

IT Hardware

Good margins to persist for AI component makers

Key message

1. Most firms' 2Q24 earnings beat our forecasts on rising margins and forex gains.
2. AI server sales growth will be the main catalyst in 2H24F, on sales of Hopper-series servers. Blackwell-series AI server will ship in small volumes in 4Q24F and enter into mass production after 1Q25F.
3. The Apple supply chain will see higher sales in 2H24F, driven by new model rollouts. However, most notebook ODMs guide flat NB shipments QoQ in 3Q24F, with Asustek Computer (2357 TT, NT\$513, OP) and Pegatron (4938 TT, NT\$102.5, N) as the exceptions.

Event

After posting 2Q24 financial results, we noted that most IT hardware companies enjoyed improved gross and operating margins in 2Q24, on better product mixes and favourable exchange rates. AI server sales were a spotlight for these firms, and improved Hopper GPU supply from Nvidia's (US) in 2Q24 should continue in 2H24F. The launch of Blackwell GPUs (B200/ GB200) will follow soon, with small volume Blackwell-series shipments beginning in 4Q24F, and mass production after 1Q25F.

Impact

2Q24 earnings results. Among the IT hardware supply chain, most firms' 2Q24 earnings beat our forecasts, on rising margins and forex gains. Margins grew because of: (1) stronger-than-expected notebook and server sales growth, with demand for both general servers increasing, and higher AI server shipments; (2) higher server sales weightings benefited most thermal, power, PCB, and mechanical component makers (rail kit and chassis). AI server sales were low in 1Q24, but rebounded significantly in 2Q24 on Hopper GPU supply increases. Quanta Computer's (2382 TT, NT\$271.5, OP) AI server sales weighting was over 25% in 2Q24, versus 8-10% in 1Q24. The 2Q24 AI server sales weighting for Hon Hai Precision Industry (2317 TT, NT\$181, OP) was 13-15% (9-10% in 1Q24), Wiwynn's (6669 TT, NT\$1,925, OP) was over 20% (15-20% in 1Q24), and Inventec's (2356 TT, NT\$47.35, OP) rose to 15-20% (10% in 1Q24). Though there were limited AI server shipments in 1H24, revenue trended up over 2Q24. While firms expect AI server sales to grow QoQ in 2H24F, with Hopper the mainstream GPU, we may see gross margin for ODMs face negative pressure, but component makers will enjoy margins improvement over the 2Q24 level.

Catalysts in 2H24F. Based on IT hardware companies' guidance, AI server sales will be the catalyst for 2H24F sales and earnings growth. **General server demand** recovered in 1H24, with YoY sales growth, and both Hon Hai and Wiwynn benefited with general server sales growth of 16% and double digit YoY, respectively, in 1H24. With improved supply of Nvidia's GPUs, companies expect **AI server** sales growth to drive sales in 2H24F, especially for Hopper-series servers. Blackwell-series (B200/GB200) AI servers will be still in small volume in 4Q24 and enter into mass production in 1Q25 after. Hon Hai said it will be the leading GB200 AI server rack supplier in 4Q24F, with ODMs all expecting rising shipments in 2H24F. Gross margin dilution from AI server sales growth will occur in 2H24F, resulting from a server ASP surge for ODMs (US\$200k for a Hopper AI server rack, and US\$2.5-3.5mn for a Blackwell server rack, compared to US\$100k for a general server rack). However, thermal, power supply, mechanical and PCB component makers will benefit from high AI server demand. As Blackwell shipments in 2H24F will be limited, Hopper shipments will benefit air cooling, GPU baseboard, rail kit and chassis firms, such as Wistron (3231 TT, NT\$101.5, OP), Asia Vital Components (AVC; 3017 TT, NT\$594, OP), King Slide Works (2059 TT, NT\$1,165, OP), and Chenbro Micom (8210 TT, NT\$297, OP). Liquid cooling demand will hike in 2025F followed by GB200 AI server demand rise, which should benefit AVC, Delta Electronics (2308 TT, NT\$409, OP), Auras Technology (3324 TT, NT\$600, OP) and Kaori Heat Treatment (8996 TT, NT\$336, OP). However supply tightness for quick dis-connectors (QD) may weigh on shipments growth in 2H24F. The **Apple supply chain** will see higher iPhone, MacBook and wearable shipments in 2H24F, on new model rollouts, which was cited in guidance from Hon Hai, Largan Precision (3008 TT, NT\$2,715, OP) and Simplo Technology (6121 TT, NT\$364, OP). ODMs guide flat **notebook** shipments growth QoQ in 3Q24F, on a high base in 2Q24 from restocking demand, with only Asustek Computer (2357 TT, NT\$513, OP) and Pegatron (4938 TT, NT\$102.5, N) positive on NB sales growth of 15-20% QoQ in 3Q24F. More AI notebook models will launch after 4Q24F, and the supply chain expects a notebook replacement cycle will boost demand in 2025F.

