655.0	225.61	253.19	23.4	25.1	22.3	4.5	4.0	18.6	18.4	1.3	1.6
Onto Innovation	ONTO US	15,132	304.2	7.25	10.08	90.4	41.9	30.2	8.3	6.6	16.6	21.9	N.M.	N.M.
Acm Research	ACMR US	6,230	94.1	1.76	2.70	35.6	53.5	34.8	3.0	2.7	8.4	10.3	0.2	0.4
Veeco Instruments	VECO US	3,403	55.8	1.63	2.88	119.2	34.2	19.3	3.8	3.2	6.8	16.5	0.0	0.0
Samco	6387 JP	622	12,550.0	183.25	N.M.	N.M.	68.5	N.M.	N.M.	N.M.	N.M.	N.M.	0.6	0.6
Peer Average							39.3	28.3	12.7	9.9	27.5	29.4	1.2	1.4

Source: Bloomberg; KGI Research estimates.

Note: Share prices as of 2026/07/13

Figure 25: Back-end equipment

Company	Code	Market cap (US\$ mn)	Share price (LCY)	EPS (LCY)		EPS CAGR (%) (2025-2027F)	PER (x)		PBR (x)		ROE (%)		Dividend yield (%)	
				2026F	2027F		2026F	2027F	2026F	2027F	2026F	2027F	2026F	2027F
Hon.Precision	7769 TT	37,467	6,705.0	122.62	221.68	71.1	54.7	30.2	17.6	13.0	34.9	49.5	1.3	2.3
C Sun	2467 TT	2,897	595.0	13.69	19.22	86.9	43.5	31.0	11.9	9.6	28.9	33.2	1.2	1.5
Chroma Ate	2360 TT	24,432	1,850.0	41.93	63.33	51.2	44.1	29.2	18.3	13.9	46.6	55.5	1.2	1.9
All Ring Tech	6187 TT	3,156	1,035.0	27.13	40.76	62.4	38.2	25.4	12.0	9.2	28.8	40.3	1.6	2.5
Grand Process Technology	3131 TT	2,913	3,210.0	65.28	101.92	49.7	49.2	31.5	19.2	14.5	39.7	44.8	1.5	2.4
Ableprint Technology	7734 TT	2,409	2,770.0	68.75	104.65	76.7	40.3	26.5	29.3	30.5	32.0	57.8	N.M.	N.M.
Sciencetech	3583 TT	1,981	794.0	20.00	29.38	45.8	39.7	27.0	8.0	6.7	23.5	27.7	1.2	1.7
Gallant Micro Machining	6640 TT	857	968.0	26.94	45.71	89.3	35.9	21.2	N.M.	N.M.	36.1	57.7	2.4	3.8
Gallant Precision Machining	5443 TT	542	106.0	N.M.	N.M.	N.M.	N.M.	N.M.	N.M.	N.M.	N.M.	N.M.	N.M.	N.M.
Utechzone	3455 TT	407	219.0	N.M.	N.M.	N.M.	N.M.	N.M.	N.M.	N.M.	N.M.	N.M.	N.M.	N.M.
Adv antest	6857 JP	131,126	29,095.0	460.11	707.73	79.9	63.2	41.1	29.5	18.3	55.0	53.0	0.3	0.4
Teradyne	TER US	53,398	341.1	7.30	10.05	69.9	46.7	33.9	15.1	12.9	36.2	40.1	0.2	0.2
Disco	6146 JP	51,566	69,850.0	1,206.62	1,677.32	21.1	57.9	41.6	13.2	10.9	24.2	27.1	0.6	0.9
BE Semiconductor Industries	BESI NA	22,820	247.0	4.05	6.28	94.5	61.0	39.3	35.4	26.1	63.4	71.2	1.3	1.9
Asmpt	522 HK	9,920	185.4	3.97	5.97	65.8	46.7	31.1	4.2	3.9	9.6	13.0	1.1	1.6
Camtek Ltd	CAMT US	6,382	136.8	3.50	4.55	102.5	39.1	30.1	7.9	5.5	24.1	23.4	N.M.	N.M.
SUSS MicroTec	SMHN GY	1,825	83.9	1.99	3.51	20.6	42.1	23.9	4.5	3.9	11.2	16.7	0.2	0.4
Shibaura Mechatronics	6590 JP	2,361	5,490.0	176.09	225.90	19.7	31.2	24.3	1.9	5.2	22.2	23.7	1.1	1.6
Intekplus	064290 KS	352	41,000.0	484.00	2,622.67	N.M.	84.7	15.6	10.4	6.3	12.4	43.8	0.2	1.0
Peer Average							48.1	29.6	14.9	11.9	31.1	39.9	1.0	1.6

Source: Bloomberg; KGI Research estimates

Note: Share prices as of 2026/07/13

Figure 26: IP & ASIC design

Company	Code	Market cap (US\$ mn)	Share price (LCY)	EPS (LCY)		EPS CAGR (%) (2025-2027F)	PER (x)		PBR (x)		ROE (%)		Dividend yield (%)	
				2026F	2027F		2026F	2027F	2026F	2027F	2026F	2027F	2026F	2027F
ASIC Design Service														
Global Unichip Corp	3443 TT	17,771	4,270.0	48.02	116.55	103.6	88.9	36.6	34.3	20.7	43.5	70.4	1.9	0.0
Alchip Technologies	3661 TT	11,070	4,135.0	128.95	171.78	57.6	32.1	24.1	6.9	5.9	23.5	26.4	2.1	0.0
Faraday Technology	3035 TT	1,724	213.0	3.88	6.66	54.0	54.9	32.0	4.1	3.8	7.6	12.3	2.3	0.0
RDC Semiconductor	3228 TT	382	171.0	N.M.	N.M.	N.M.	N.M.	N.M.	N.M.	N.M.	N.M.	N.M.	N.M.	N.M.
Verisilicon Mi-A	688521 CH	21,063	271.5	0.49	1.67	N.M.	554.2	162.6	41.0	32.2	10.4	20.8	0.0	0.0
Rambus	RMBS US	11,150	103.1	2.96	3.66	30.8	34.9	28.2	9.8	5.5	16.7	N.M.	N.M.	N.M.
CEVA	CEVA US	1,190	42.7	0.53	0.82	N.M.	80.9	52.1	3.4	3.2	4.5	6.9	N.M.	N.M.
ASIC Design Service Average							141.0	55.9	16.6	11.9	17.7	27.4	1.6	0.0
IP														
Yield Microelectronics Corp	6423 TT	77	80.2	1.83	2.55	85.9	43.7	31.5	5.1	4.4	11.7	15.0	2.8	0.1
eMemory Technology	3529 TT	5,915	2,550.0	36.03	51.51	41.8	70.8	49.5	37.0	28.1	59.1	62.2	1.2	1.8
AP Memory Technology	6423 TT	4,516	893.0	18.08	28.52	91.9	49.4	31.3	10.6	8.7	21.7	28.5	1.3	1.9
M31 Technology	6643 TT	576	440.5	11.50	N.M.	N.M.	38.3	N.M.	8.1	N.M.	23.7	N.M.	N.M.	0.0
Andes Technology	6533 TT	364	210.5	4.49	N.M.	N.M.	46.9	N.M.	2.1	N.M.	4.6	N.M.	N.M.	0.0
Arm	ARM US	319,345	299.0	1.75	2.12	68.1	170.9	141.0	38.5	30.6	18.6	20.4	0.0	0.0
Cadence Design Systems	CDNS US	104,236	377.9	8.00	9.55	52.8	47.2	39.6	14.8	12.5	18.0	19.8	0.0	0.0
Synopsys	SNPS US	83,068	433.8	14.37	17.12	45.1	30.2	25.3	2.6	2.5	8.7	9.7	0.0	0.0
IP Average							62.2	53.0	14.8	14.5	20.3	25.9	0.9	0.5
Peer Average							95.9	54.5	15.6	13.2	19.3	26.6	1.2	0.3

