廣發証券(香港)經紀有限公司
GF SECURITIES (HONG KONG) BROKERAGE LIMITED

Overseas
Technology

June Edition: Constructive Amid Volatility

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Sizzling in short term: Following our *May Edition: Sizzling but Safe on May 12*, SOX index extended the outperformance, led by memories and SPE. As a result, SOX P/E has reached ~32x; with macro uncertainties (i.e., inflation), we expect the rotation to still be fast amid investors' profit-taking in the near term, awaiting catalysts such as Micron earnings, July's semi earnings, AMD's AI Day, etc. Nevertheless, we believe semi and AI fundamentals continue to be strong, backed by healthy inventory levels (with some pre-stocking), better-than-feared PC demand, automotive & industrial recovery and the robust AI trends (ARR, capex, Nvidia, etc). We also believe the recent sell-off on optical and HVDC is overdone. For preferred stocks, we added INTC, CRDO, MU, MTK, MRVL while removed TSMC, AMD, LITE, EMC, TI.

New Tokenomics: Despite lower token cost due to Blackwell's deployment, total AI bills are still rising as users consume more tokens for increasingly complex especially agent tasks. At the same time, frontier models are raising effective prices through premium capabilities. For overall token consumption, following a dip in April, it quickly recovered and broke a new high. As such, leading model builders like Anthropic and OpenAI continued delivered robust ARR, with Anthropic likely turning profitable in 2Q26 and scaling to $100-120bn by year-end. As ROI arrives, we believe capex to remain robust. Additionally, agentic AI will continue to boost CPUs.

Investors' appetite on price hike theme: Investors' appetite remains on price hike theme, with recent focuses on MLCC/Passives and wafers. In our *May Edition report on May 12*, we highlighted our preferred sectors such as CPU, Memories, mature nodes, OSAT and optical laser. Among those, we expect memories (likely upside to DRAM in 3Q26 and HBM4), CPU (likely price hike in late-3Q26) and MLCC/Passives (3Q26's hike well known, but likely more to come) extend the outperformance.

Recent discussions about CPO and HVDC: Contrary to news report on June 10 about delayed deployment of CPO and HVDC, we expect: 1) CPO scale-out switch to start small volume in 3Q26, despite current challenges, and scale-up to start with NVL576 in 2H27; 2) HVDC to start in 4Q26, with the 800VDC/660kw reference design.

May monthly sales/data: TSMC revenue +1.5% MoM/+30% YoY, tracking inline. Intact GB300 deliveries and Trainium 3 transition underway. PC yet to take a downturn. Aspeed +69% YoY on GP/AI server strength. Details on page 5.

GFHK Tech Most Read: 1) Jeff Pu on **Passives**; 2) Evan Lee on **Lenovo order wins**; 3) Jeff Pu on **Intel's raise in capacity**; 4) Henry Huang on **Computex 2026**; 5) Yang Zhou on **Midplane likely PTFE+M9Q**.

Figure 1: Cyclical Indicators

	Short-term	Mid-term
DRAM	↗	↗
NAND	↗	↗
Analog	↗	→
Optical	↗	↗
iPhone	↗	→
Android	↘	→
PC	→	↘
AI Server	↗	↗

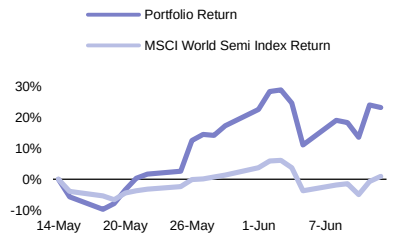
Sources: GF Securities (Hong Kong) Brokerage

Figure 2: Our preferred picks

	Ticker	Rating	CY26 P/E	CY27 P/E
Nvidia	NVDA US	Buy	23.9	15.7
Intel	INTC US	Buy	84.6	49.4
Credo	CRDO US	NR	41.8	29.2
ASE	3711 TT	Buy	39.1	29.0
MTK	2454 TT	Buy	69.2	33.6
ZDT	4958 TT	Buy	32.4	16.8
Micro	MU US	Buy	14.8	8.7
Co-tech	8358 TT	NR	37.5	22.3
Marvell	MRVL US	Buy	50.8	28.5
UMC	2303 TT	Buy	28.7	21.4

Sources: GF Securities (Hong Kong) Brokerage

Figure 3: Preferred picks performance



Sources: BBG, GF Securities (Hong Kong) Brokerage

Risks

1) Alternative technologies;
2) AI demand slowdown;
3) IT demand slowdown;
4) Product delays

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GFHK Tech Important Stock Calls

In the past one month, our key reports and stock calls are:

Jeff Pu on Passives, reported date on June 15: Passives are entering an AI-driven upcycle, supported by earnings recovery and improving automotive/industrial demand. AI requires high-spec MLCCs with lower yields, longer lead times, and >3x capacity consumption. AI server content continues to rise, with capacitor count increasing from ~300k in GB200 NVL72 to ~550k in VR200 NVL72 and resistor count reaching ~50k. Spot prices have strengthened, and we expect low-cap MLCC ODM pricing to rise 5–100% in 3Q26, followed by 15–30% increases for high-cap industrial/server MLCCs in 4Q26. Resistor prices could increase ~50% in 3Q26, while high-voltage aluminum capacitors may face supply constraints as AI demand accelerates. Key beneficiaries include Murata (6981 JP), Taiyo Yuden (6963 JP), Yageo (2327 TT), and TA-I (2478 TT).

Evan Lee on Lenovo order wins, reported date on June 9: AI server momentum and improving profitability enhance earnings visibility. We see upside from GB300 ramp-up, a new Asian AI customer, Alibaba NVL72 wins, and ByteDance domestic AI server orders, expanding Lenovo's US$21bn pipeline and supporting its US$100bn revenue target. We forecast NVL72 shipments of 1k/2k racks in FY27E/28E, generating US$3.7bn/US$8.2bn revenue, while ISG margin expansion should lift group OPM above 3%, thus lift TP to HK$35. Lenovo's PC business remains resilient, supported by its ~70% commercial mix, memory sourcing, higher ASPs, rising penetration, and growing peripheral sales.

Jeff Pu on Intel's raise in capacity, reported date on June 8: We raise our TP to $135, viewing the stock as attractive after a 23% pullback. Our bullish outlook is driven by robust server CPU demand, ~80% 18A yields, and surging capacity—with Intel 3 and 18A capacity rising 80% and 100% between late 2026 and late 2028. Additionally, Clearwater Forest's 3Q26 launch will drive +39%/+30% DCAI growth in 2026E/2027E. We expect IFS to turn profitable in 2H27 on improving external demand, with further upside from a potential Nvidia partnership in x86 PCs and servers by 2027–2028.

Henry Huang on Computex 2026, reported date on June 2: Nvidia showcased Vera CPU and Agent Toolkit as core agentic AI enablers, with Vera delivering 1.8x higher sandbox performance vs. x86. Supported by Oracle orders, $20bn revenue outlook for Vera CPU seems reasonable. Furthermore, Vera Rubin is in full production, ramping expected for Rubin in Sep and Vera Rubin NVL72 in Oct. While Nvidia also introduced RTX Spark, ARM compatibility constraints may limit it to a niche market. Nvidia plans to return at least 50% of FCF, and expect to utilize copper interconnects as long as viable before shifting to CPO. Meanwhile, Intel highlighted major 18A yield improvements, arguing agentic AI is reviving CPU relevance, reinforcing x86 and custom silicon partnerships.

Yang Zhou on Midplane likely PTFE+M9Q, reported date on May 31: Nvidia appears set to adopt PTFE-based CCL for Rubin Ultra midplanes over the previously considered M9+Q glass, driven by superior signal integrity for 337G+ SerDes. Recent filler-modified PTFE advancements have resolved manufacturing challenges, passing key tests. Priced around RMB2,500/sheet, midplane specs (78/108 layers) should finalize in July. Shengyi Tech is the primary beneficiary, with TPE as a secondary supplier and Dongyue providing upstream PTFE. We estimate this creates an RMB8bn market by 2027 for Kyber, with further upside from Feynman. Production starts in late 2026, benefiting PCB vendors as PCB-to-CCL value ratios rise to 3–3.5x (vs. 2–2.5x for current HLC PCBs).

Coverage Summary

Figure 4: Coverage summary

Company	Ticker	Rating	TP	Mkt Cap	EPS		P/E		ROE (%)		P/B	
				US mn	2025E	2026E	2025E	2026E	2025E	2026E	2025E	2026E
TSMC	2330 TT	Buy	NT$2,808	1,899,202	NT$ 100.3	NT$ 123.2	22.9x	18.7x	37.9	36.5	8.7x	6.8x
UMC	2303 TT	Buy	NT$135	57,468	NT$ 5.0	NT$ 6.7	28.7x	21.4x	15.3	19.1	4.4x	4.1x
INTC	INTC US	Buy	US$135	620,812	US$1.46	US$2.50	84.6x	49.4x	5.9	9.2	4.6x	3.8x
ASE	3711 TT	Buy	NT$553	91,191	NT$ 16.4	NT$ 22.1	39.1x	29.0x	17.1	20.6	6.7x	5.3x
Nvidia	NVDA US	Buy	US$318	5,199,612	US$9.00	US$13.72	23.9x	15.7x	80.4	71.6	18.9x	11.2x
AMD	AMD US	Buy	US$511	821,643	US$7.76	US$12.77	64.9x	39.5x	17.8	24.2	11.6x	9.6x
MTK	2454 TT	Buy	NT$5,520	236,971	NT$ 67.0	NT$ 138.0	69.2x	33.6x	26.5	54.1	18.4x	18.2x
BYDE	285 HK	Hold	HK$28.0	8,358	CNY 1.20	CNY 1.60	24.1x	18.0x	7.9	9.5	1.8x	1.6x
Broadcom	AVGO US	Buy	US$454	1,998,077	US$10.80	US$18.10	39.1x	23.3x	51.7	56.2	19.6x	12.9x
Marvell	MRVL US	Buy	US$230	186,878	US$4.10	US$7.30	50.8x	28.5x	18.5	21.2	9.4x	6.1x
TI	TXN US	Buy	US$270	295,680	US$7.49	US$8.98	43.4x	36.2x	29.7	29.6	12.9x	10.7x
Micron	MU US	Buy	US$623	1,010,314	US$60.51	US$102.62	14.8x	8.7x	56.6	47.4	8.5x	4.4x
SK Hynix	000660 KS	Buy	W 1,239,378	1,104,584	W 176,520	W 238,170	13.1x	9.7x	42.7	33.1	5.6x	3.2x
SanDisk	SNDK US	Buy	US$1,462	235,396	US$76.06	US$329.85	20.9x	4.8x	54.7	70.4	12.7x	3.9x
ASML	ASML US	Buy	US$2,125	633,469	EU€33.57	EU€45.01	41.6x	31.0x	59.1	51.4	20.5x	14.2x
Onto	ONTO US	Buy	US$397	13,638	US$7.80	US$11.34	35.2x	24.2x	13.4	15.3	4.7x	3.8x
ASMPT	522 HK	Hold	HK$87	10,910	HK$2.90	HK$3.86	70.3x	52.7x	7.5	8.2	4.4x	3.8x
Teradyne	TER US	Buy	US$381	60,917	HK$6.84	HK$12.71	56.9x	30.6x	36.7	52.6	20.9x	16.0x
FormFactor	FORM US	Buy	US$193	10,104	US$2.75	US$4.30	47.1x	30.1x	17.1	20.3	8.1x	6.1x
Tower	TSEM US	Buy	US$270	32,553	US$5.00	US$9.51	43.6x	22.9x	15.5	25.1	7.2x	5.8x
Coreweave	CRWV US	Buy	US$162	54,857	(US$3.93)	(US$1.97)	-25.6x	-51.0x	-10.2	-1.6	2.6x	0.8x
Apple	AAPL US	Buy	US$331	4,528,552	US$8.55	US$9.88	36.1x	31.2x	148.5	135.2	47.7x	38.6x
Hon Hai	2317 TT	Buy	NT$300	71,150	NT$ 20.0	NT$ 25.6	13.2x	10.3x	14.4	16.6	1.9x	1.7x
Dell	DELL US	Buy	US$505	198,170	US$19.20	US$23.00	15.9x	13.3x	N/A	N/A	N/A	N/A
Super Micro	SMCI US	Hold	US$43	22,313	US$2.33	US$3.10	15.9x	12.0x	23.0	21.2	3.2x	2.0x
Lenovo	992 HK	Buy	HK$35	30,083	HK$19.40	HK$25.10	1.0x	0.8x	36.0	41.6	31.7x	23.8x
Xiaomi	1810 HK	Buy	HK$41.3	93,665	CNY 1.24	CNY 1.51	22.8x	18.7x	10.8	11.6	2.4x	2.2x
BizLink	3665 TT	Buy	NT$3,320	#N/A	NT$ 67.5	NT$ 114.9	31.0x	18.2x	23.1	29.2	7.2x	5.3x
EMC	2383 TT	Buy	NT$5,000	60,528	NT$ 91.5	NT$ 200.0	58.0x	26.5x	26.0	23.6	15.1x	6.3x
Zeng Ding	4958 TT	Buy	NT$633	18,285	NT$ 16.4	NT$ 31.6	32.4x	16.8x	9.4	14.6	2.3x	1.8x
KBLaminates	1888 HK	Buy	HK$27.4	21,831	HK$1.83	HK$2.62	29.8x	20.8x	20.3	20.6	6.0x	4.3x
Celestica	CLS US	Hold	US$373	42,635	US$10.80	US$16.90	34.3x	21.9x	29.7	27.1	13.9x	8.7x
Arista	ANET US	Buy	US$170	198,967	US$3.89	US$4.81	40.7x	32.9x	24.4	21.7	9.9x	7.1x
Coherent	COHR US	Hold	US$325	74,607	US$5.60	US$10.52	68.1x	36.3x	8.8	15.3	6.0x	5.5x
Lumemtum	LITE US	Buy	US$1,168	70,861	US$7.60	US$17.30	119.8x	52.6x	11.5	17.6	13.7x	9.3x
Fabrinet	FN US	Hold	US$615	24,392	US$13.52	US$15.00	50.4x	45.4x	21.6	49.5	11.8x	22.3x
FIT	6088 HK	Buy	HK$9.0	8,036	US$0.04	US$0.08	27.5x	14.5x	18.4	22.4	2.2x	1.8x
Horizon Robotics	9660 HK	Buy	HK$9.5	11,121	(CNY 0.00)	CNY 0.01	-1635.6x	622.8x	N/A	N/A	2.6x	10.4x
InnoScience	2577 HK	Buy	HK$81.0	9,379	(CNY 0.44)	CNY 0.73	-207.5x	126.1x	-8.9	11.1	18.5x	14.0x