Stocks for Action

We suggest investors focus on the Hopper-series AI server and iPhone supply chain in 2H24F. Our top picks are Quanta, Wistron, Hon Hai, AVC, Chenbro, EMC (2383 TT, NT\$436, OP), Gold Circuit (2368 TT, NT\$206.5, OP), Delta, King Slide, Largan Precision and Compeq Manufacturing (2313 TT, NT\$70.7, OP).

Risks

Weak consumer demand for PCs and smartphones; AI server GPU supply constraints.

Servers

Nvidia Blackwell GPU timeline – mass production of GB200 after 1Q25F

ODMs – Hopper series mainstream in 2H24 & Blackwell after 1Q25F

Super Micro Computer (US). The firm expects small volumes of Blackwell server racks to ship in 4Q24F and more in 1Q25F. In addition, many clients are interested in Hopper liquid cooling solutions. Super Micro is positive on direct liquid cooling (DLC) demand and expects DLC server rack shipments to grow, from over 1,000 racks in 2Q24, based on a capacity expansion to 1.5k racks/ month in 3Q24F and 3k/ month by 4Q24F.

Hon Hai. The firm will be the first ODM to ship Blackwell server racks in 4Q24F, and plans to put them into mass production in 1Q25F.

Quanta. The firm has AI server orders for both Hopper and Blackwell GPU designs. The firm guides a limited impact on sales should Blackwell GPU models be delayed, and expects AI server sales to grow by triple digits in 2024F.

Inventec. The firm will diversify its AI server product line from the Hopper series in 2024F to the Blackwell series in 2025F.

Gigabyte Technology (2376 TT, NT\$249.5, OP). There will be a limited impact from Blackwell delays on the firm, and there are urgent new orders for H200 servers. In addition to the Hopper platform, Gigabyte will launch Blackwell servers in 2025F for tier-2 or tier-3 CSPs and channel clients, with customized designs for different regions.

Components – Hopper series AI server demand to fuel air cooling and high-U count chassis and rail kit sales

AVC. The firm said the GB200 liquid cooling shipments schedule is unchanged, and mass production for Blackwell servers will begin in 2025F. AVC has been entered onto the GB200 reference design list for cold plates and manifolds. The majority of AI server shipments in 2H24 will be Hopper-series 3D VC solutions. Liquid cooling sales will be higher in 2025F with GB200 AI server shipments; up from 2-3% of the total in 1H24.

Sunonwealth (2421 TT, NT\$91.8, OP). It will have more GPU solutions (H100/H200/H20) in 2H24F and start to ship Blackwell platform in 4Q24F.

Delta. The firm is on the GB200 reference design list for fans, cold plates and coolant distribution units (CDU). In addition, the firm enjoys dominant market position in AI server power supplies (both AC-DC and DC-DC) and power choke.

Lite-On Technology (2301 TT, NT\$107, OP). The firm is on the GB200 reference design list for sidecars. Lite-On is also a key supplier of AC-DC server power supplies.

Chenbro. A CSP client increased H200 orders in the last two months.