Source: Bloomberg; KGI Research estimates

Note: Share prices as of 2026/07/13

Figure 27: Memory

Company	Code	Market cap (US\$ mn)	Share price (LCY)	EPS (LCY)		EPS CAGR (%) (2025-2027F)	PER (x)		PBR (x)		ROE (%)		Dividend yield (%)	
				2026F	2027F		2026F	2027F	2026F	2027F	2026F	2027F	2026F	2027F
Nanya Technology	2408 TT	45,324	423.0	75.16	130.67	682.3	5.6	3.2	3.1	1.6	86.9	74.3	5.3	9.2
Winbond	2344 TT	23,339	167.0	25.54	52.40	671.5	6.5	3.2	3.6	1.8	72.6	76.1	4.7	9.7
Macronix	2337 TT	8,491	138.0	30.02	101.70	N.M.	4.6	1.4	2.4	0.9	75.6	99.0	6.6	22.5
Samsung	005930 KS	1,028,690	263,000.0	46,583.58	66,452.40	217.2	5.6	4.0	2.5	1.6	51.4	46.2	2.9	2.6
SK Hynix	000660 KS	883,305	1,848,000.0	328,890.39	484,467.40	179.4	5.6	3.8	3.7	1.9	96.8	64.9	0.6	1.3
Kioxia	285A JP	222,234	65,780.0	943.14	9,754.58	333.1	69.7	6.7	6,271.9	5.7	16.7	140.4	0.0	1.3
Sandisk	SNDK US	247,898	1,674.0	66.02	200.22	N.M.	25.4	8.4	13.2	4.9	60.6	71.1	0.0	0.0
Peer Average							17.0	10.4	788.5	2.8	67.1	80.7	2.5	5.8

Source: Bloomberg; KGI Research estimates

Note: Share prices as of 2026/07/13

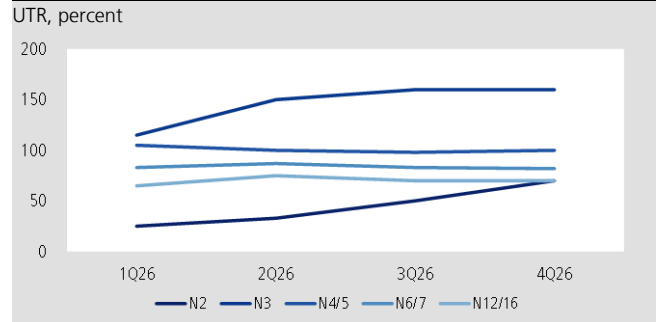
Foundry tracker

Figure 28: Foundry sector summary

1. China foundry profitability has underperformed industry peers due to oversupply and price competition.
2. Second-tier Taiwan foundry profitability is stable due to higher specialization and China Plus-one policies.
3. TSMC's newly added US capex may result in high capital intensity after 2026F.

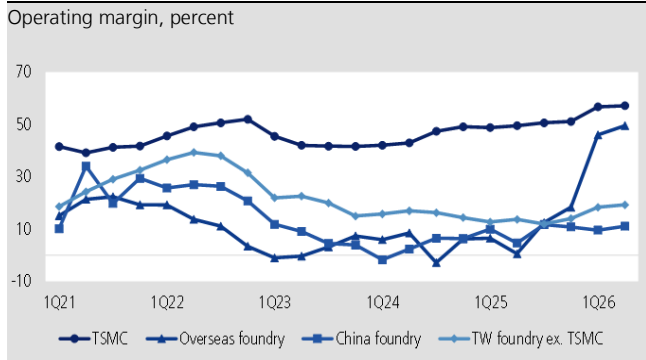
Source: KGI Research

Figure 29: Advanced node UTR has remained high



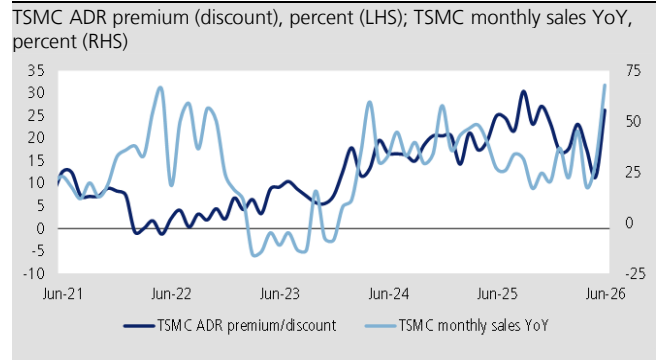
Source: KGI Research estimates

Figure 30: China foundries have underperformed peers



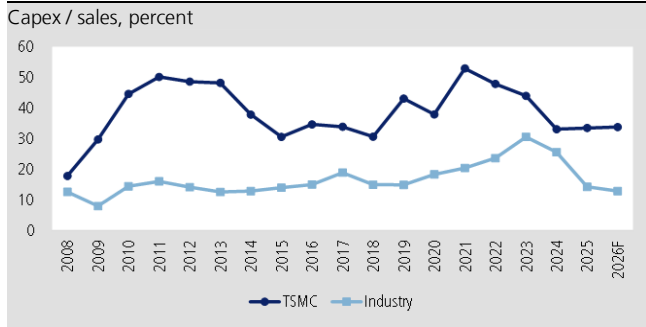
Source: TEJ; Bloomberg; KGI Research estimates

Figure 31: TSMC ADR premium held at a high level due to forex impacts



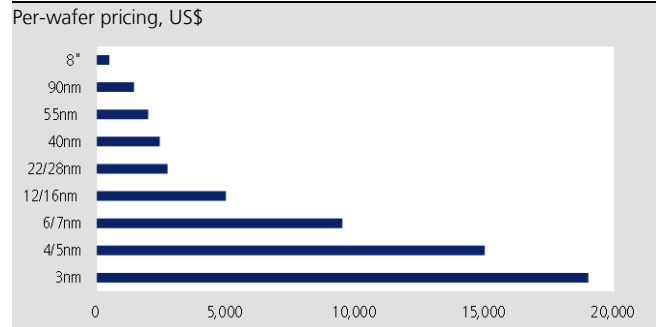
Source: Bloomberg; KGI Research

Figure 32: TSMC's capital intensity to remain at high levels



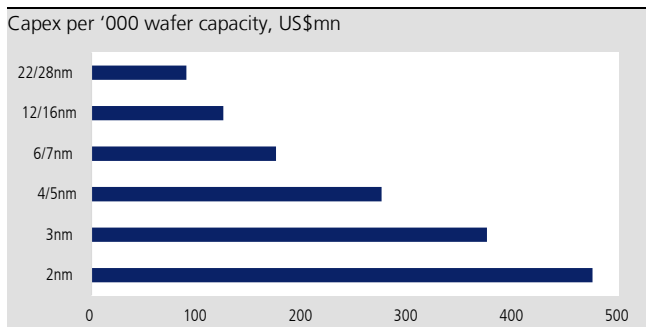
Source: TEJ; Bloomberg; KGI Research estimates