Sources: Company data, GF Securities (Hong Kong) Brokerage

May Monthly Data

TSMC May sales came in at NT$417bn, +1.5% MoM and +30% YoY, tracking inline with expectations and our forecast, well supported by robust demand in leading nodes to offset the dilution from N2's ramp up. We believe N3 and N2's supply to remain tight through 2027, underpinned by AI accelerators, HBM4, networking, general servers, and Apple. For now, we expect revenue in USD terms to grow by 37%/25% YoY, with CAPEX to reach $56bn/$65bn in 2026 and 2027, respectively.

Robust GB300 Execution: Hon Hai revenue last month was NT$859bn, +3.3% MoM, +39.6% YoY, slightly ahead of expectations, supported by iPhone's build momentum. Meanwhile, Quanta and Wistron delivered MoM growth of -8% and +2%, respectively. Looking ahead, near-term monthly revenues may stay volatile due to rack delivery schedules, but actual production momentum remains well intact. In all, we forecast 2Q26 NVL72 shipments to reach 20k units, and maintain our full-year forecast well above 70k units. For next gen Rubin platform, we expect rack-level delivery to ramp in 4Q26, translating to ~10k rack shipment by the end of 2026.

ASIC Migration Underway: Driven by the transition to Trainium 3 and favorable pricing dynamics for CCL, EMC recorded May revenue of NT$15.6bn, up 12% MoM, with TUC of NT4.8bn, +4% MoM. For downstream players, Accton's sales came in at +5% MoM with a record high, also well bolstered by 800G switch demand. We expect the upstream momentum to gradually pass down to ODMs, with racks shipment to start in June before a steep ramp in 4Q26. Wiwynn reported a modest 1.6% MoM revenue increase, supported by general server strength. Looking ahead, we expect its growth to inflect sharply in 2H26, driven by the deployments of both Trainium 3 and AMD Helios racks.

PC Yet to Take a Downturn: NB shipments from top 5 ODMs ticked up slightly by 0.2mn to 9.3mn, -12% YoY, largely inline. We expect a QoQ growth in total 2Q26 shipments and forecast that commercial PC will continue to outperform consumer segments, underpinned by planned refreshment, which currently remains the bulk of PC demand now. Notably, Microsoft's doubling of Win10 extended support fee from $60 this year to $120 next year may act as another catalyst of this cycle. On the other hand, per our earlier report, we expect N1X-powered RTX Spark laptops to remain as niche products due to premium pricing (>$1600).

Matured Node on Favorable Pricing: UMC reported May revenue of NT$22.94bn, +1% MoM, +18% YoY, hitting a 43-month high on the back of accelerating AI-driven demand for PMICs. In the meantime, Vanguard posted sales of +5.4% MoM and 19% YoY. We expect another round of price hike (likely ~10%) in 1H27 post 2H26's adjustment, reflecting sustained capacity tightness. Notably, UMC is also gaining substantial traction in optics, leveraging its 65nm/55nm and 8-inch platforms for PIC and TFLN.

MLCC Cycle Still in the Early Stage: Yageo reported May revenue of NT$15bn, +7.3% MoM and +47.5% YoY, signaling a profound inflection driven by surging AI infrastructure demand. We expect price hikes for low-cap MLCCs and resistors from ODM starting in 3Q26, followed by an upward pricing for high-cap variants. Supported by continued lead-time extension across the chain, we anticipate the YoY growth momentum will be stronger than previous cycle, marking the onset of structural re-rating for the passive component sector.

Figure 5: Taiwan upstream tech monthly sales

TWD m		May-26	MoM	YoY	Apr-26	MoM	YoY	Mar-26	MoM	YoY
Foundry										
TSMC	2330.TW	416,975	1.5%	30.1%	410,725	-1.1%	17.5%	415,192	30.7%	45.2%
UMC	2303.TW	22,944	1.2%	17.8%	22,664	8.8%	10.8%	20,831	7.7%	4.9%
Vanguard	5347.TW	4,242	5.3%	19.5%	4,026	-18.5%	6.2%	4,941	38.0%	7.3%
OSAT/Testing										
ASE	3711.TW	63,033	1.3%	28.6%	62,247	1.1%	19.2%	61,577	18.2%	14.6%
Powertech	6239.TW	7,918	4.5%	30.2%	7,575	2.8%	32.5%	7,372	10.0%	35.2%
KING YUAN	2449.TW	3,777	0.9%	36.6%	3,743	4.0%	34.6%	3,598	11.6%	36.1%
Chipmos	8150.TW	2,384	-3.1%	17.7%	2,460	-1.6%	32.2%	2,502	16.7%	23.1%
Chipbond	6147.TW	2,158	-1.2%	19.1%	2,185	7.4%	24.1%	2,035	15.7%	11.5%
Chroma	2360.TW	4,550	-6.5%	133.1%	4,866	11.4%	128.9%	4,366	19.1%	63.5%
Probe Card										
MPI	6223.TW	1,907	28.4%	57.8%	1,486	7.0%	52.6%	1,388	5.5%	38.6%
WinWay	6515.TW	1,073	8.5%	119.8%	990	-19.0%	50.5%	1,222	40.0%	69.2%
CHPT	6510.TW	543	3.7%	34.1%	523	7.3%	30.2%	487	17.2%	25.5%
Equipment										
GPTC	3131.TW	559	4.3%	7.2%	536	9.6%	-4.4%	489	-15.8%	0.3%
Scientech	3583.TW	971	-1.8%	1.5%	989	-6.1%	10.8%	1,053	0.4%	6.1%
ALL RING	6187.TW	729	18.8%	43.8%	613	15.5%	26.1%	531	8.5%	19.6%
IC Design										
MediaTek	2454.TW	47,434	1.5%	5.0%	46,737	-26.1%	-4.1%	63,219	62.3%	12.9%
Novatek	3034.TW	9,412	2.0%	9.4%	9,225	8.9%	1.2%	8,469	20.0%	-9.6%
Realtek	2379.TW	12,524	-1.5%	21.9%	12,719	2.9%	11.3%	12,363	17.9%	4.5%
Aspeed	5274.TW	1,282	0.2%	68.7%	1,279	3.5%	81.6%	1,235	22.2%	63.6%
ASMedia	5269.TW	897	-6.5%	-19.4%	959	-23.8%	-17.5%	1,258	40.9%	39.9%
Parade	4966.TW	1,307	3.0%	1.2%	1,269	-14.1%	-3.8%	1,477	21.4%	3.4%
Silergy	6415.TW	1,911	-5.1%	31.6%	2,014	13.3%	36.0%	1,777	30.3%	12.0%
Design Service										
Alchip	3661.TW	1,935	-9.3%	-33.5%	2,133	10.3%	-32.3%	1,933	133.9%	-46.6%
GUC	3443.TW	4,674	8.8%	132.1%	4,294	11.2%	156.9%	3,860	15.2%	33.5%
GaAs										
WIN SEMI	3105.TW	1,755	1.2%	40.3%	1,734	5.2%	48.9%	1,649	11.9%	34.2%
AWSC	8086.TW	443	-1.2%	37.0%	448	3.7%	49.4%	432	15.8%	47.9%
VPEC	2455.TW	321	0.7%	46.5%	319	2.4%	37.7%	311	1.1%	16.6%
MLCC										
Yageo	2327.TW	15,058	7.3%	47.5%	14,039	3.0%	22.0%	13,630	18.5%	22.8%
Walsin	2492.TW	3,700	-0.1%	16.5%	3,705	8.9%	16.0%	3,403	27.3%	11.1%
Optics										
LandMark	3081.TW	405	2.5%	118.8%	395	15.2%	115.4%	343	18.3%	89.3%
FOCI	3363.TW	144	12.4%	-24.8%	128	9.1%	-37.3%	117	-8.4%	-25.7%
GCS	4991.TW	200	-17.9%	54.4%	244	-27.8%	67.9%	338	115.2%	40.0%
Browave	3163.TW	212	6.2%	30.0%	199	-19.5%	16.5%	247	42.3%	23.7%
Ezconn	6442.TW	1,726	94.7%	116.0%	886	-12.5%	-16.2%	1,013	37.1%	75.6%
LuxNet	4979.TW	421	2.1%	21.1%	413	-8.6%	7.7%	452	37.0%	20.2%
Memory										
Nanya	2408.TW	27,670	8.5%	730.1%	25,491	40.3%	717.3%	18,170	16.4%	560.0%
Winbond	2344.TW	20,001	3.9%	182.0%	19,245	32.7%	182.2%	14,501	21.1%	91.5%
Macronix	2337.TW	6,256	5.8%	175.8%	5,913	33.7%	153.7%	4,422	45.9%	96.5%