King Slide Works. The firm enjoyed robust server sales growth of over 90% YoY in 1H24, of both general and AI servers, with higher rail kit ASP. King Slide cited its leading market share for AI server rail kit designed for Hopper GPUs, and Blackwell models in 4Q24-2025F.

Bizlink (3665 TT, NT\$383.5, OP). The firm is on the GB200 reference vendor list for power whips, busbars, inner busbars and MCIO cables. Revenue will pick up from 1Q25F.

AI server sales weightings – 2Q24 sales surge to continue on better GPU supply**ODMs – growing sales of Hopper series GPU servers; GB200 to enter mass production after 1Q25F**

Quanta. The firm's server sales weighting was around 50% in 2Q24 (around NT\$150-160bn) with over 25% of total sales for AI servers (nearly NT\$80bn). AI server sales will grow by triple digits YoY in 2024F and account for over 50% of total server sales (30-40% of total sales). Server demand remains strong with, some upward revisions.

Hon Hai. AI servers (around NT\$170bn) comprised over 40% of cloud sales in 2Q24, with sales growth of over 60% QoQ and over 200% YoY. The firm expects its market share for AI servers will be above 40% in 2024F, from upstream modules and baseboards to final rack assembly.

Inventec. Server sales (around NT\$69.5bn) accounted for 45% of total sales in 2Q24, with AI server sales (nearly NT\$28bn) comprising over 40% of server sales. The firm should achieve its AI server sales target of 15-20% of total server sales in 2024F, up from 5-7% in 2023, as most shipments are at the L6 level, which means sales recognition does not include GPUs.

Wiwynn. The firm's AI server sales weighting was around 20% in 1H24 (nearly NT\$30bn), slightly lower than 4Q23's 20%, on a general server sales rebound. ASIC designs have made up most AI server shipments in recent quarters, but the firm is offering more GPU solutions including Hopper and Blackwell GPUs in 2H24-2025F, resulting in a higher AI server sales weighting, of over 50%, in 4Q24F-2025F. However, this target will be subject to Blackwell GPU's launch schedule and supply volume.

Gigabyte. The firm has seen server sales surge in 1H24, to close to NT\$80bn and comprised over 60% of total sales, thanks to better Hopper GPU acquisition for clients like Coreweave (US) and Northern Data (DE). The firm's AI server assembly capacity in Southeast Asia, Europe and the Americas will be expanded in 2H24F, which we expect to boost server sales from NT\$180bn in 2024F to over NT\$200bn in 2025F.

Wistron. The firm will enjoy stronger Hopper baseboard demand from Tesla (US) and X (US) in 2H24F, and will offer GB200 Superchip compute board in 4Q24. In addition, AI server orders from Dell (US) will grow in 2025F. Wistron announced a capacity expansion for Nvidia in Hukou (Taiwan) recently, at a cost of NT\$2.13bn, and targets mass production of AI server compute boards after 1Q25F.

Components – liquid cooling & higher power requirement for GB200 servers

AVC. The firm's 3D VC shipments targets are 3mn units in 2024F, and 3-4mn units in 2025F, mainly for AI server. Liquid cooling sales are low currently, at around 3% of total sales in 1H24, but with a capacity expansion for cold plate modules, CDU and manifolds coming online from 4Q24-1H25F, liquid cooling sales will grow significantly in 2025F to meet its top-4 US CSPs' GB200 AI server rack demand. AVC is well positioned to benefit from the AI server demand wave, as it has both 3D VC air cooling and liquid cooling capacity.

Sunonwealth. The firm's AI server weighting was 40-45% of total server sales and 20% of total sales in 1H24, with most sales coming from ASIC solutions. Sunonwealth expects GPU shipments will grow in 2H24F, improving ASP and gross margin on the higher thermal design power (TDP) of Hopper and Blackwell designs.