Figure 33: Price gaps have widened on node migration



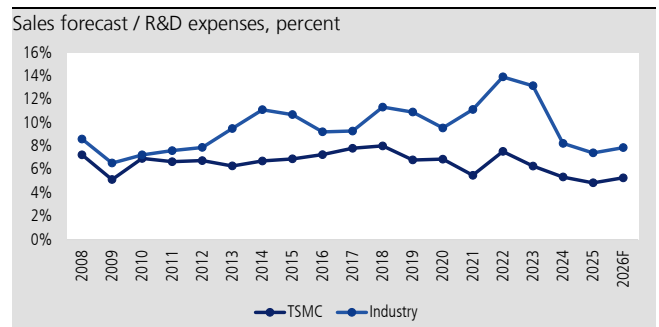
Source: KGI Research estimates

Figure 34: Rising capex for node migration



Source: KGI Research estimates

Figure 35: TSMC's R&D spending efficiency has outpaced peers



Source: TEJ; Bloomberg; KGI Research estimates

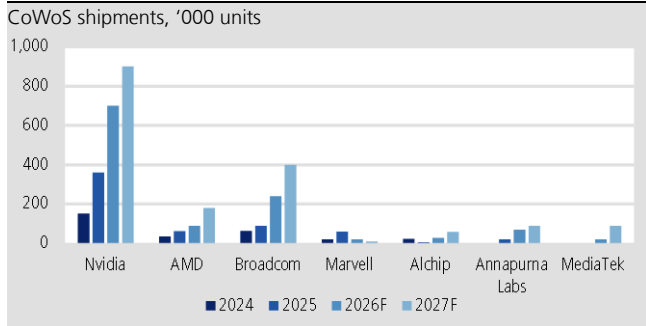
OSAT tracker

Figure 36: OSAT sector summary

1. OSAT 2019–26F capex CAGR of 15.0% has caught up with the foundry capex CAGR of 9.2%. The notable upward revision is mainly due to Amkor (US), ASE Technology Holding and King Yuan Electronics' progress in advanced packaging and testing.
2. AI has driven up revisions to OSAT capex
3. CoWoS capacity expansion at TSMC will have a negative impact on other 2.5D packaging vendors.
4. Taiwan OSAT vendors are losing market share to upstream foundries and China peers.

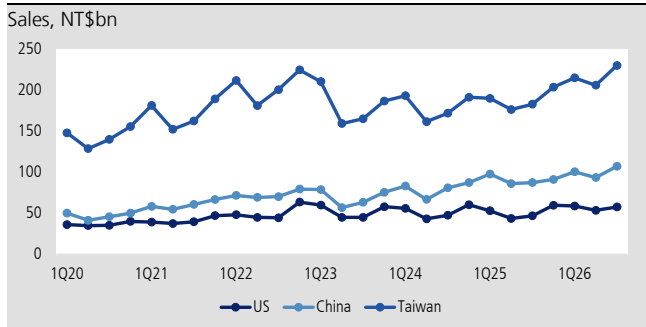
Source: KGI Research

Figure 38: Nvidia & Broadcom CoWoS shipment growth has outpaced peers



Source: KGI Research estimates

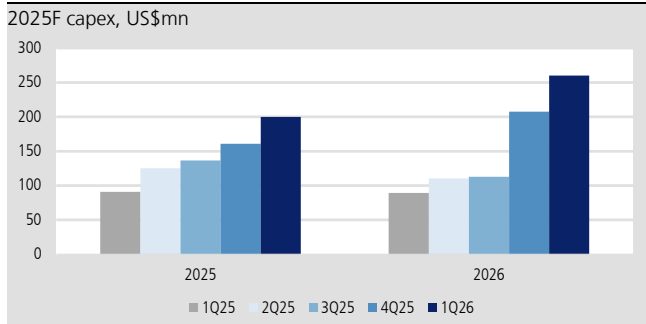
Figure 40: Taiwan OSAT vendors are losing market share to China



Source: Bloomberg; KGI Research estimates

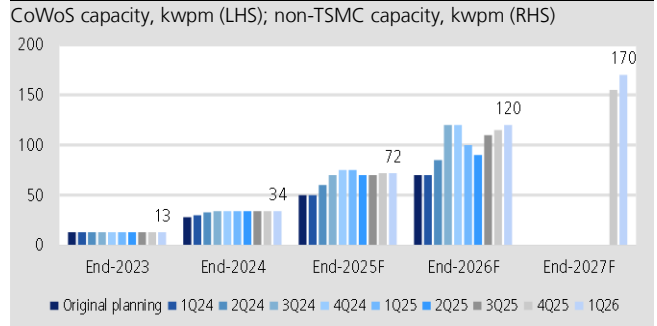
Note: US comprises Amkor, China CET, TFME and HT Tech, and Taiwan ASEH, PTI, Chipbond and KYEC

Figure 42: AI has driven up OSAT capex



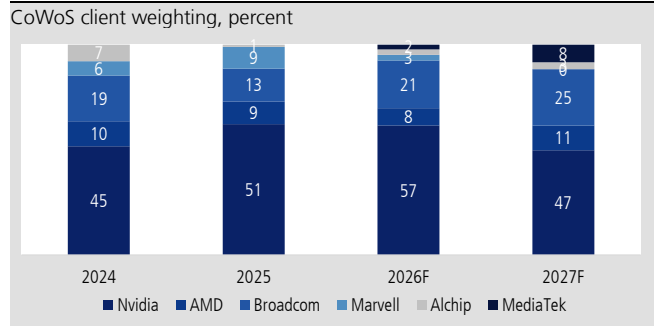
Source: Bloomberg; KGI Research

Figure 37: TSMC CoWoS capacity forecast revisions



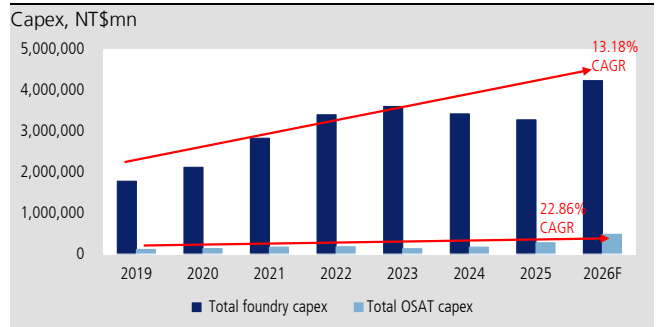
Source: KGI Research estimates

Figure 39: Nvidia to absorb 58% of TSMC's CoWoS capacity in 2026F



Source: KGI Research estimates

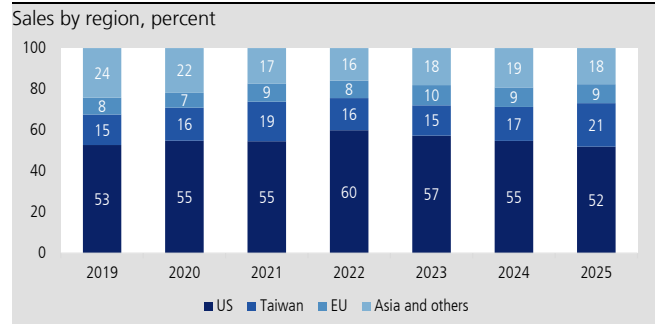
Figure 41: OSAT 2019–26F capex CAGR has caught up with that of foundries



Source: KGI Research

Note: OSAT comprises ASE, Amkor, Powertech, KYEC, TFME and JCET, and foundry TSMC, Intel, Samsung, Global Foundry, SMIC, UMC, VIS and PSMC

Figure 43: Taiwan OSATs are losing market share to China



Source: Company data; KGI Research

Note: Companies comprise ASEH, PTI, and Chipbond

Logic fabless design tracker

Figure 44: Logic fabless design sector summary

1. For mobile AP, we forecast shipments to reach 1.26 billion units in 2026; however, surging memory prices may dampen overall demand.
2. We note AMD has gained data center market share from Intel.
3. We expect weak earnings growth for DDI players in 2025. ASP pressure and competition from Greater China peers has intensified in the OLED DDI arena.