Sources: Company data, GF Securities (Hong Kong) Brokerage

Figure 6: Taiwan downstream tech monthly sales

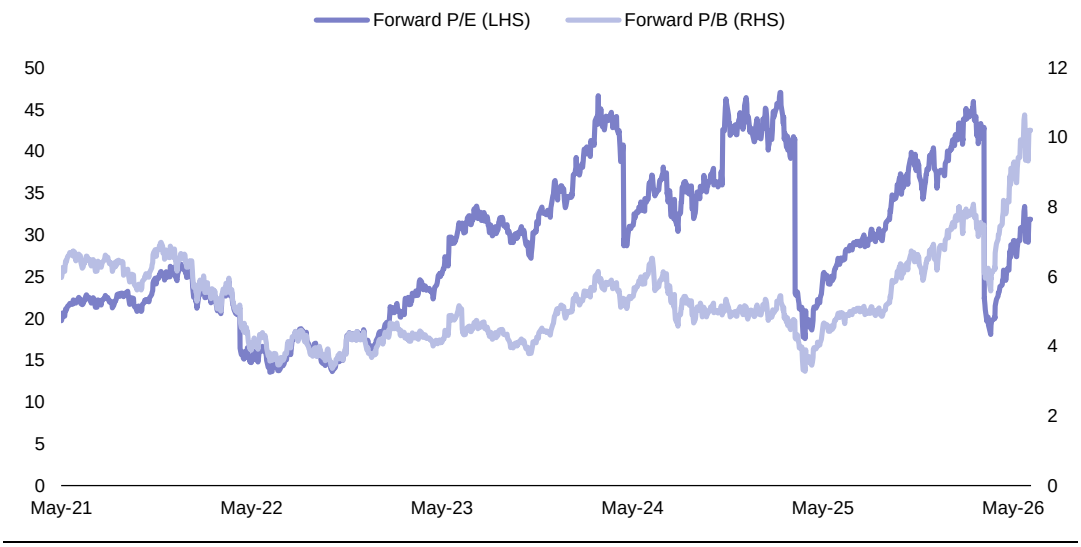
TWD m		May-26	MoM	YoY	Apr-26	MoM	YoY	Mar-26	MoM	YoY
ODM										
Hon Hai	2317.TW	859,409	3.3%	39.6%	832,098	3.5%	29.7%	803,738	34.9%	45.6%
Pegatron	4938.TW	95,963	10.1%	12.0%	87,189	3.8%	-15.2%	83,965	23.5%	-0.8%
Quanta	2382.TW	311,481	-8.4%	94.4%	339,921	-6.3%	120.7%	362,803	68.3%	88.4%
Wistron	3231.TW	290,183	2.4%	39.2%	283,437	-14.9%	112.0%	333,043	16.9%	117.7%
Compal	2324.TW	70,462	-2.1%	22.3%	71,979	-19.3%	15.5%	89,198	69.1%	17.0%
Inventec	2356.TW	82,808	-2.3%	35.3%	84,787	-3.2%	36.5%	87,563	71.9%	47.1%
Wiwynn	6669.TW	84,050	1.6%	18.2%	82,731	-16.1%	29.7%	98,649	4.2%	13.9%
PC Brand										
ASUS	2357.TW	69,094	-15.7%	9.3%	81,915	-4.8%	45.7%	86,084	58.4%	33.8%
Acer	2353.TW	26,166	-16.4%	36.5%	31,312	4.7%	68.4%	29,896	39.3%	2.1%
Graphics Card										
MSI	2377.TW	15,798	-3.4%	-23.7%	16,358	-8.3%	-22.3%	17,844	10.6%	-11.9%
Gigabyte	2376.TW	49,053	-6.1%	5.0%	52,268	33.9%	73.7%	39,029	18.6%	74.8%
PCB/CCL										
Co-tech	8358.TW	942	4.6%	41.4%	901	4.7%	35.8%	861	1.1%	42.8%
EMC	2383.TW	15,619	12.2%	114.6%	13,924	15.9%	93.6%	12,011	17.8%	56.6%
TUC	6274.TW	4,794	4.0%	128.5%	4,610	21.9%	98.0%	3,782	38.0%	72.3%
Unimicron	3037.TW	14,060	0.9%	32.4%	13,933	6.5%	27.6%	13,079	12.7%	23.3%
Zhen Ding	4958.TW	16,201	6.6%	37.4%	15,196	-1.6%	11.8%	15,443	31.8%	7.2%
GCE	2368.TW	8,773	20.4%	87.3%	7,290	-1.3%	58.4%	7,385	24.3%	63.1%
Compeq	2313.TW	6,762	7.1%	13.0%	6,315	-9.0%	-2.9%	6,943	33.5%	11.1%
Flexium	6269.TW	1,682	-15.2%	-6.1%	1,983	1.7%	0.5%	1,949	51.1%	8.6%
Optics										
Largan	3008.TW	4,593	-14.4%	41.8%	5,362	-1.1%	22.6%	5,420	17.5%	10.8%
Genius	3406.TW	1,629	-29.6%	30.2%	2,314	6.9%	24.8%	2,164	48.1%	14.3%
Acoustics										
Merry	2439.TW	3,742	15.7%	6.1%	3,233	-17.3%	-1.8%	3,909	24.3%	24.0%
Primax	4915.TW	5,454	-0.3%	12.7%	5,468	-2.7%	13.4%	5,618	32.4%	3.8%
Components										
Catcher	2474.TW	918	-4.3%	-48.3%	959	-19.9%	-36.2%	1,197	9.8%	-25.0%
SZS	3376.TW	802	-11.6%	-16.7%	907	12.6%	-10.0%	806	19.1%	-9.6%
Server										
AVC	3017.TW	15,871	1.5%	60.6%	15,631	-13.2%	71.6%	18,017	28.5%	111.7%
Auras	3324.TW	3,139	10.4%	93.8%	2,842	-14.6%	40.9%	3,329	52.8%	91.7%
Accton	2345.TW	28,623	4.6%	56.6%	27,360	9.4%	53.9%	25,011	6.1%	44.4%
Jentech	3653.TW	2,313	0.1%	37.7%	2,311	6.8%	26.9%	2,164	70.6%	18.9%
LOTES	3533.TW	3,041	-10.3%	9.0%	3,392	-4.3%	15.2%	3,544	52.8%	23.4%
BizLink	3665.TW	7,352	-0.4%	41.3%	7,383	5.3%	18.5%	7,014	9.8%	22.2%
Chen Bro	8210.TW	2,517	21.8%	37.3%	2,066	-17.6%	4.6%	2,507	28.5%	44.7%
King Slide	2059.TW	3,791	46.1%	172.1%	2,596	35.3%	79.1%	1,918	9.2%	38.9%
Power										
Delta	2308.TW	58,962	0.5%	43.7%	58,692	-1.8%	43.9%	59,780	19.8%	37.6%
Lite-On	2301.TW	17,354	3.9%	29.6%	16,695	1.3%	24.5%	16,484	28.7%	23.4%
Dynapack	3211.TW	1,163	9.7%	-10.8%	1,060	-27.8%	18.6%	1,468	68.6%	76.3%
Display										
AUO	2409.TW	23,838	7.9%	-1.4%	22,100	-15.1%	-4.5%	26,021	26.9%	0.6%
Innolux	3481.TW	20,648	-2.8%	10.3%	21,237	-15.0%	11.8%	24,977	27.8%	33.1%
Networking										
Sercomm	5388.TW	6,482	-5.5%	70.0%	6,861	-1.1%	65.5%	6,938	53.3%	86.5%
Wistron NeWeb	6285.TW	12,168	6.7%	34.8%	11,401	5.1%	15.6%	10,847	32.7%	3.8%

Sources: Company data, GF Securities (Hong Kong) Brokerage

Tech Valuation in major markets

Philadelphia Semiconductor Index (SOX) forward P/E expanded to 31.9x from 28.8x last month, while forward P/B climbed to 10.2x from 9.1x, given the continued tech sector rally.

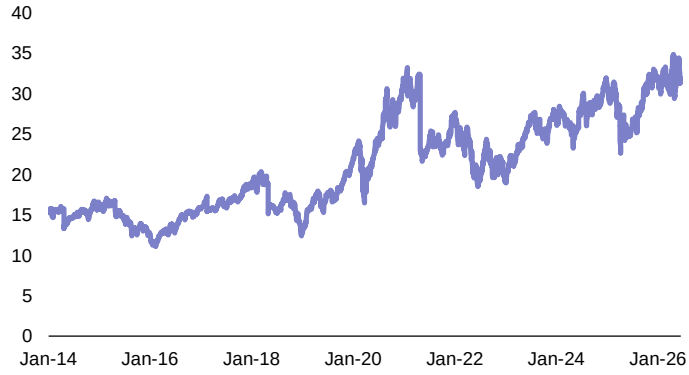
Figure 7: SOX Index's P/E, P/B



Sources: Bloomberg, GF Securities (Hong Kong) Brokerage

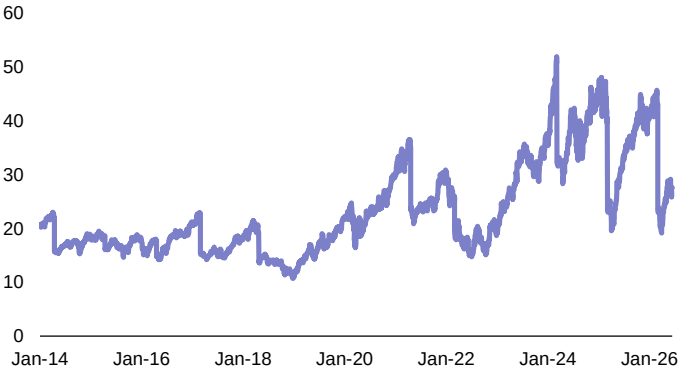
Meanwhile, global semi forward P/E remains 27.7x, while global hardware forward P/E stays 31.8x.

Figure 8: MSCI World Tech Hardware P/E



Sources: Bloomberg, GF Securities (Hong Kong) Brokerage

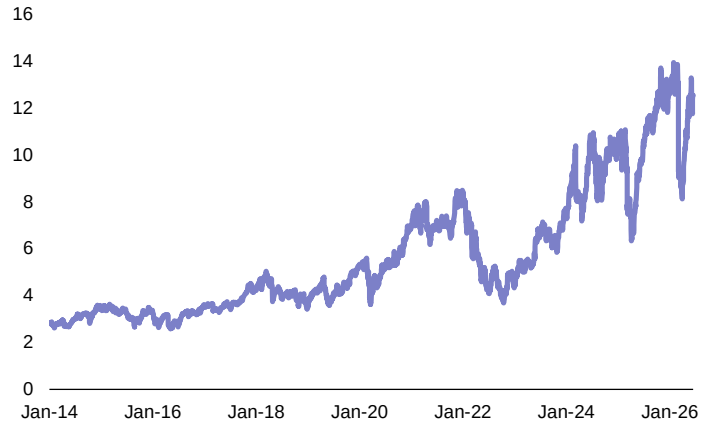
Figure 9: MSCI World Semi P/E



Sources: Bloomberg, GF Securities (Hong Kong) Brokerage

In terms of P/B, the global semi forward P/B slightly drifted up to 12.6x from 11.9x, while China semi forward P/B remained 7.2x.

Figure 10: MSCI World Semi P/B



Sources: Bloomberg, GF Securities (Hong Kong) Brokerage

Figure 11: SWS Semiconductor Index P/B

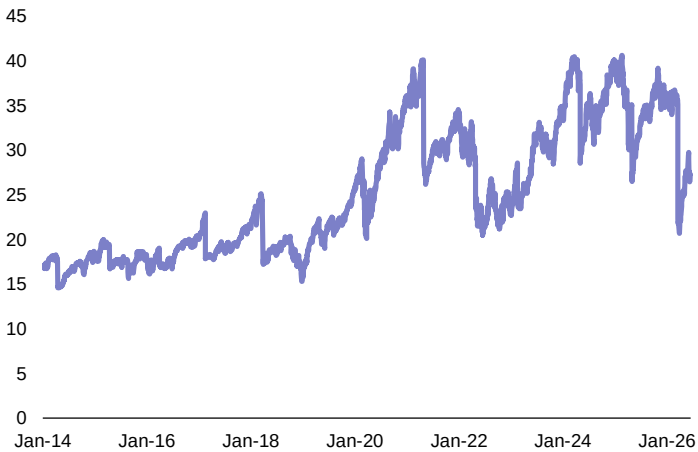
Sources: Wind, GF Securities (Hong Kong) Brokerage

China IT sector forward P/E slightly declines to 31.5x from 33.0x, still above the upper end of historical average of 20-30x, while US IT sector forward P/E increased from 26.3x to 27.3x.