Auras. Server sales surged to 46% of total sales in 2Q24, thanks to rising liquid cooling sales (20% of sales in 2Q24, up from 2% in 1Q24), mainly from Super Micro's AI server demand. Although server sales may slow down in 3Q24F, due to supply constraint for QD, the firm is positive on 4Q24-2025F server sales growth on rising utilization of liquid cooling as GB200 AI server shipments commence.

Delta: The firm's AI server sales weighting was 5% in 1H24, mostly of power supplies (including AC and DC power). The firm will see more AI server sales of fans, liquid cooling cold plate modules and CDU in the future.

Lite-On: Its AI server sales weighting was 2-3% in 1H24. The firm targets an AI server sales weighting of 10% in 2025F.

Chenbro. The firm's AI server sales weighting was between 55-60% in 1H24.

Gold Circuit Electronics (GCE; 2368 TT, NT\$206.5, OP). The firm's AI server weighting rose to between 20-25% in 2Q24, and the firm expects to grow to between 25-30% in 2H24F.

Elite Material (EMC; 2383 TT, NT\$436, OP). AI server CCL made up 26-27% of sales in 2Q24. In 3Q24F, 800Gb switches and general servers will have more order visibility.

General server demand – stable growth in 2024F

Hon Hai. General server sales grew 16% YoY in 1H24 and the firm expects double digit sales growth YoY in 2024F.

Wiwynn. Noted improving general server demand in 1H24 after inventory corrections in 2023.

Chenbro. General server demand has recovered recently.

PC

3Q24 & 2024F PC shipments – shipments flat QoQ and YoY in 3Q24; more AI shipments in 4Q24-2025F

Brands

Asustek. Guides PC sales to grow by 15-20% QoQ in 3Q24F, outperforming peers.

Acer (2353 TT, NT\$42.55, NR). The firm expects PC shipments in 2H24F to grow HoH, and is positive on 2025F PC sales growth, due to a replacement cycle.

Micro-Star International (MSI; 2377 TT, NT\$169, OP). PC shipments, mainly gaming PCs, will grow by double digits YoY in 2024F.

ODMs

Quanta. Notebook shipments may be flat QoQ in 3Q24F, and 2024F notebook shipments will fall slightly YoY.

Compal Electronics (2324 TT, NT\$32, NR). Notebook shipments will be flat QoQ in 3Q24F, and flat YoY in 2024F. The firm expects PC shipments to grow YoY in 2025F driven by a commercial replacement cycle and AI PC launches.

Inventec. Notebook shipments are guided to be flat or moderately higher QoQ in 3Q24F, given a model transition period and a high 2Q24 base.

Wistron. Notebook shipments will grow by single digits QoQ in 3Q24F

Pegatron. Notebook shipments, mainly to Asustek, will grow by 15-20% QoQ in 3Q24F.

Components

Chicony Electronics (2385 TT, NT\$155, OP). Keyboard sales will grow slightly QoQ in 3Q24F, but grow by double digits YoY in 2024F. The firm expects further keyboard sales growth in 2025F.

Simplo. The firm expects growing notebook battery pack sales in the 3Q-4Q24F peak season, with MacBooks and AI notebooks the main drivers in 3Q24F and after 4Q24F, respectively.

Lite-On. The firm expects PC sales to grow by double digits QoQ in 3Q24F, fueled by spec upgrades for both power supplies and keyboards on AI PCs.

Chicony Power Technology (6412 TT, NT\$127.5, NR). The firm targets traditional notebook power sales to grow QoQ and YoY as the firm keeps gaining market share.

Primax Electronics (4915 TT, NT\$84.6, OP). The firm expects PC and gaming sales to be flat YoY in 3Q24F and grow HoH in 2H24F. Management noted recent rush orders for gaming.

AI PCs – AI PC will boost replacement demand in 2025F

Asustek. The AI PC penetration rate will be limited in 2024F, and expand to 60% by 2026F. Asustek targets a 25% market share for AI PCs.

Acer. The firm expects AI PCs, with over 40 trillion operations per second (TOPS) performance, will account for 1-2% of the PC shipments in 3Q24F, and be over 40% by 3Q25F.