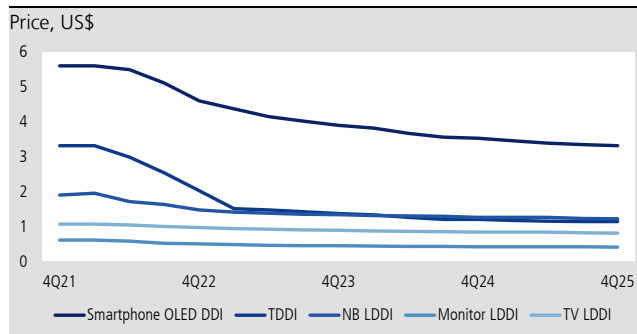
Source: KGI Research

Figure 46: 2025 & 2026F smartphone AP shipments

mn units	2025	2026F (new)	YoY (%)
Samsung	240	240-245	0
Apple	240	240-250	0
Xiaomi	170	130-150	-17.6
Oppo	142	120-130	-12
vivo	100	95-85	-10
Transsion	95	70-80	-21.1
Honor	65	55-65	-14.3

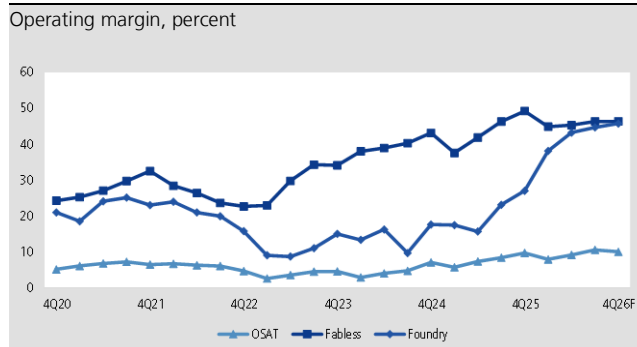
Source: KGI Research estimates

Figure 48: DDI pricing no longer at COVID-level



Source: Omdia; KGI Research estimates

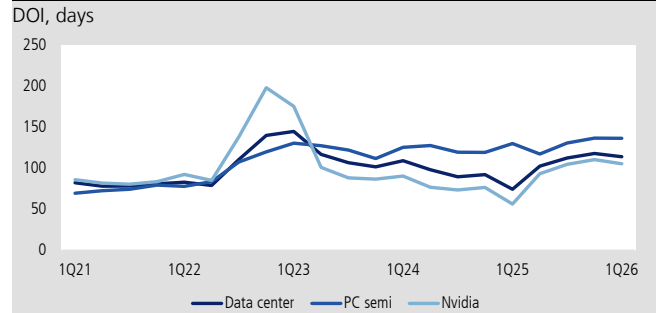
Figure 50: Margin upside for leading fabless & foundries



Source: TEJ; Bloomberg; KGI Research estimates

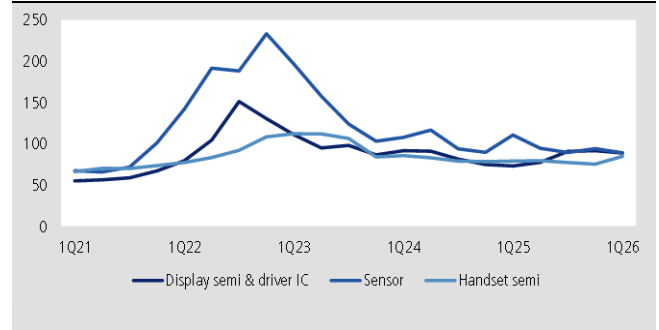
Note: Leading fabless firms comprise AMD, Nvidia, Qualcomm, Marvell, Broadcom & MediaTek

Figure 45: Server & PC DOI above pre-COVID level



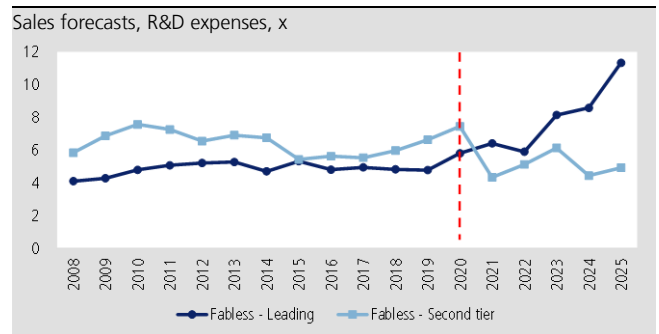
Source: TEJ; Bloomberg; KGI Research

Figure 47: DOI has returned to healthy level, with mild restocking



Source: TEJ; Bloomberg; KGI Research estimates

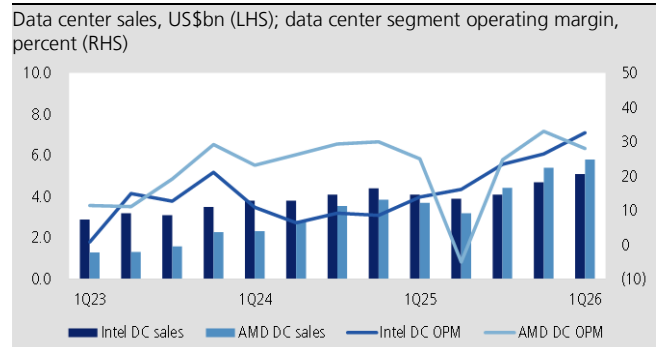
Figure 49: Leading fabless R&D more efficient than second-tier fabless firms



Source: TEJ; Bloomberg; KGI Research estimates

Note: Leading fabless companies comprise AMD, Nvidia, Qualcomm, Marvell, Broadcom & MediaTek

Figure 51: AMD gains data center market share from Intel



Source: Company data; KGI Research

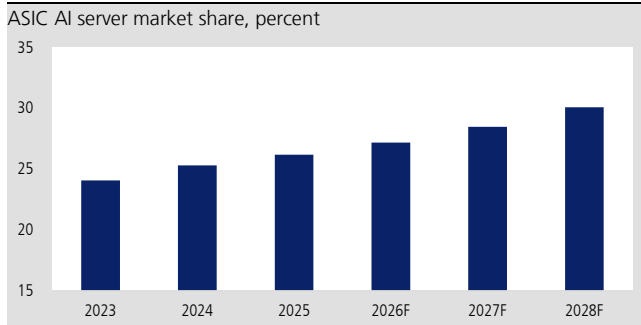
IP & ASIC design tracker

Figure 52: IP & ASIC design tracker sector summary

1. On strong AI and HPC demand, Taiwan's ASIC design service firms continue to win new projects.
2. We expect inference demand to drive long-term growth in ASIC adoption, as hyperscalers and CSPs seek more cost-effective and differentiated solutions.
3. We favor Alchip Technologies for its strong focus on CSP clients and system houses, as well as its expertise in AI, HPC, and automotive applications.
4. The semiconductor industry has seen a significant long-term rise in demand for third-party IP providers, driven by factors such as increasing design complexity, rising costs, and the need for faster time-to-market.