Figure 12: MSCI China IT P/E

Sources: Bloomberg, GF Securities (Hong Kong) Brokerage

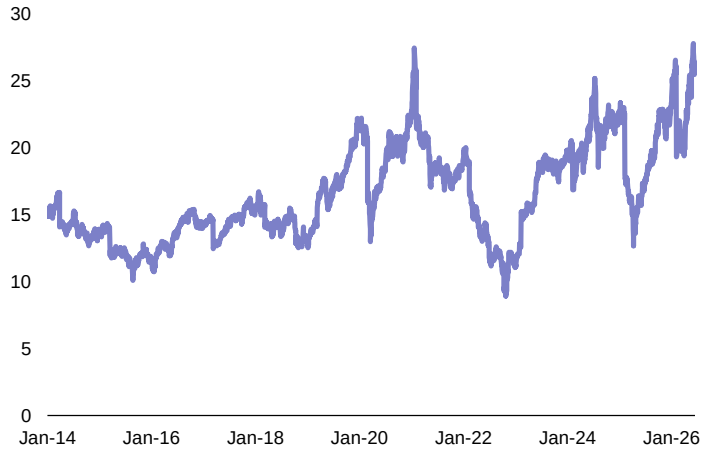
Figure 13: MSCI US IT P/E



Sources: Bloomberg, GF Securities (Hong Kong) Brokerage

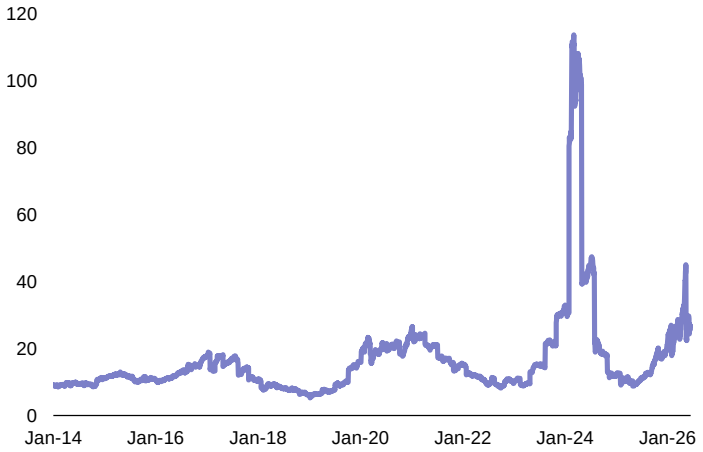
The Taiwan IT sector forward P/E expanded to 26.3x from 24.6x, higher than the high end of the historical average of 10-20x, and Korean IT sector forward P/E drifted up from 22.6x to 26.9x.

Figure 14: MSCI Taiwan IT P/E



Sources: Bloomberg, GF Securities (Hong Kong) Brokerage

Figure 15: MSCI Korea IT Forward P/E



Sources: Bloomberg, GF Securities (Hong Kong) Brokerage

Downstream tech – Smartphone & Apple

Maintain global smartphone units of -14% in 2026

According to IDC, global smartphone shipments decreased by 4.1% year-over-year (YoY) to 289.7 million units in 1Q 2026, breaking its 10 consecutive quarters growth streak that the market had seen since mid 2023. IDC expects the first quarter slowdown to be a mild precursor for what lies ahead in 2026 as the supply constraints around memory and price increases further dampen the market growth. IDC further commented that the smartphone market has entered one of its most challenging periods, driven by acute memory supply constraints that are directly impacting both shipments and demand.

On a positive note, we continue to see solid build plan for iPhones, driven by iPhone 17 strength, Fold form factor and a potentially aggressive pricing for iPhone 18 Pro/Pro Max's base models. We also expect a mild shipment decline for Samsung, owing to in-house memory supply. On the other hand, we observed Chinese OEMs especially Xiaomi continued trimming component procurement demand.

In all, we maintain our global smartphone shipment at -14% YoY in 2026. On the contrary, we expect Apple (AAPL Buy) to continue the outperformance, thanks to its procurement power.

Figure 16: Global Smartphone shipment forecast

Shipments (mn)	1Q24	2Q24	3Q24	4Q24	1Q25	2Q25	3Q25	4Q25	1Q26		2024	YoY	2025	YoY	2026E	YoY
Global smartphone	**300**	**292**	**316**	**332**	**305**	**295**	**323**	**336**	**290**		**1240**		**1259**		**1075**	
YoY	**11.9%**	**8.9%**	**4.0%**	**2.3%**	**1.5%**	**1.1%**	**2.1%**	**1.4%**	**-5.0%**		**6.5%**		**1.5%**		**-14.6%**	
By OEMs																
Samsung	60.1	53.8	57.8	51.7	60.6	58.0	61.4	61.2	62.8		223	**-1%**	241	**8%**	241	**0%**
Apple	52.6	45.7	56.0	76.9	57.9	48.0	58.6	81.3	61.1		231	**-1%**	246	**6%**	249	**1%**
Huawei	12.5	13.7	11.2	12.9	13.5	12.8	10.4	15.0	9.8		50	**44%**	51	**1%**	46	**-10%**
New Honor	16.8	15.3	15.0	17.6	16.4	16.0	18.5	20.0	19.0		65	**5%**	62	**-3%**	67	**-6%**
OPPO/Realme	36.2	38.6	42.6	37.0	34.1	34.9	38.5	39.7	41.2		154	**7%**	144	**-7%**	133	**-10%**
Vivo	21.3	25.9	27.0	27.1	22.7	26.3	28.8	27.0	28.5		101	**15%**	105	**4%**	96	**-8%**
Xiaomi	40.8	42.3	42.8	42.7	41.8	42.4	43.5	37.8	33.8		169	**15%**	165	**-2%**	141	**-15%**
Share %																
Samsung	20%	18%	18%	16%	20%	20%	19%	18%	22%		18%		19%		22%	
Apple	18%	16%	18%	23%	19%	16%	18%	24%	21%		19%		20%		23%	
Huawei	4%	5%	4%	4%	4%	4%	3%	4%	3%		4%		4%		4%	
New Honor	6%	5%	5%	5%	5%	5%	6%	6%	7%		5%		5%		6%	
OPPO/Realme	12%	13%	13%	11%	11%	12%	12%	12%	14%		12%		11%		12%	
Vivo	7%	9%	9%	8%	7%	9%	9%	8%	10%		8%		8%		9%	
Xiaomi	14%	14%	14%	13%	14%	14%	13%	11%	12%		14%		13%		13%	

Sources: Company data, IDC, GF Securities (Hong Kong) Brokerage

Maintain build estimates for iPhone

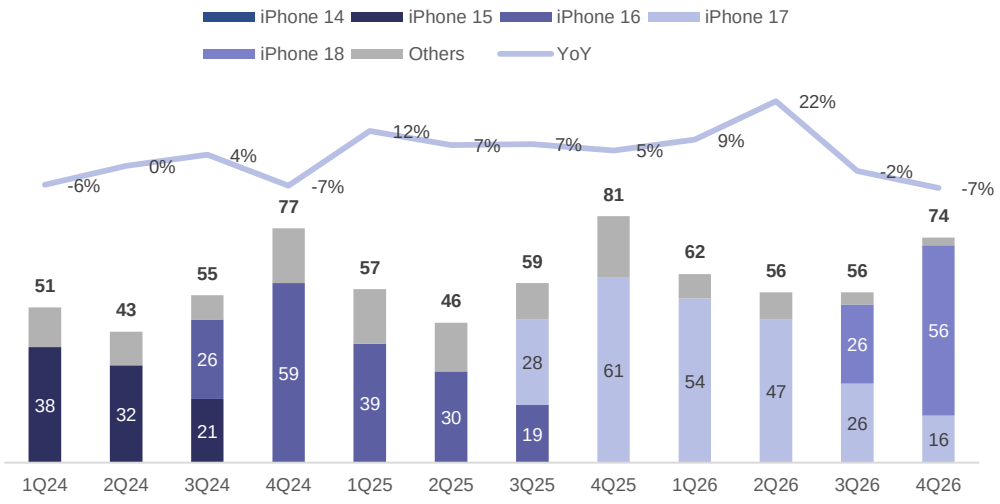
Apple delivered strong F2Q results, with revenue of $111.2bn, +17% YoY, and EPS of $2.01, +22% YoY, slightly above consensus. We attribute the strength to robust iPhone 17 demand and an all-time high in Services. For F3Q, Apple guided revenue of 14% to 17% YoY and gross margin in the range of 47.5% to 48.5%, baking in the higher memory costs. The minimal impact of cost hike on margin is consistent with our view, and we expect the trend to continue, especially considering the memory price hike deceleration.

iPhone 18 to 20th anniversary iPhone

Hardware-wise, we continue to expect resilient iPhone 17 build plan in 1H26, driven by share gains amid high memory cost environment, while also believe that Apple has built memory inventories. For 2H26, we expect a fast scale-down of iPhone 17 base model while expect the iPhone 18 cycle to be driven by Fold (~7m) and aggressive pricing strategy for iPhone 18 Pro+Max's base models, vs. the recent retail price hikes from Android peers.

For CY2027, following the enhanced model launches of iPhone 18e/18/Air 2, likely along with a light-weight AI glasses, in CY1Q27, we expect 2H27's 20th iPhone launch to shift the innovation focus to mainstream iPhone Pro+Max models, featuring 4-edge round display with ongoing design efforts on under-display cameras at front. For AI, mgmt suggests the need for more time to meet Apple's high-quality bar.

Figure 17: Apple iPhone build plan and YoY (m units)



Sources: Company data, IDC, GF Securities (Hong Kong) Brokerage

Figure 18: 2H26's iPhone 18 series spec expectations

	iPhone 18 Pro	iPhone 18 Pro Max	iPhone 18 Fold
Launch	Sep-26	Sep-26	Sep-26
Display	6.3"	6.9"	7.8", Sub 5.3"
Processor	A20 Pro, N2, WMCM	A20 Pro, N2, WMCM	A20 Pro, N2, WMCM
DRAM	LPD5 12GB	LPD5 12GB	LPD5 12GB
Front camera	18MP, 6P	18MP, 6P	18MP (Folded), 18MP (Unfolded)
Rear camera	48MP 7P VA, Periscope 48MP, 48MP 6P	48MP 7P VA, Periscope 48MP, 48MP 6P	48MP 7P, 48MP 6P
Face ID	Structured light, smaller Dynamic Island	Structured light, smaller Dynamic Island	None (touch ID)
Casing	Aluminum	Aluminum	Titanium + Aluminum
BB	Apple C2	Apple C2	Apple C2

Sources: Company data, GF Securities (Hong Kong) Brokerage

Downstream tech – PC

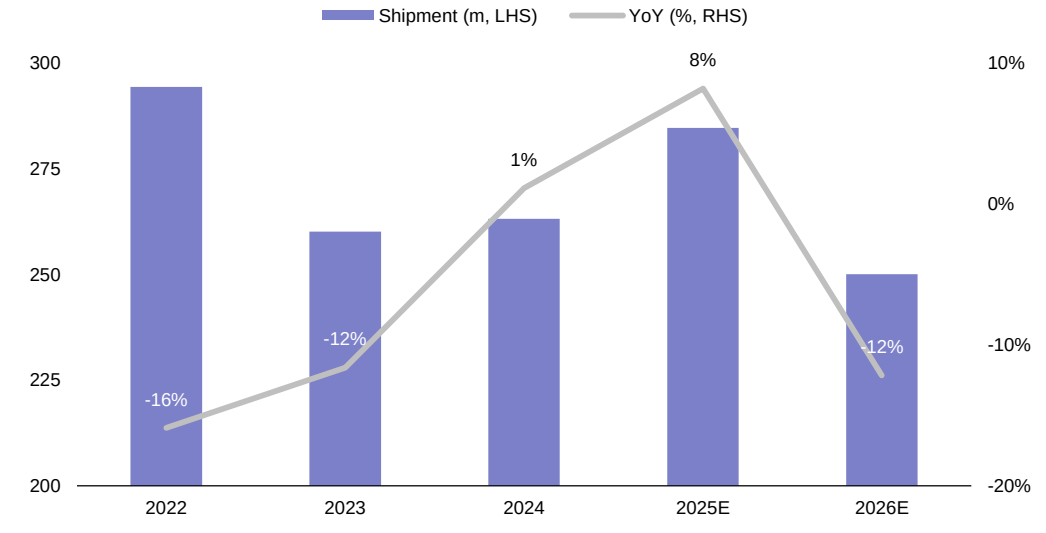
Global PC units of -12% in 2026

According to IDC, 1Q26 PC shipment declined 14% QoQ but grew 2.5% YoY, better than feared thanks to ongoing commercial refresh and pull-ins demand due to expected further price hike, as well as new products launch. Geo-wise, America alone recorded 3.3% YoY decline. However, despite stronger than expected momentum in the first half, we expect the sales to take a downturn in the 2H, driven by increasing component price amid lukewarm macroeconomics.

Memory (DRAM + SSD) originally accounted for 15-20% of PC BOM cost, while it now accounts for 30-40% of total BOM. Following 15-20% price hike from PC OEMs by the end of last year, we expect further 10% adjustment throughout the remainder of the year, given likely ~20% memory pricing increases in 2H26. In addition, similar to smartphone, de-spec trend of new products (32GB DRAM to 16GB) continues.