Smartphones

Apple iPhone 16 supply chain a key spotlight in 2H24F

Samsung (KR). The firm expects smartphone demand to grow YoY in 2H24F with increasing demand for premium products.

Mediatek (2454 TT, NT\$1,155, N). The firm expects mobile shipments to be flat QoQ in 3Q24F. Flagship AP sales will grow by more than 50% in 2024F.

Largan Precision. Management expects pull-in demand from clients to increase MoM from July, and the firm’s recent July sales growth announcement of 34% MoM proves the trend. Largan also expects a more significant uptick in August, although visibility for September is presently limited. Capacity utilization has begun to rise in 3Q24F, as production of some high-spec products requires longer lead times, to prepare for complex processes.

ZDT (4958 TT, NT\$119, N). The firm expects pull-in demand for new handsets to grow sales by 10-20% YoY.

Win Semiconductors (3105 TT, NT\$131, OP). The firm guides overall sales to fall by high single digit QoQ in 3Q24F, due to slow pull-in from Android handset clients, but iPhone AP shipments to remain strong, driven by the peak season.

Advanced Wireless Semiconductor (8086 TT, NT\$102, OP). The firm gave conservative 2H24F guidance as Chinese handset makers have recently made some substantial adjustments to 2H24F orders.

Visual Photonics Epitaxy (2455 TT, NT\$134, OP). The firm’s microelectronics sales may decline QoQ in 3Q24F, as pull-in demand for AP from China handset makers has been muted.

Figure 1: Most hardware firms’ earnings were higher than our forecasts on better-than-expected margins