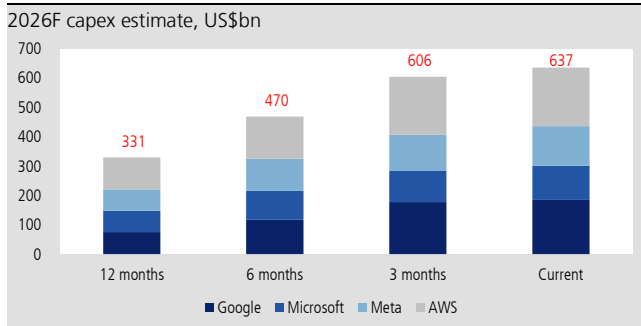
Source: KGI Research

Figure 54: Inference demand has driven up ASIC adoption



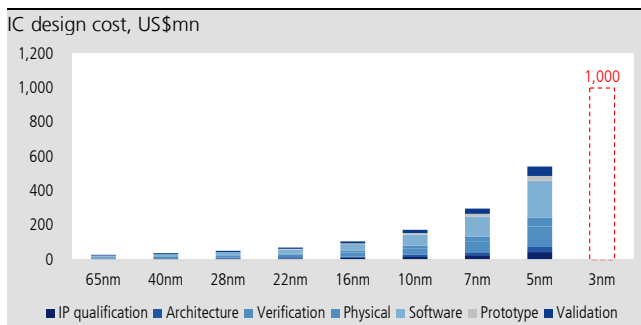
Source: KGI Research estimates

Figure 56: Upward revisions to CSP capex



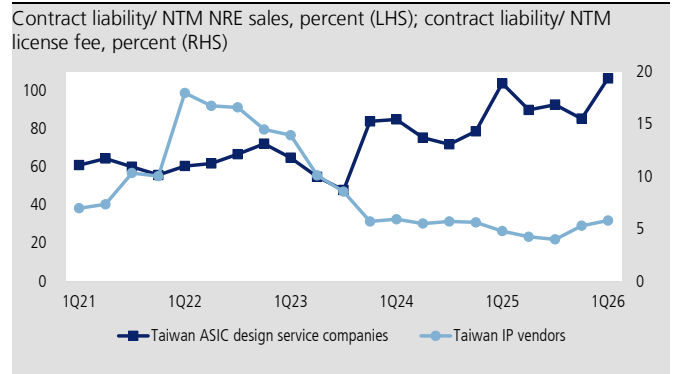
Source: Bloomberg; KGI Research

Figure 58: Design costs have surged for advanced nodes



Source: IBS; KGI Research

Figure 53: Robust project wins for Taiwan ASIC suppliers

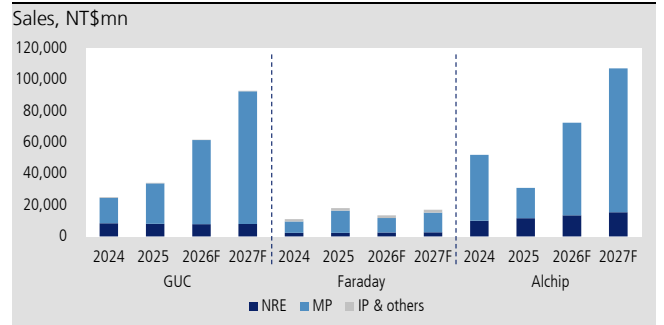


Source: TEJ; Bloomberg; KGI Research estimates

Note: Taiwan ASIC design service companies comprise Faraday, GUC & Alchip

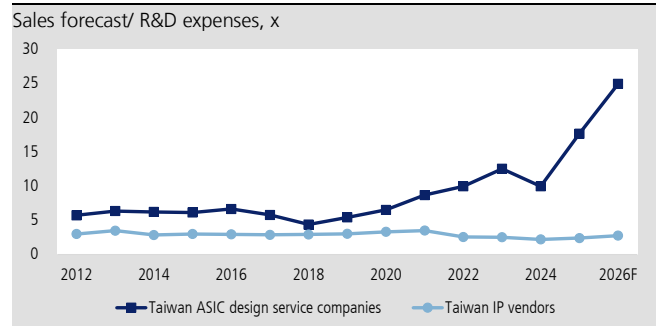
Note: Taiwan IP vendors comprise M31, eMemory & Andes

Figure 55: Alchip's 2026F turnkey sales to return to growth



Source: TEJ; KGI Research estimates

Figure 57: ASIC makers have greater R&D efficiency

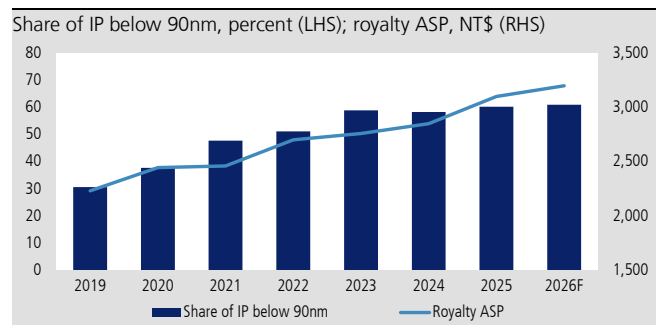


Source: TEJ; Bloomberg; KGI Research estimates

Note: Taiwan ASIC design service companies comprise Faraday, GUC & Alchip

Note: Taiwan IP vendors comprise M31, eMemory & Andes

Figure 59: Industry royalty ASP has increased with advanced nodes



Source: KGI Research estimates

Testing interface, inspection & equipment tracker

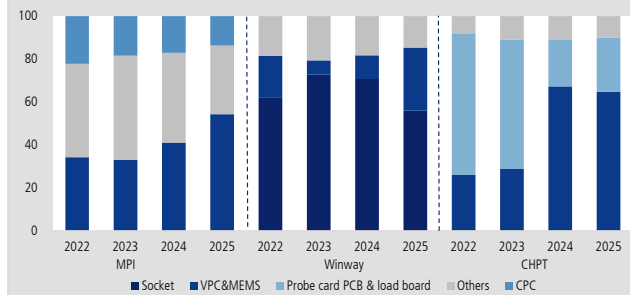
Figure 60: Testing, inspection & equipment sector summary

1. We believe MPI's gross margin is sustainable in 2025F, given resilient demand for VPC.
2. For the Taiwan semiconductor equipment sector, we have seen strong sales growth YoY over the past two quarters, coupled with higher contract liabilities on CoWoS expansion.
3. We believe pricing competition, especially in Taiwan and China, is getting more intense for inspection service vendors. We think MA-tek (3587 TT, NT\$266, NR) and MSSCORPS (6830 TT, NT\$379, NR) will focus more on Japan labs, aiming to lower exposure to China.