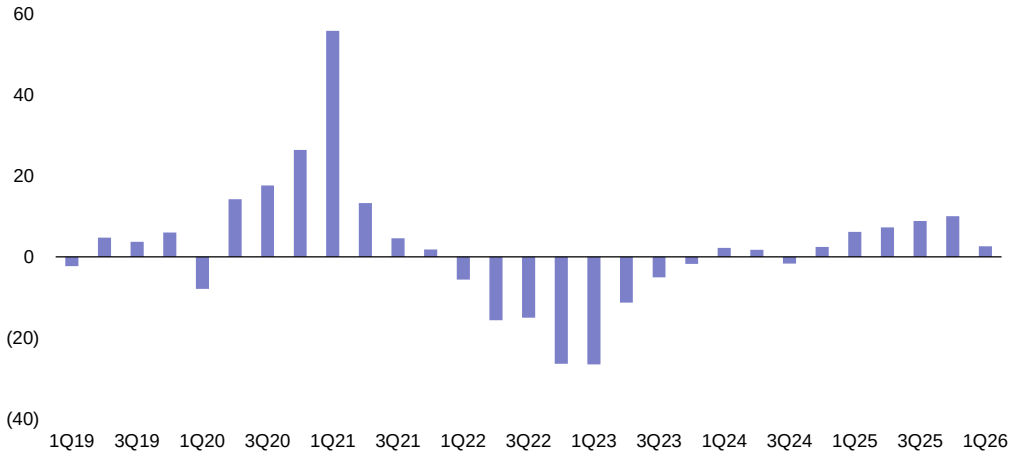
Despite the aforementioned headwinds, we anticipate PC demand to be less impacted compared with smartphone, structurally supported by sustained Win11 refresh. Of note, Win 10 extended support fee doubling from $60 this year to $120 next year is serving as a catalyst of the migration. In all, we kept our forecast for 2026 PC shipment YoY at -12%.

Figure 19: Global PC shipment forecast (m units)



Sources: Company data, IDC, GF Securities (Hong Kong) Brokerage

Figure 20: Global PC shipment YoY (%)

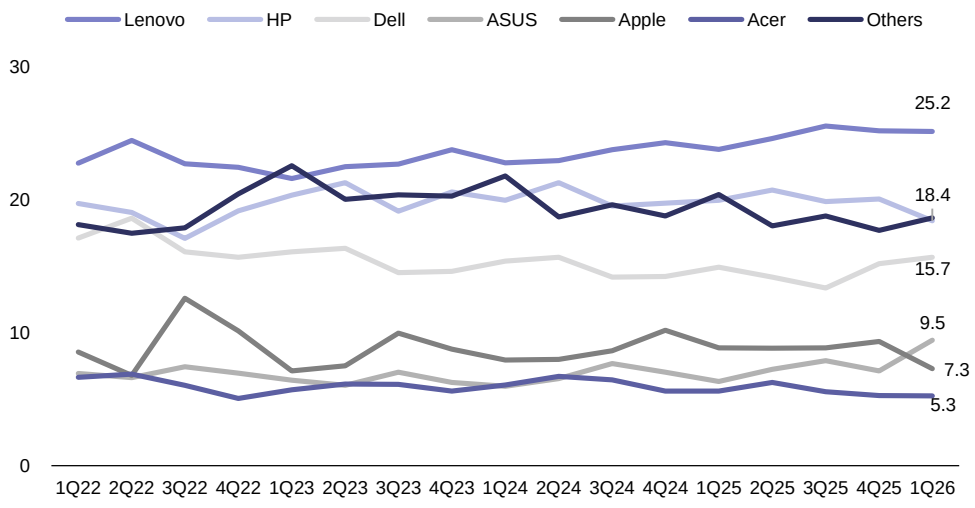


Sources: Company data, IDC, GF Securities (Hong Kong) Brokerage

Segment-wise, commercial replacement cycle is poised to extend into the coming quarters, fueled by an aging installed base of 400-500 mn units incapable of Win11. Conversely, price-sensitive consumer segments are experiencing greater strain from price hikes, especially in the absence of AI-driven demand, and gaming sales remain tepid as expected.

In terms of competition landscape, Apple is successfully gaining traction via its MacNeo alongside upgraded M5 silicon. Meanwhile, Dell (85%) and Lenovo (70%) are also better positioned in the chain due to higher commercial exposure. Notably, we believe Apple, Dell, Lenovo, and ASUS have higher priority to secure memory supply to navigate the memory impact. That said, we expect HPQ and Acer to suffer from the constraints.

Figure 21: Global PC market share (%) by brands



Sources: Company data, IDC, GF Securities (Hong Kong) Brokerage

Figure 22: Monthly Notebook PC ODM shipment (m units)

Unit mn	May-25	Jun-25	Jul-25	Aug-25	Sep-25	Oct-25	Nov-25	Dec-25	Jan-26	Feb-26	Mar-26	Apr-26	May-26
Quanta	3.8	5.0	4.0	4.1	4.6	3.5	3.5	3.9	2.7	2.0	5.3	3.5	3.5
Compal	2.4	2.5	2.3	2.3	2.5	2.1	2.3	2.4	1.6	1.5	2.8	1.8	2.0
Wistron	1.8	2.4	2.0	2.2	2.2	2.1	2.2	2.6	1.7	1.6	2.8	1.8	1.7
Pegatron	0.8	1.0	0.8	0.8	0.8	0.8	0.7	0.9	0.7	0.4	0.7	0.5	0.6
Inventec	1.8	2.1	1.7	1.8	1.9	1.6	1.7	2.0	1.7	1.5	2.2	1.5	1.5
Total	**10.6**	**13.0**	**10.8**	**11.2**	**12.0**	**10.1**	**10.4**	**11.8**	**8.4**	**7.0**	**13.8**	**9.1**	**9.3**
YoY	**-4%**	**10%**	**8%**	**-2%**	**-2%**	**0%**	**1%**	**8%**	**0%**	**-28%**	**12%**	**-4%**	**-12%**
MoM	**11%**	**23%**	**-17%**	**4%**	**7%**	**-16%**	**3%**	**14%**	**-29%**	**-16%**	**96%**	**-34%**	**2%**

Sources: Company data, IDC, GF Securities (Hong Kong) Brokerage

Upstream tech – AI Semi & Supply Chain

CSP capex to +82%/+30% in 2026/2027

Top CSPs are investing aggressively to meet their AI infrastructure needs to ensure they maximize their strategic flexibility over the coming years. Apart from their strategic AI focus, CSPs are also receiving record revenue and backlog growth in their cloud business, the strong results reinforce their conviction to invest the capital required to continue capturing the AI opportunity.

During the CY1Q26 earnings, the top 5 CSPs reported a stronger than expected Quarterly CAPEX and higher forecast for the full year basis: **1)** Google revised up its 2026 Capex from the prior $175-185bn USD to $180-190bn; Management also toned that 2027capex will show a significant expansion to support ongoing AI platform leadership and fulfillment of committed cloud agreement. **2)** Meta revised up 2026 Capex to $125-145bn USD (previously $115-135bn), reflecting increasing component pricing and increasing data center costs; Management guided that the cloud deals signed will come online over the course of 2026/27. These multi-year deals drove their contractual commitments to raise by $107bn. **3)** Amazon guided a $200bn USD capex in 2026; In 2025, AWS added the highest number of data centers than any other company, and the company will continue this trend to sustain its leading position. **4)** Microsoft guided a higher Capex growth in 2026 than 2025, due to higher spending on GPUs and CPUs for Azure platform demand. Full year 2026 Capex is expected to be around $190bn USD, where $25bn was impacted by higher component prices. **5)** Oracle guided $50bn USD Capex for FY26. For FY27, we expect Oracle to continue increase Capex according to its additional funding of $50bn from bond issuance. Thus, we forecast Top 5 CSP CAPEX in 2026 at 812bn (vs. consensus at 760bn), representing a YoY growth of 82%. We expect another 30% YoY increase in CSP Capex hike in 2027 (vs. consensus +24%), driven by significant upside in the AI accelerator market, despite anticipated memory cost inflation.

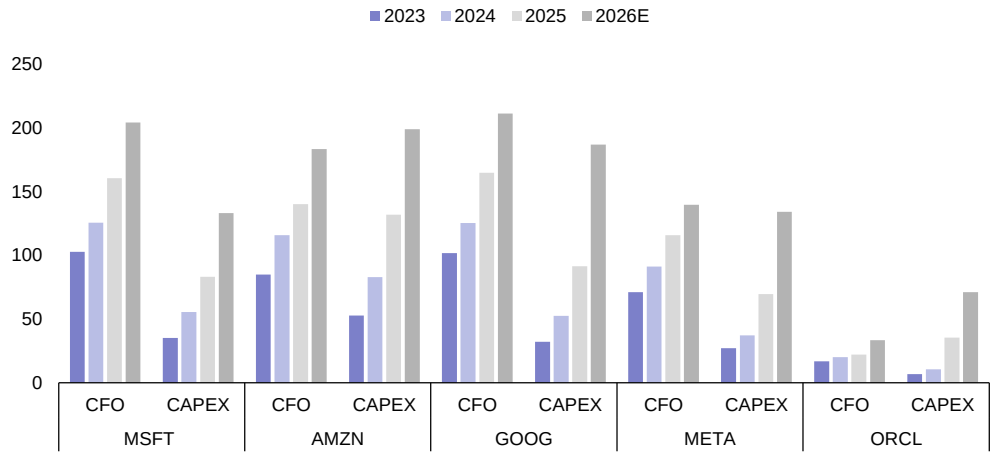
The AI visibility has been further extended, underpinned by the Agentic AI trend and Anthropic & OpenAI's ambitious data center build plans exceeding 10/20GW. Of note, within AI infrastructure buildouts, as noted in our *Server CPU TAM* report on May 21, we believe server CPUs are entering a super cycle driven by both general-compute and AI inference workloads. Based on our estimates, we expect Server CPU TAM to grow at a CAGR of 49% for the next 5 years, reaching $211bn by 2030 from $24bn in 2025. That said, we project total server CPU demand will be 32m/43m/55m units in 2026/2027/2028, respectively.

Figure 23: U.S. Top-5 CSP capex (USD bn)

	2022	2023	2024	2025	2026E	2027E
MSFT	28	41	76	118	227	279
AMZN	64	53	83	132	200	248
Google	31	32	53	91	188	263
Meta	32	28	39	69	138	183
Oracle	7	7	11	35	60	79
Top 5	**162**	**161**	**261**	**446**	**812**	**1053**
YoY	**19%**	**0%**	**62%**	**71%**	**82%**	**30%**

Sources: Company data, Bloomberg, GF Securities (Hong Kong) Brokerage

Figure 24: U.S. Top-5 CSP operating cash flow and capex in recent 3 years (USD bn)



Sources: Company data, Bloomberg, GF Securities (Hong Kong) Brokerage

Introduce 2028 estimates for AI accelerator market

On the back of our recent report on Nvidia (NVDA Buy), we now forecast AI accelerator market to be +75% YoY and +49% YoY in 2026E and 2027E. For 2028E, we now expect it to be +54% YoY, driven by higher GPU/ASIC's ASPs.

Our forecast is ahead of end of AMD's forecast of datacenter silicon market to reach $1 trillion by 2030, by assuming 20% CAGR in 2028-2030 and considering the difference in definition (AI accelerator vs. silicon).