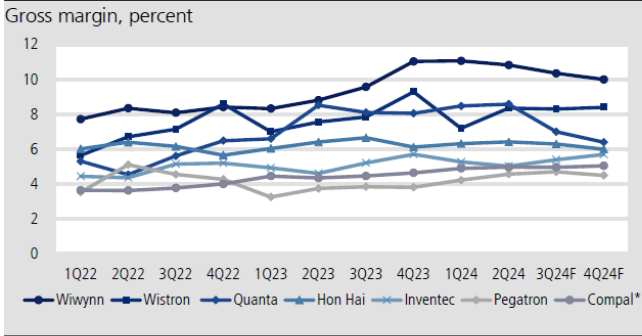
Sector	Ticker	Company	2Q24 financial result			2Q24 GM YoY trend			2Q24 GM QoQ trend		2Q24 OPM YoY trend		2Q24 OPM QoQ trend		EPS growth (%)		1H24 result		
			GM (%)	OPM (%)	EPS (NT\$)	Beat	Miss	Up	Flat	Down	Up	Down	Up	Down	Up	Flat	Down	YoY	QoQ
ODM	2317 TT	Hon Hai	6.4	2.9	2.53											6.2	59.2	4.12	24.5
	2356 TT	Inventec	5.0	1.7	0.50											28.8	66.2	0.8	25.0
	2382 TT	Quanta	8.6	4.9	3.92											49.4	25.4	7.05	63.6
	3231 TT	Wistron	8.4	3.6	1.55											35.4	25.2	2.79	128.7
	4938 TT	Pegatron	4.6	1.2	2.10											78.6	71.5	3.32	44.3
	6669 TT	Wiwynn	10.8	8.0	26.85											79.5	(0.3)	53.77	59.0
Motherboard & Graphic cards	2357 TT	Asustek	19.3	7.9	15.90											356.4	116.7	23.23	1804.1
	2376 TT	Gigabyte	10.8	5.2	4.66											232.8	46.3	7.84	160.5
	2377 TT	MSI	13.4	4.7	2.49											6.5	(15.6)	5.44	3.4
	3515 TT	Asrock	22.5	7.3	2.17											67.2	(14.2)	4.70	101.7
Thermal	3324 TT	Auras	28.4	16.0	7.24											160.5	60.6	11.75	95.8
	3017 TT	AVC	23.0	14.7	5.08											59.8	24.5	9.16	51.9
	2421 TT	Sunonwealth	28.3	11.4	1.39											(19.4)	16.1	2.58	(8.8)
Components	2059 TT	King Slides	69.6	61.0	15.29											103.9	5.1	29.84	142.6
	3533 TT	Lotes	52.3	34.8	20.07											73.5	8.0	38.64	71.6
	3526 TT	Alltop	52.5	32.2	4.33											27.4	41.4	7.39	55.6
	6781 TT	AES-KY	39.6	22.4	5.22											1.4	(3.6)	10.63	(13.9)
	8210 TT	Chenbro	25.3	16.2	3.77											81.9	24.2	6.80	195.7
	3376 TT	SZS	18.6	10.1	2.18											107.8	30.3	3.86	124.4
	6805 TT	Fositek	23.1	14.7	3.74											26.8	14.5	7.01	66.5
	2385 TT	Chicony	20.7	10.4	3.40											36.0	40.4	5.82	27.9
	2474 TT	Catcher	34.0	20.4	5.05											(23.4)	(24.9)	11.78	50.3
PCB & CCL	4915 TT	Primax	17.3	5.2	1.60											3.3	25.1	2.88	3.6
	6121 TT	Simplo	13.7	7.3	7.11											(3.4)	24.4	12.83	(8.9)
	2313 TT	Compeq	15.0	7.0	0.97											94.0	16.9	1.80	125.0
	2368 TT	GCE	31.6	23.0	3.09											83.9	23.6	5.59	118.4
	2383 TT	EMC	27.4	18.9	7.07											135.7	22.7	12.83	189.0
	3037 TT	Unimicron	13.2	3.2	1.05											(33.1)	(34.4)	2.65	(37.9)
	3189 TT	Kinsus	29.1	4.9	0.19											375.0	280.0	0.24	300.0
	4958 TT	ZDT	13.1	(2.0)	0.51											N.A.	(50.5)	1.54	250.0
	6213 TT	ITEQ	12.5	4.5	0.55											400.0	31.0	0.97	212.9
	8046 TT	Nanya PCB	2.3	(2.5)	0.18											(92.6)	N.A.	(0.06)	(101.0)
PA	2455 TT	VPEC	39.6	23.4	1.09											89.2	4.1	2.13	238.1
	3105 TT	Win Semi	27.2	10.1	1.14											N.A.	19.1	2.10	N.A.
	8086 TT	AWSC	25.9	18.4	1.06											10522.5	(2.7)	2.15	N.A.
Power	2301 TT	Lite-on	22.2	9.9	1.36											(25.9)	30.5	2.94	22.5
	2308 TT	Delta	34.1	12.7	3.83											22.1	72.6	8.47	40.0

Source: Company data; Bloomberg; KGI Research estimates

Gross & operating margins

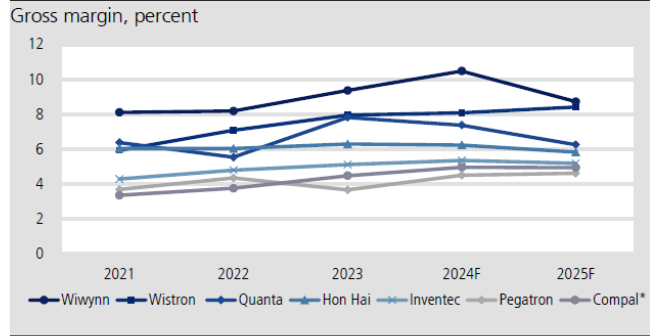
ODM

Figure 2: Rising AI server sales may dilute ODMs' gross margins in 2H24F



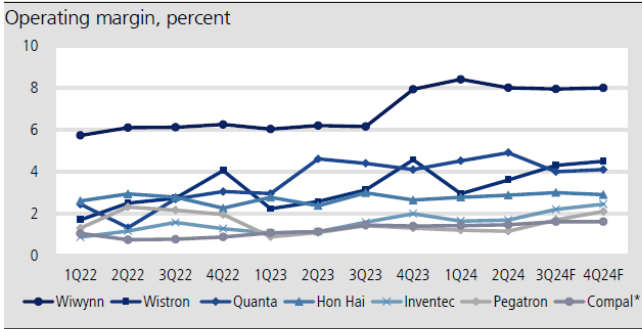
Source: Company data; Bloomberg; KGI Research estimates (*Bloomberg Consensus)