Source: KGI Research

Figure 62: Exposure to high-value products rising

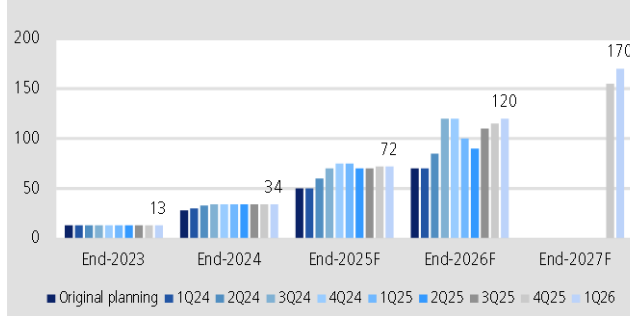
Testing interface vendor sales weighting, percent



Source: Company data; KGI Research

Figure 64: TSMC 2026-27F CoWoS revised capacity forecasts

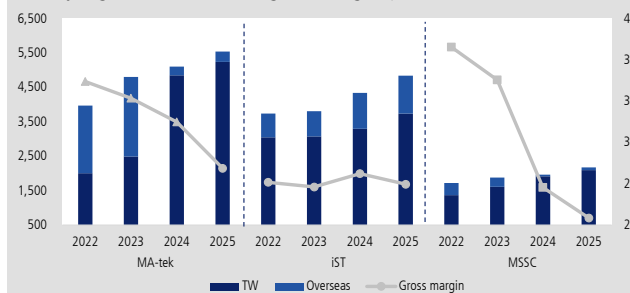
TSMC CoWoS capacity, kwpm



Source: KGI Research estimates

Figure 66: Taiwan-China inspection competition intensified

Sales by region, NT\$m (LHS); gross margin, percent (RHS)

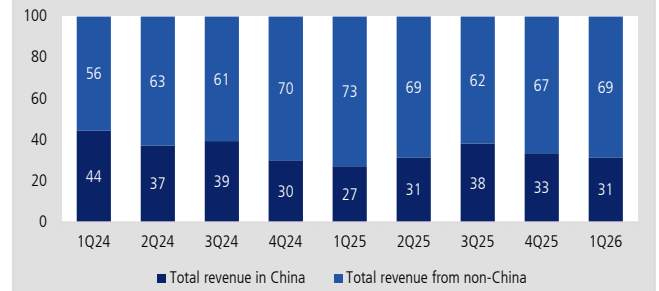


Source: Company data; KGI Research

Notes: China accounts for over 80% of overseas sales

Figure 61: Impact of US export controls only short-term

US equipment vendor sales by region, percent

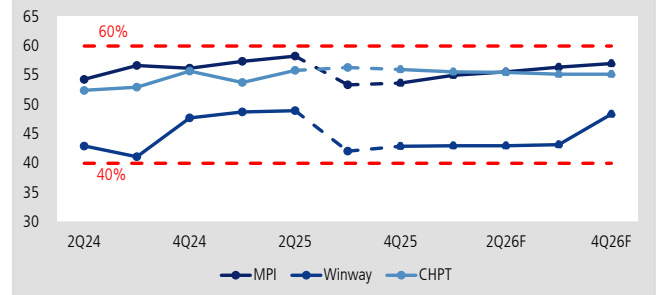


Source: Company data; KGI Research

Notes: Companies comprise ASML, Applied Materials, Lam Research and KLA

Figure 63: MPI's gross margin to remain high

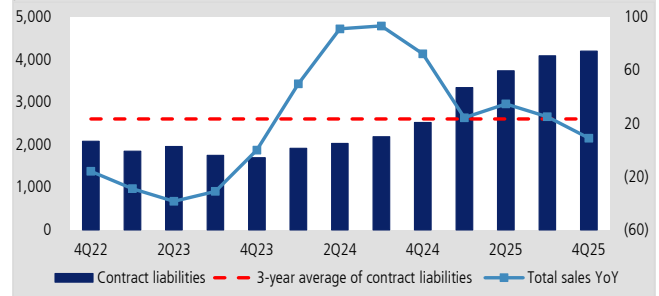
Testing interface vendor gross margin, percent



Source: Company data; Bloomberg; KGI Research estimates

Figure 65: Equipment firms' contract liabilities remain high

Contract liabilities & 3-year average, NT\$m (LHS); sales YoY growth, percent (RHS)

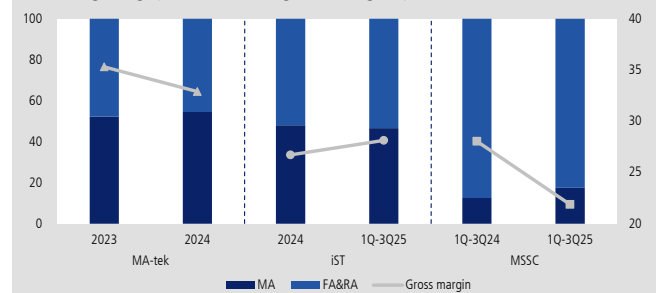


Source: Company data; KGI Research

Notes: Companies comprise GPTC, All Ring, GMM and C Sun

Figure 67: MA services have higher content value

Sales weighting, percent (LHS); gross margin, percent (RHS)



Source: Company data; KGI Research

Notes: MA = material analysis; FA = failure analysis; RA = reliability analysis

Analog IC tracker

Figure 68: Analog IC sector summary

1. PMIC pricing and fabless DOI have normalized, indicating healthy inventory in Asia.
2. IDMs' DOI remains high, and IDM gross margins are still under pressure, pointing to ongoing inventory adjustments in the EU and US, mainly in the automotive and industrial sectors.
3. Fabless companies have outpaced IDMs in growth and market share. We are positive on fabless firms with high exposure to China in the analog sector.

Source: KGI Research

Figure 69: PMIC pricing has stabilized

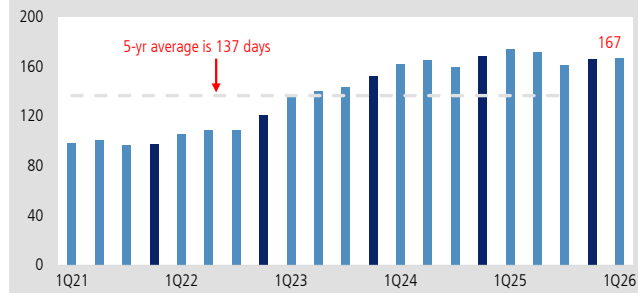
PMIC pricing change YoY (three-month moving average), percent