Figure 25: Global AI accelerator market forecast

	2024	2025E	2026E	2027E	2028E
GPGPU (Units m)					
NVIDIA	3.9	5.8	7.8	7.3	6.6
AMD	0.5	0.5	0.8	1.1	1.1
Others	0.7	1.3	1.6	2.5	3.0
Total	**5.1**	**7.6**	**10.2**	**10.9**	**10.6**
YoY	160%	50%	34%	6%	-2%
ASIC (Units m)					
Google	2.8	2.9	4.6	9.8	11.3
AWS	0.9	1.6	2.5	3.1	2.3
Meta	0.2	0.2	0.3	0.5	0.4
MSFT	0.1	0.1	0.2	0.5	0.6
Other ASICs	0.3	0.8	1.0	1.3	3.0
Total	**4.2**	**5.6**	**8.6**	**15.2**	**17.6**
YoY	-39%	32%	53%	77%	14%
Market (USD bn)					
NVIDIA	88	159	276	343	523
Total GPGPU	98	175	305	396	595
Total ASIC	20	30	54	126	223
Total Market	**118**	**205**	**359**	**522**	**818**
YoY	273%	74%	75%	45%	53%

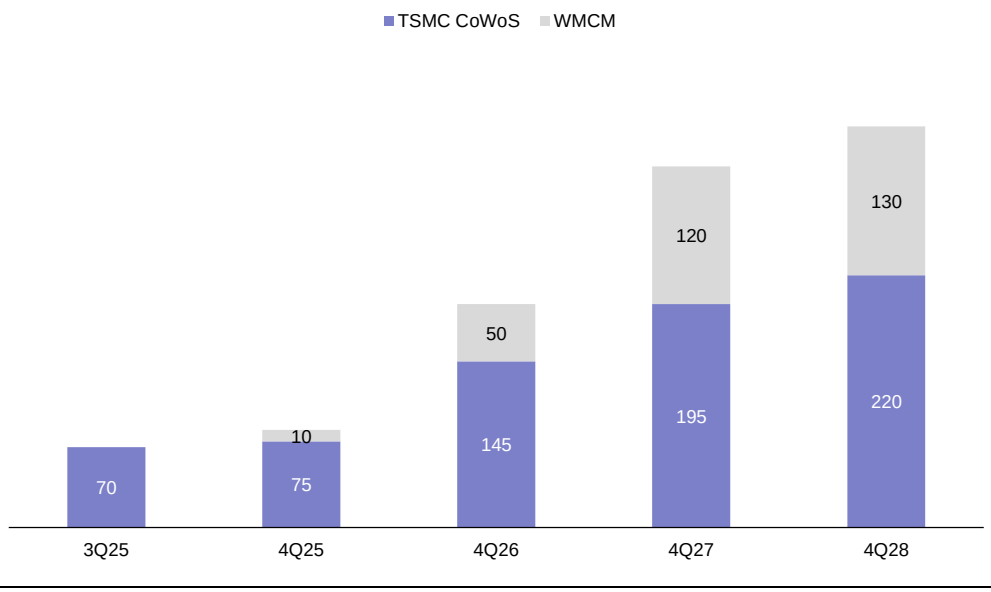
Sources: Company data, GF Securities (Hong Kong) Brokerage

Raise CoWoS capacity build plan for TSMC and AMKR

Following our earlier raise in May Edition, we revise up TSMC's CoWoS capacity once again from 175KPM to 195KPM by end-2027, at the higher end of market expectations. We believe the raise benefits Nvidia the most, given that it is the largest capacity contributor.

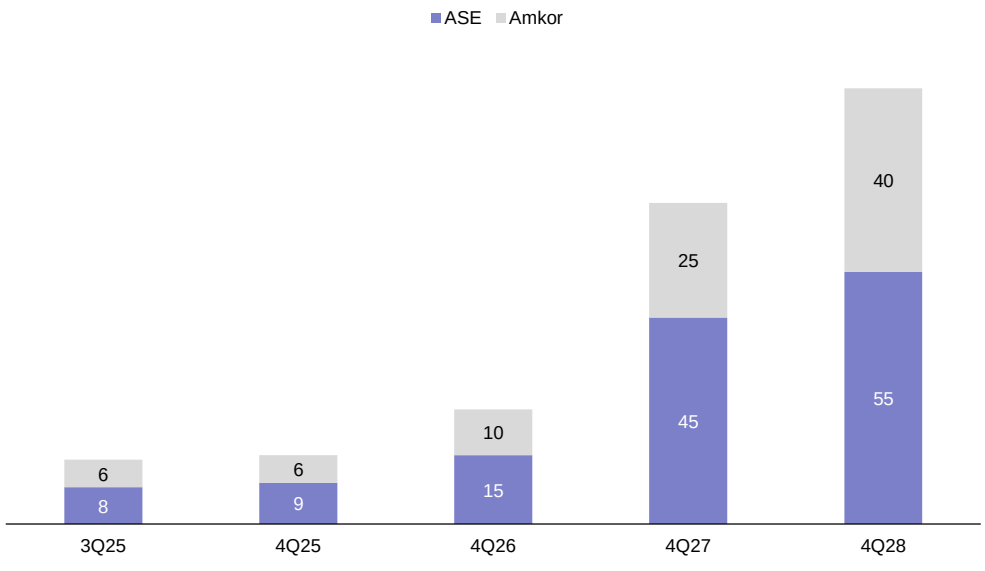
For OSAT, we revise up Amkor's capacity to 15KPM/25KPM/40KPM by end of 2026/2027/2028, driven by Vera CPU. We reiterate our bullish view on ASE's CoWoS business.

Figure 26: TSMC's quarterly CoWoS + WMCM capacity (kwpm) trend



Sources: Company data, IDC, GF Securities (Hong Kong) Brokerage

Figure 27: Amkor and ASE's quarterly CoWoS (kwpm) forecast



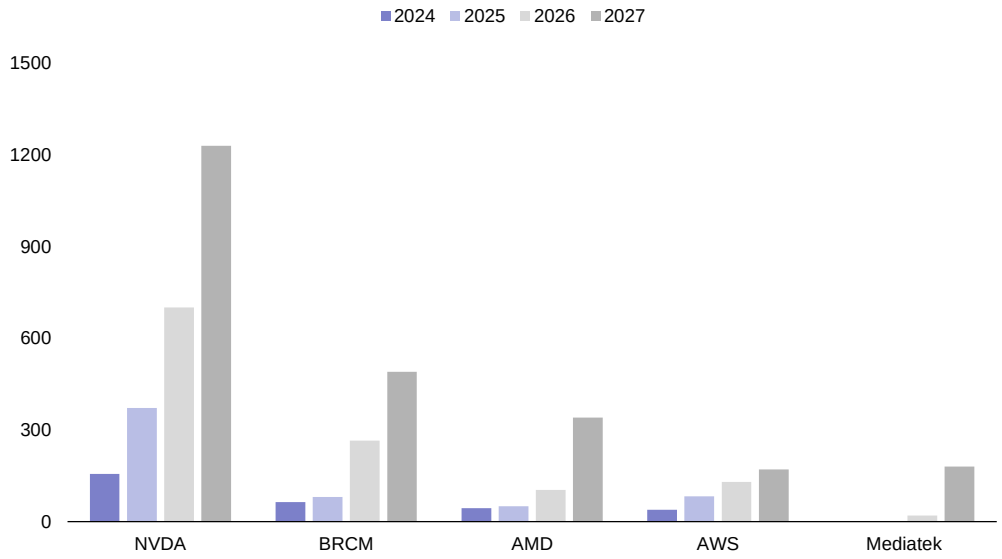
Sources: Company data, GF Securities (Hong Kong) Brokerage

Revising CoWoS estimates for some AI accelerator names

For Nvidia, we keep our 2026 CoWoS of 650k for AI GPUs largely unchanged. For 2027, we raised our CoWoS build estimates from 920k to 1.01m, due to TSMC's capacity expansion.

For Broadcom, we keep our 2026 CoWoS unchanged but lower 2027's due to slower than expected ramp up of Sunfish.

Figure 28: Major fabless CoWoS build plan (k wafers)

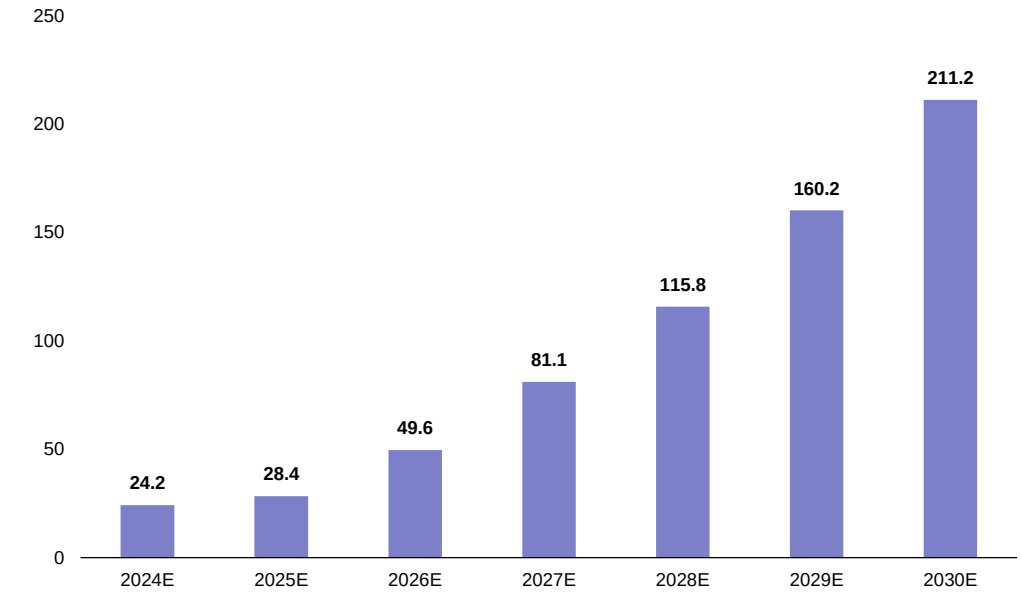


Sources: Company data, GF Securities (Hong Kong) Brokerage

Server CPU TAM to grow at 38% CAGR by 2030

As the orchestration core of AI infrastructure buildouts, the Server CPU has gained significant traction over the past few months. This is driven by the Agentic AI/inference trend, fueled by the breakthrough of OpenClaw and Anthropic's ARR surging to $44bn in April. For instance, in latest earnings calls, AMD projected a >35% CAGR for Server CPU TAM by 2030, and Intel said the shift toward agentic AI is driving a structural demand for CPU, where the GPU-to-CPU ratio is tightening from 8:1 in training to 4:1 in inference. Based on our estimates, assuming inference accounts for 90% of AI workloads and GPU-to-CPU ratio for AI servers to reach 2:1 in 2030, we now expect Server CPU TAM to grow 54%/39% in 2026/2027, reaching $135bn by 2030 from $26bn in 2025, with a 5-yr CAGR of 38%.

Figure 29: Server CPU TAM forecast (USD bn)



Sources: Company data, GF Securities (Hong Kong) Brokerage

Figure 30: Top-15 fabless Days of Inventory

Company	2Q22	3Q22	4Q22	1Q23	2Q23	3Q23	4Q23	1Q24	2Q24	3Q24	4Q24	1Q25	2Q25	3Q25	4Q25	1Q26
Qualcomm	102	119	156	150	159	151	132	135	131	131	111	114	125	118	109	137
Broadcom	60	58	59	66	62	60	38	36	37	32	36	38	38	36	44	N/A
Nvidia	93	147	225	165	97	92	90	95	81	78	86	59	106	119	115	N/A
MediaTek	105	105	118	126	106	100	61	69	75	77	74	62	70	67	74	N/A
AMD	70	96	108	129	143	132	122	145	153	144	138	158	131	149	154	160
Marvell	114	115	130	122	113	99	103	119	109	67	104	103	96	92	118	N/A
Qorvo	117	124	164	140	198	125	96	116	119	108	114	116	119	98	91	124
Novatek	103	133	82	69	53	49	51	57	58	52	51	53	53	53	55	69
Realtek	117	147	190	173	108	85	89	85	83	92	89	81	99	102	129	N/A
Skyworks	154	149	168	183	185	138	121	122	138	120	102	110	114	105	115	144
Himax	174	272	185	174	147	144	125	125	114	112	88	79	83	90	98	N/A
Will Semi	308	400	327	299	231	140	128	149	136	133	129	150	139	135	163	189
MPS	172	176	212	204	201	171	172	176	171	140	138	146	150	139	153	157
Infineon	124	118	141	147	151	150	193	179	181	157	186	184	185	155	187	174
NXP	95	99	116	137	138	130	136	145	149	148	150	168	158	161	163	166
Total	**102**	**117**	**138**	**138**	**126**	**115**	**103**	**107**	**104**	**97**	**99**	**88**	**107**	**109**	**112**	**153**

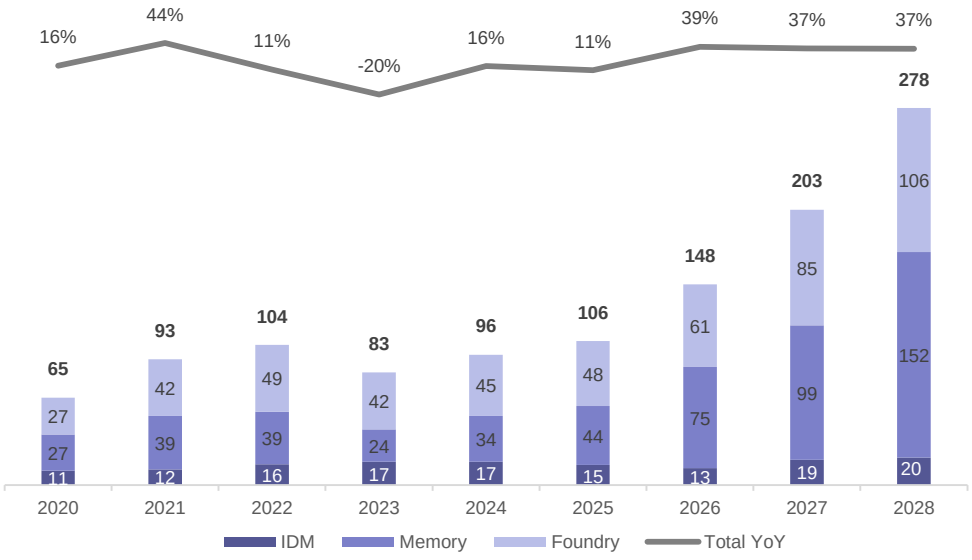
Sources: Company data, Bloomberg, GF Securities (Hong Kong) Brokerage

Upstream tech – WFE

Cycle strengthening

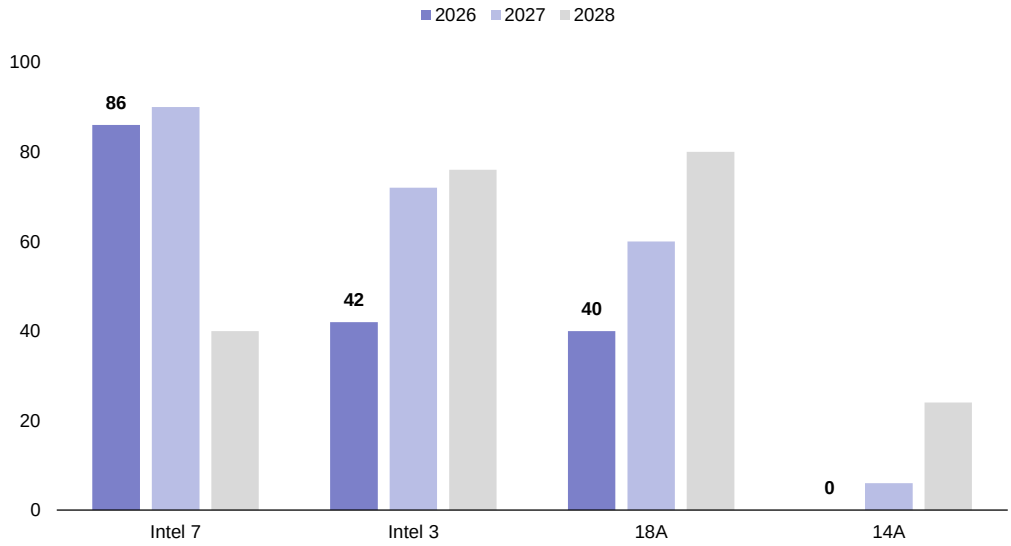
We forecast global WFE to reach $148bn in 2026, followed by robust growth to $203bn in 2027 and $278bn in 2028, representing the strongest WFE cycle on record. Our revision to the 2026 outlook is primarily driven by: 1) higher memory capex expanding into 2028, with Kioxia raising FY26 capex guidance to JPY450bn (+60% YoY) and maintaining an average annual investment level of approximately JPY480bn through FY28; 2) an additional US$2bn of demand from Terafab; 3) checks indicating that cleanroom capacity constraints across several leading foundries are beginning to ease, supporting a faster pace of capacity expansion; and 4) a stronger China WFE demand. For 2027, the upward revision is largely attributable to Intel, where capacity for Intel 3 and 18A is expected to increase by ~35kpm and ~40kpm, respectively, between late 2026 and 2028, alongside an accelerated 14A ramp. We expect Intel's WFE spending to sharply increase from 6bn in 2026 to 12bn in 2027.

Figure 31: GF's WFE Forecast (USD bn)



Sources: Company data, GF Securities (Hong Kong) Brokerage

Figure 32: GF's Intel foundry installed capacity assumptions (KPM, yr-end)



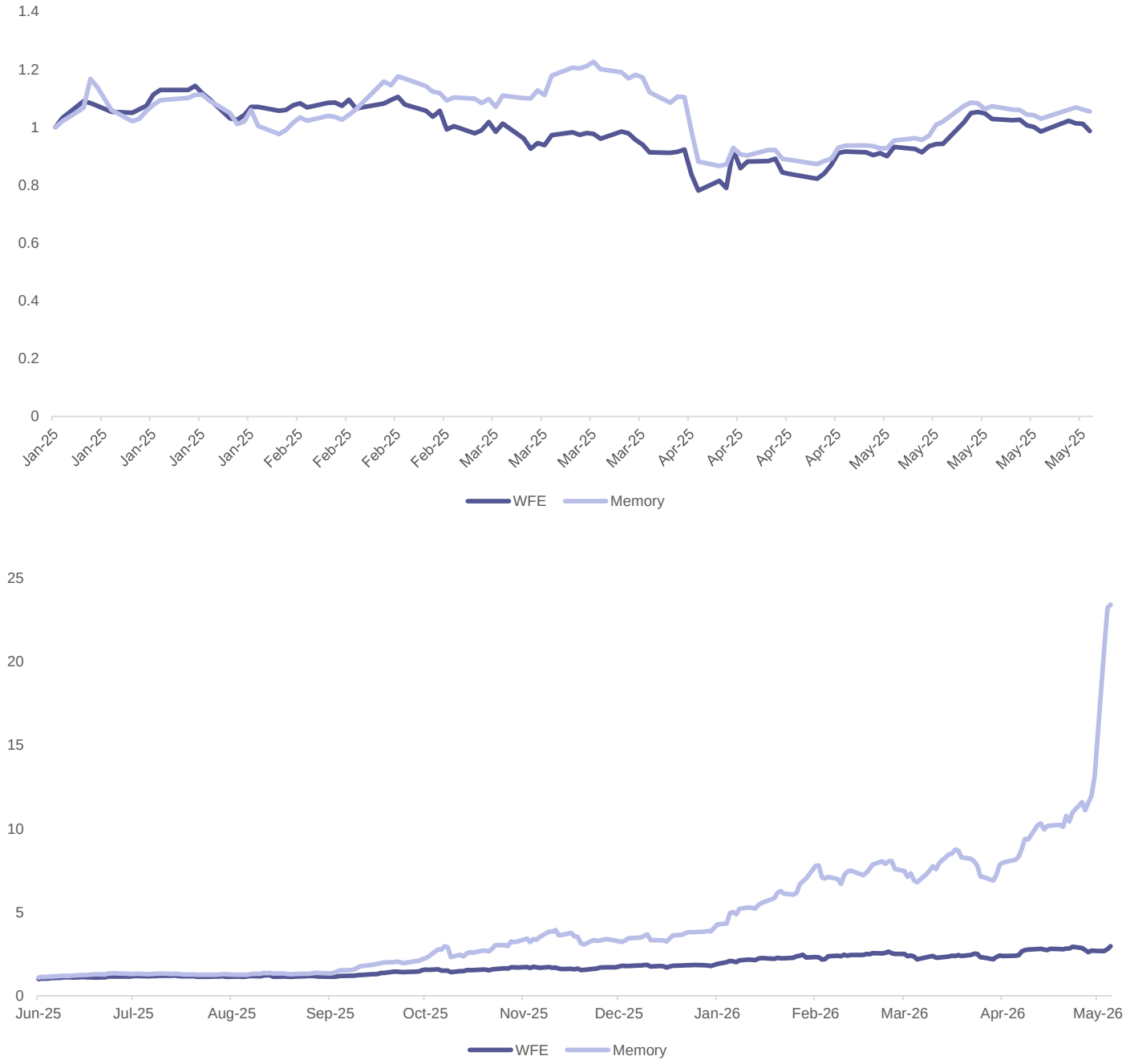
Sources: Company data, GF Securities (Hong Kong) Brokerage

Price hike another factor overlooked

We are observing pricing upside across semiconductor equipment and component supply chains amid strong demand. Key upstream components, including piping systems and RF power supplies, are beginning to implement price increases to downstream customers, while equipment vendors are also pushing through price adjustments. In DRAM, suppliers to SK Hynix have reportedly requested 3–4% price increases. Our channel checks suggest that TEL has already shifted production from a single-shift to a double-shift operating mode, driven by robust demand from both DRAM and advanced logic segments. We are also observing varying degrees of price increases across the equipment supply chain, including at ASML, where lithography tools have seen notable pricing improvements (double digit even for large customers). Taken together, these developments suggest that equipment demand remains ahead of supply, supporting both revenue growth and margin expansion for leading SPEs.

Historically, SPE and memory stocks have traded closely in tandem. Over the past month, memory names have outperformed SPE by roughly 50%, driven by a substantial upward revision in market expectations and a sharp re-rating of memory-cycle. We expect SPE to narrow the performance gap as investors begin to price in the improving WFE outlook. As a result, we see potential for a near-term rotation from memory into semiconductor equipment stocks.

Figure 33: SPE performance vs. Memory performance



Sources: Company data, GF Securities (Hong Kong) Brokerage

Upstream tech – Memory

Rerating continues

We like NAND better: We remain constructive on the NAND cycle and believe NAND could outperform DRAM. 1) NAND pricing remains strong in the near term. We forecast 3Q26 blended ASP to increase by 25-30% QoQ, with eSSD pricing at the upper end. SNDK is even asking for a 40% QoQ for eSSD. 2) Memory procurement will account for more than 50% of CSP capex by 2027 even if excluding HBM price hike. As memory becomes an increasingly significant component of AI infrastructure spending, hyperscalers will be more incentivized to optimize cost by adopting lower-cost NAND solutions. Technologies such as I/O FP NAND represent an important step in this direction. 3) We believe the demand impact from KV cache offload remains underestimated. While Sandisk has suggested a demand of 75-100EB in 2027 and double in 2028, our channel checks indicate that KV offload demand could reach high double-digit EB in 2026 and accelerate to 300-400EB in 2027. Following the release of Deepseek models, we see increasing discussion from LLM developers on memory-centric approaches to improve inference efficiency. 4) Although investors are concerned over competitive landscape expecially from YMTC, we believe NAND suppliers have become increasingly disciplined. Industry participants appear committed to protecting pricing through utilization controls. As a result, we believe NAND pricing is unlikely to sustainably fall below $0.15/GB (current LTA floor price $0.2/GB with 25% downpayment).

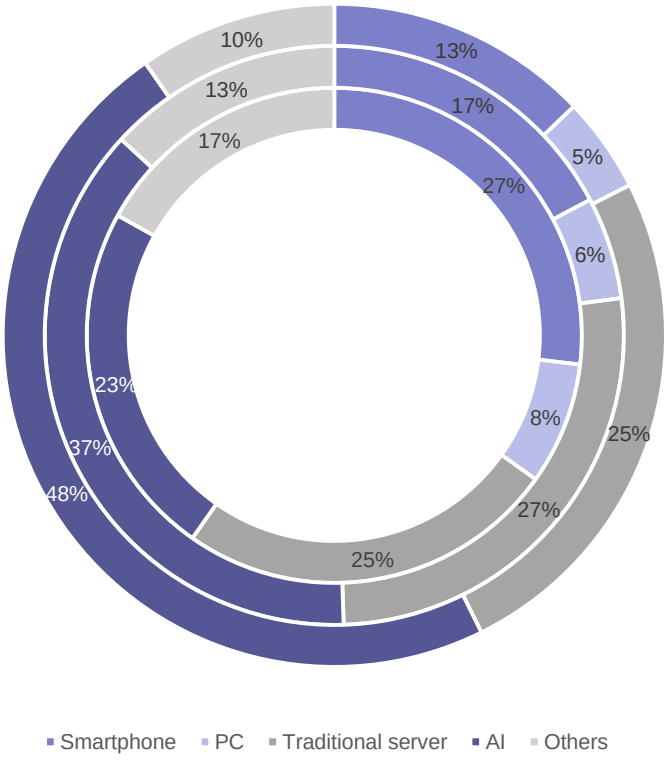
DRAM: On DRAM, our channel checks are consistent with our previous report. We expect contract prices to increase 15-20% in CY3Q26, stronger than our previous 10-15% forecast, followed by a milder sequential increase of around 10% in CY4Q26. On the other hand, we believe the most meaningful pricing rally will be driven by HBM. Current HBM3E pricing sits at $13/GB, with margin meaningfully below conventional DRAM. As a result, memory players are pushing for a near-doubling of HBM pricing heading into 2027. We expect price negotiations to start in Jul/Aug, though the actual price adjustment will be in CY2027.