Source: WSTS; KGI Research estimates

Figure 70: IDM DOI is particularly high in the EU & US

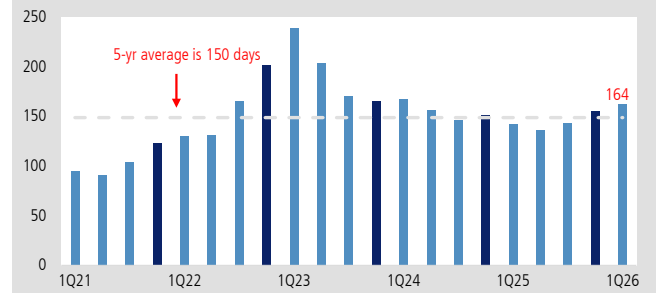
IDM DOI, days



Source: Bloomberg; KGI Research

Figure 71: Fabless DOI returned to healthy level

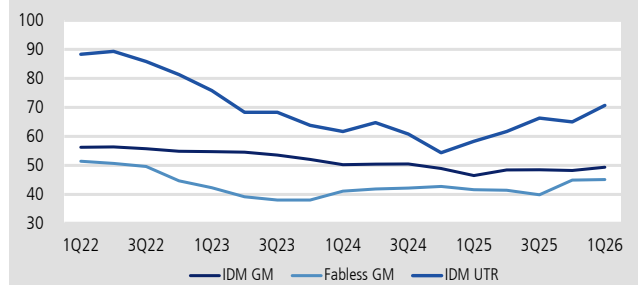
Fabless DOI, days



Source: Bloomberg; KGI Research

Figure 72: IDM gross margins are still under pressure; UTR to recover slightly

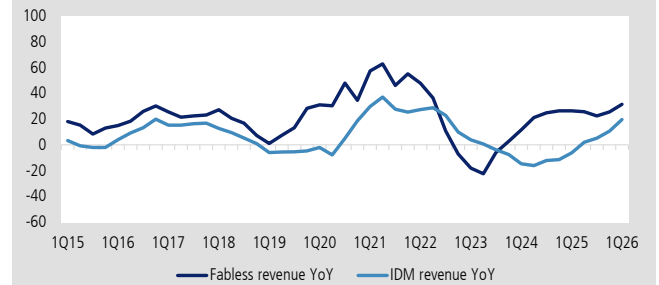
UTR & gross margin, percent



Source: Company data; KGI Research

Figure 73: Fabless firms have seen higher YoY sales growth than IDMs

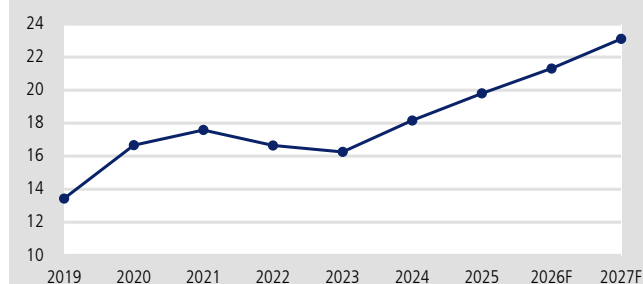
Revenue growth YoY, percent



Source: Company data; KGI Research

Figure 74: Localization trend in China has accelerated

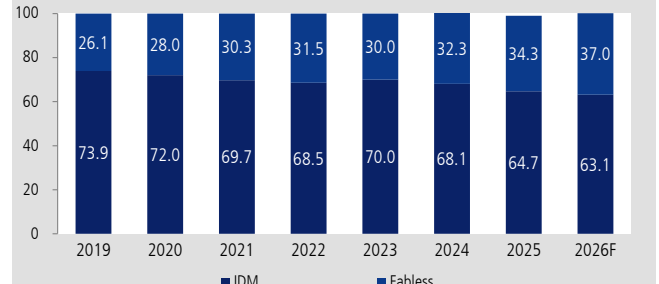
China self-sufficiency rate, percent



Source: KGI Research estimates

Figure 75: Fabless firms gaining market share from IDMs

Market share, percent



Source: KGI Research estimates

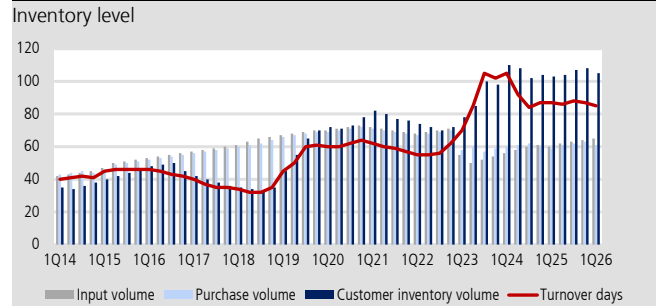
Memory tracker

Figure 76: Memory sector summary

- 2026F DRAM and NAND flash wafer starts to grow by 2-9% YoY, implying constrained memory supply growth.
- Memory customer inventory has fallen to a nearly six-year low, indicating strong end demand.
- DDR5 16Gb and 512Gb TLC wafer contract and spot prices have hit new highs, reflecting persistent supply tightness.

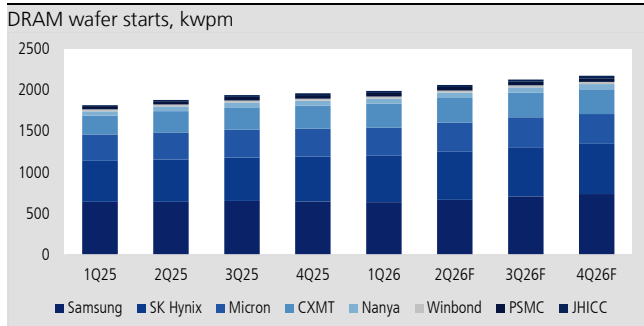
Source: KGI Research estimates

Figure 77: SUMCO's memory customer silicon wafer inventory has begun to destock



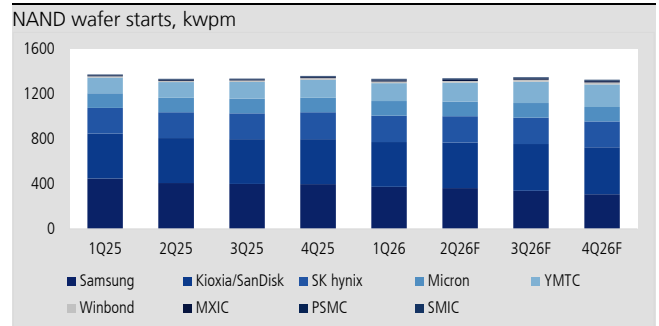
Source: SUMCO; KGI Research estimates

Figure 78: DRAM wafer start growth to be limited



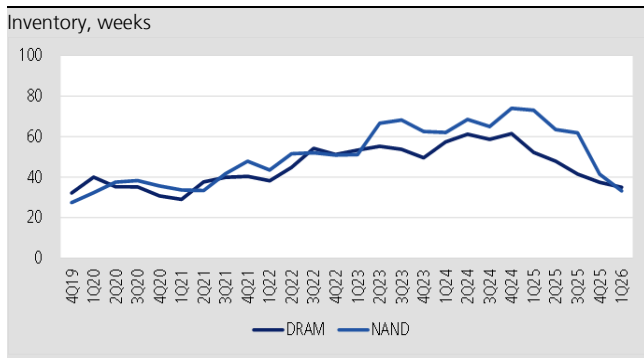
Source: Trendforce; KGI Research estimates

Figure 79: NAND flash wafer starts continue to decline



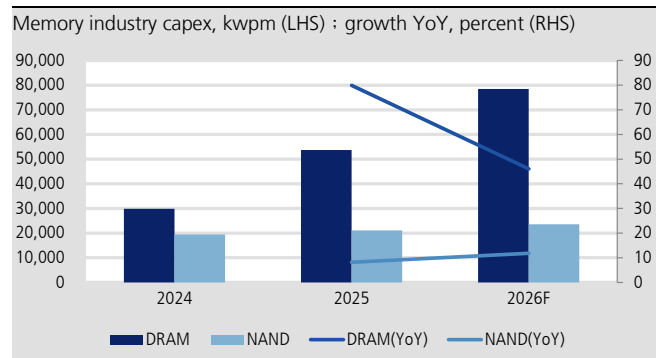
Source: Trendforce; KGI Research estimates