Figure 34: HBM Demand Analysis

	Shipment (in K units)			HBM type	HBM content (GB)	HBM demand (k GB)		
	2026	2027	2027			2025	2026	2027
Nvidia								
H20	900			HBM3	96	86400		
H200	300			HBM3e	141	42300		
B200	2500			HBM3e	192	480000		
B Ultra	3200	5500		HBM3e	288	921600	1584000	
R series		3000	6000	HBM4	288		864000	1728000
Rubin Ultra			2000	HBM4e	768			1536000
Total	6900	8500	8000			1530300	2448000	3264000
AMD								
MI300	300			HBM3	192	57600		
M325	100			HBM3e	288	28800		
M350	350	400		HBM3e	288	100800	115200	
M450		400	1000	HBM4	432		172800	432000
Total	750	800	1000			187200	288000	432000
Google								
TPU V5e	500			HBM2e	16	8000		
TPU V5p	500	250		HBM2e	48	24000	12000	
TPU V6	1500	1000		HBM3e	144	216000	144000	
TPU V7	400	1104	2400	HBM3e	288	115200	317952	691200
TPU V8Aax		1560	3850	HBM3e	288		449280	1108800
TPU V8x		625	3600	HBM3e	288		180000	1036800
TPU V8e			100	HBM4	288			28800
TPU V8p			50	HBM4	432			21600
Total	2900	4539	10000			363200	1103232	2887200
Amazon								
Inferentia 2.5	200			HBM3	48	9600		
Trainium 2	1400			HBM3	96	134400		
Trainium 2.5	120	500		HBM3e	144	17280	72000	
Trainium 3		2300	3000	HBM3e	144		331200	432000
Trainium 4			120	HBM3e	288			34560
Total	1720	2800	3120			161280	403200	466560
Huawei								
910B	400			HBM2e	64	25600		
910C	250	800		HBM2e	128	32000	102400	
950		500	1800	HBM2e	144		72000	259200
960			200	HBM3e	288			57600
Total	650	1300	2000			57600	102400	316800
MSFT								
M300		48	320	HBM3e	288		13824	92160
Total							13824	92160
Meta								
MTIA2		300	200	HBM3e	216		64800	43200
MTIA3		8	320	HBM3e	288		2304	92160
Total		308	520				67104	135360
Other GPU								
Gaudi	150	200	250	HBM3	96	14400	19200	24000
Total						14400	19200	24000
Total HBM demand in M GB						**2,314**	**4,445**	**7,618**
Total HBM demand in bn Gb						**18.5**	**35.6**	**60.9**

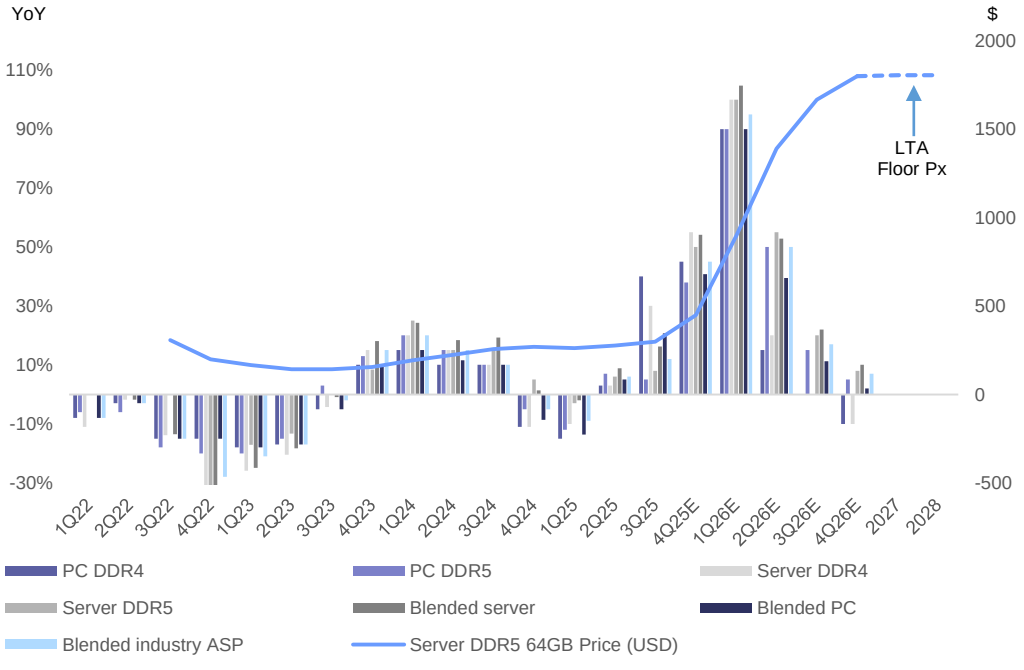
Sources: GF Securities (Hong Kong) Brokerage

Figure 35: Memory Demand by End Markets for 2025(inner)/2026(mid)/2027(outer)



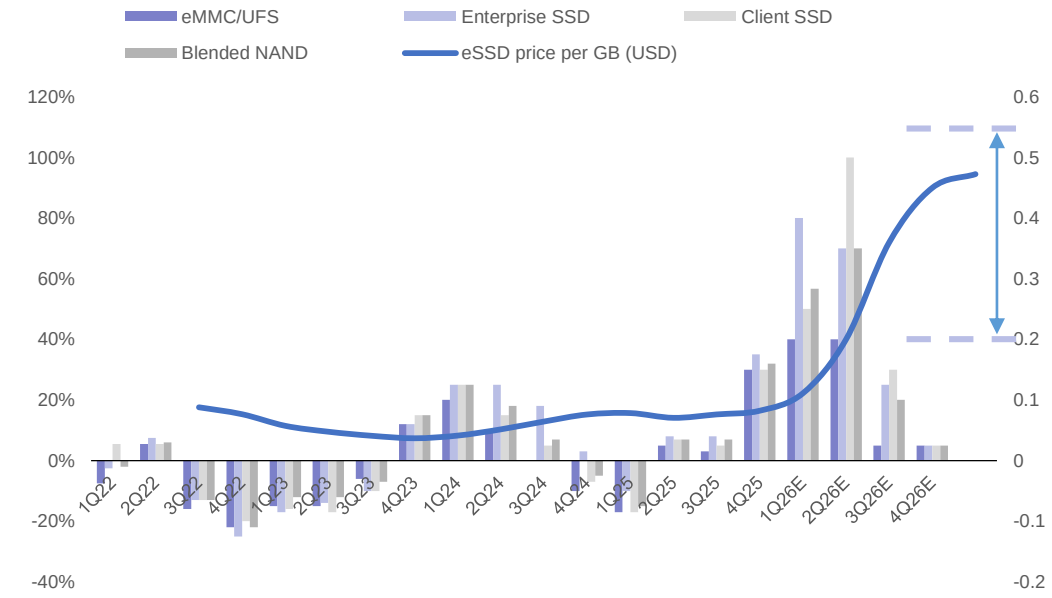
Sources: Company data, GF Securities (Hong Kong) Brokerage

Figure 36: DRAM Pricing Forecast



Sources: Company data, GF Securities (Hong Kong) Brokerage

Figure 37: NAND Pricing Forecast



Sources: Company data, GF Securities (Hong Kong) Brokerage

Upstream tech – Optical

Strong demand through 2028.

We expect that the total demand for 800G/1.6T will reach 80mn/80mn in 2027, increased by 60%/167%+, mainly driven by: 1) Nvidia, Google and AWS and other ASIC's Accelerators' demand are ramping up; 2) GPU/ASIC scale-out bandwidth continuously increase drives increasing GPU/ASIC-to-optical module ratio; 3) We expect that TPU for 2027 will be 8.8m(vs 8m previously) and Google fully transitions to large-scale clusters in 2026 and the scale-up layer will adopt optical interconnects. In addition, as we mentioned in The Key Move in 2027 to be CPO in NVIDIA's Scale Up report, scale-up CPO represents a pure incremental opportunity for optical interconnects supply chain, benefiting FAU, laser, shuffle box, connector and OE players, including LITE, GLW, TSEM, AXTI, Sumitomo and Browave.

Scale-out bandwidth increase driving optical-module deployment

For NVIDIA, each Rubin GPU is equipped with two CX9 NIC chips, doubling the scale-out bandwidth compared with Blackwell. We further estimate that Rubin Ultra will adopt four CX9 chips per GPU, leading to another 2 times increase in scale-out bandwidth, continuing NVIDIA's consistent bandwidth-doubling trajectory. Accordingly, we expect the ratio of 1.6T optical modules has risen from 1:2.5 to 1:5 in Rubin. From CoWoS perspective, we expect 5m/2m Blackwell/Rubin and 20m 1.6T in 2026. For **Google**, we believe that Google fully transition to large-scale clusters in 2026 and the scale-up layer will adopt optical interconnects. We believe that in the scale-up domain, the ratio of TPU to 1.6T optical modules is approximately 1:1.5; In the scale-out domain, the ratio is around 1:2.5, suggesting the overall TPU-to-optics ratio is approximately 1:4 (1.6T equivalent).

Nvidia's Scale-out/up CPO/NPO

According to OFC, Lumentum highlighted that optical scale-up is a longer-term structural opportunity starting late CY27 as copper interconnect approaches limits. As mentioned in our The Key move in 2027 to be CPO in NVIDIA's scale up report, we believe that Nvidia will consider the introduction of CPO/NPO starting with Rubin Ultra in 2H27, specifically for scale-up interconnect inside the NVL576 architecture. Within the NVL576 architecture, compute trays and switch trays are expected to continue relying on backplane connectivity, while the rack-to-rack interconnects are likely to transition toward CPO or NPO-based optical interconnect. Technology wise, we believe that CPO offers much better power consumption and bandwidth density, while NPO is easier to be manufactured and to be maintained. We believe that CSPs prefer NPO solution for their ASIC scale up interconnect.

Stock Implication

Generally speaking, scale-up CPO/NPO is an incremental opportunity for optical interconnect supply chain, as it aims to replace copper and has no impact on scale-out side. Additionally, scale up and scale out CPO solution share the similar suppliers. That said, we expect the key beneficiaries to be components such as FAU, CW laser, ELSFP, shuffle, PIC, TIA and Driver. We: 1) prefer Lumentum/ COHR/ AXTI due to the demand upside for CW laser/InP substrate, and also like local cw laser players; 2) expect Browave (3163 TT) to benefit, given the sizable contribution of CPO's shuffle box considering ~55% market share, $5-6k ASP and a volume ramp in 2H26; 3) we also like TSEM, given CSP preferring NPO solution for their ASICs scale up interconnection. 4) expect GLW to benefit, given the second supplier of shuffle box and main supplier of MMC connector/fiber. 5) Marvell/Semtech will also benefit from CSP/Nvidia's NPO solution, since TIA and driver will upgrade in the NPO Optical Engine.

Figure 38: 800G/1.6T optical module demand forecast by customer

Shipment(m)	2019	2020	2021	2022	2023	2024E	2025E	2026E	2027E
800G			**0.0**	**0.1**	**2.0**	**10.0**	**22.0**	**50.0**	**80.0**
Google			0.0	0.1	1.0	3.5	4.0	6.0	6.0
AWS							4.0	9.0	6.0
Meta					0.2		4.0	9.0	6.0
NVDA					0.8	6.0	3.0	4.0	3.0
MSFT							2.5	3.0	5.0
Alibaba								1.0	6.0
Tencent								1.0	6.0
Huawei							0.5	3.0	8.0
Others						0.5	4.5	14.0	32.0
1600G						**0.2**	**2.0**	**30.0**	**80.0**
Google						0.1	0.5	10.0	30.0
AWS									5.0
Meta									5.0
NVDA						0.1	1.5	20.0	25.0
MSFT									5.0
Tencent									
Huawei									
Others									10.0

Sources: Company data, GF Securities (Hong Kong) Brokerage.

Risks

1) Alternative technologies; 2) AI demand and capex slowdown; 3) IT demand slowdown; 4) product delays.

Rating definitions Benchmark: Hang Seng Index (Hong Kong)

Company ratings	**Buy**	Stock expected to outperform benchmark by more than 10%
	Hold	Expected stock relative performance ranges between -10% and 10%
	Underperform	Stock expected to underperform benchmark by more than 10%

Sector ratings	**Positive**	Sector expected to outperform benchmark by more than 10%
	Neutral	Expected sector relative performance ranges between -10% and 10%
	Cautious	Sector expected to underperform benchmark by more than 10%

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