Figure 80: Memory customer inventory at nearly 6-year low



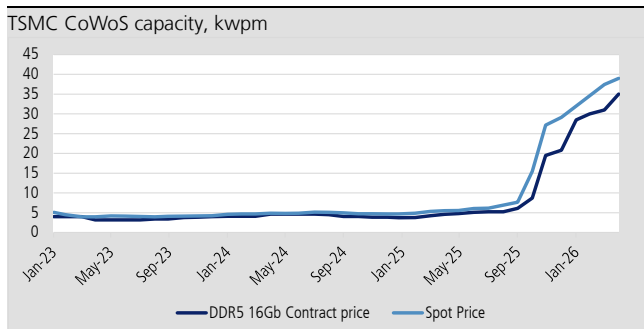
Source: KGI Research estimates

Figure 81: 2026F NAND, DRAM capex to grow by a respective 46% & 11% YoY



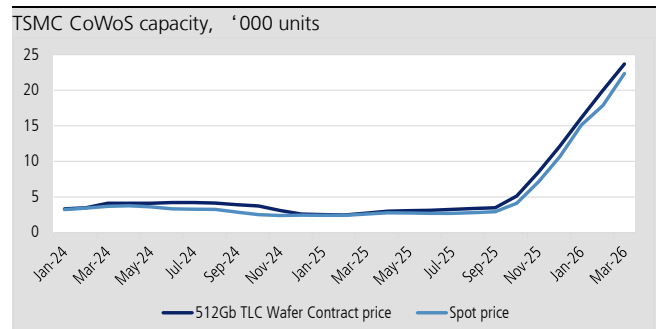
Source: Trendforce; KGI Research estimates

Figure 82: DDR5 contract & spot prices keep rising



Source: Trendforce; KGI Research estimates

Figure 83: 512Gb TLC wafer contract & spot prices keep rising



Source: Trendforce; KGI Research estimates

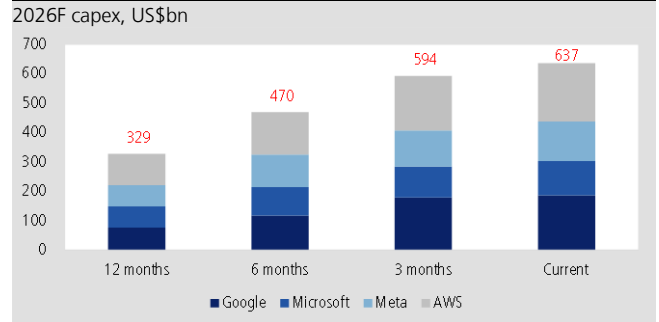
AI tracker

Figure 84: AI sector summary

- Nvidia's ambitions in the AI GPU sphere have translated to strong CoWoS demand.
- Nvidia will account for 51% of TSMC's CoWoS capacity in 2025F.
- CSP capex revisions are a key indicator of AI demand, and we have yet to see a slowdown.
- Besides CoWoS, HBM is also a potential bottleneck for production deliveries.

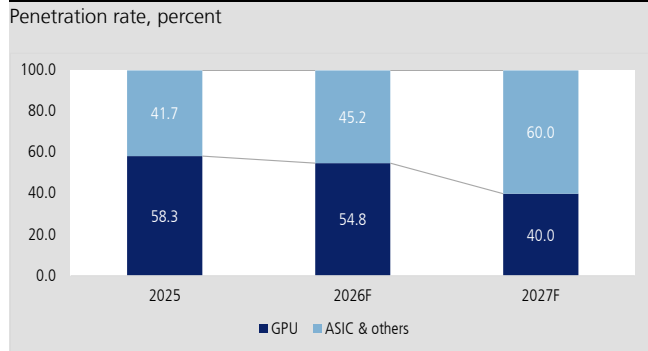
Source: KGI Research estimates

Figure 85: Upward revisions to CSP capex



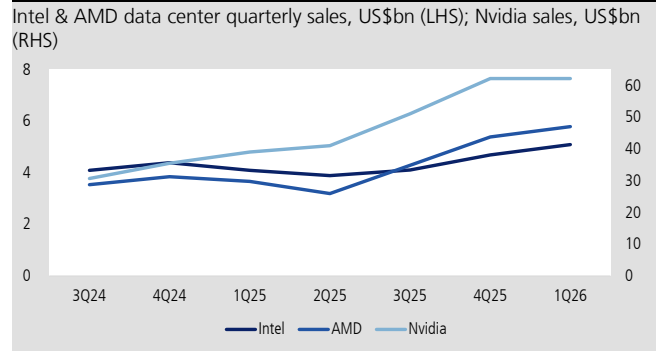
Source: Bloomberg; KGI Research estimates

Figure 86: ASIC sales to grow amid strong AI demand



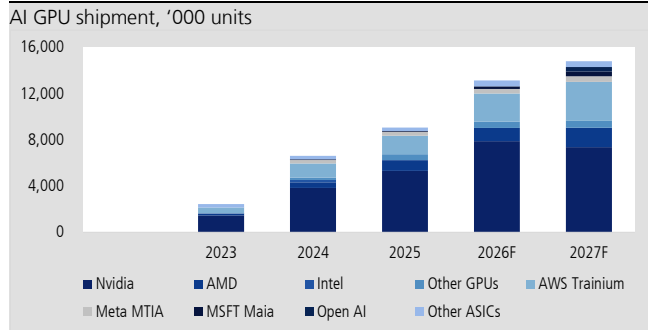
Source: KGI Research estimates

Figure 87: Data center sales skewed toward chips



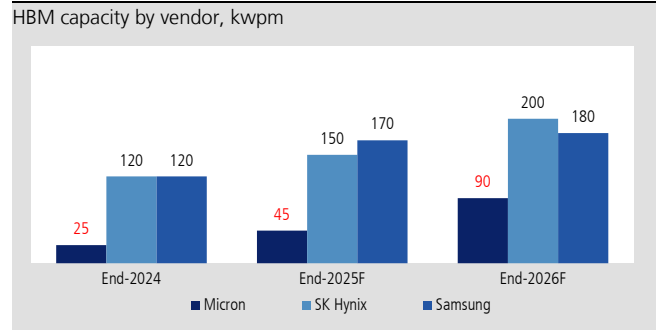
Source: Company data; KGI Research

Figure 88: Nvidia still dominates AI GPU market

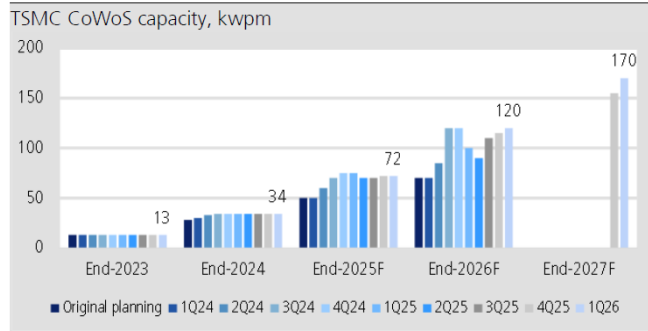


Source: KGI Research estimates

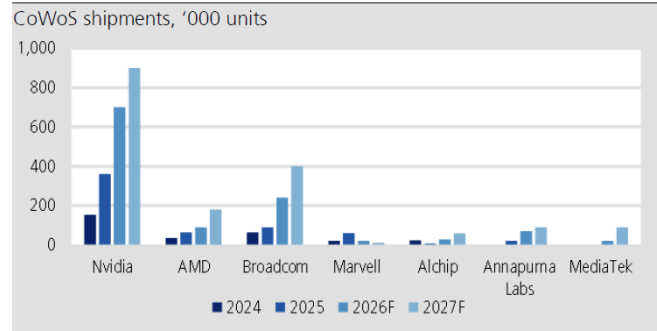
Figure 89: Aggressive HBM expansion in line with CoWoS



Source: KGI Research estimates

Figure 90: TSMC 2026F CoWoS revised capacity forecast


Source: KGI Research estimates

Figure 91: Nvidia CoWoS shipment growth outpaces peers


Source: KGI Research estimates

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