Figure 3: Wistron's gross margin is expected to improve YoY in 2024-25F; driven by server sales



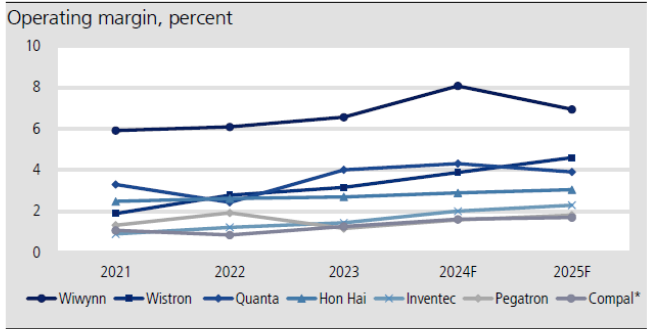
Source: Company data; Bloomberg; KGI Research estimates (*Bloomberg Consensus)

Figure 4: Wiyynn's operating margin outperformed peers in recent quarters.



Source: Company data; Bloomberg; KGI Research estimates (*Bloomberg Consensus)

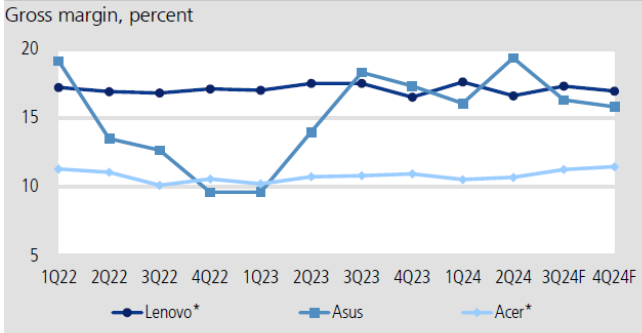
Figure 5: Most ODMs' operating margins have risen



Source: Company data; Bloomberg; KGI Research estimates (*Bloomberg Consensus)

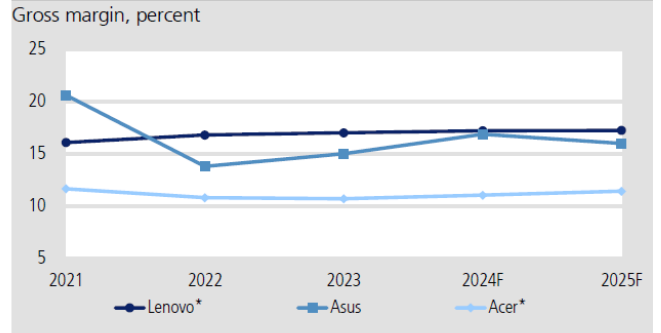
PC Brands

Figure 6: Asus' gross margin surged in 2Q24



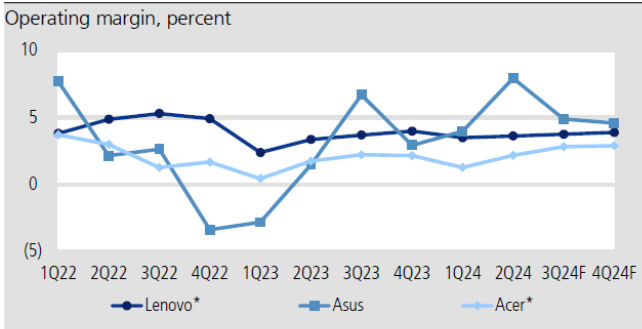
Source: Company data; Bloomberg; KGI Research estimates (*Bloomberg Consensus)

Figure 7: Lenovo's gross margin outperforms peers



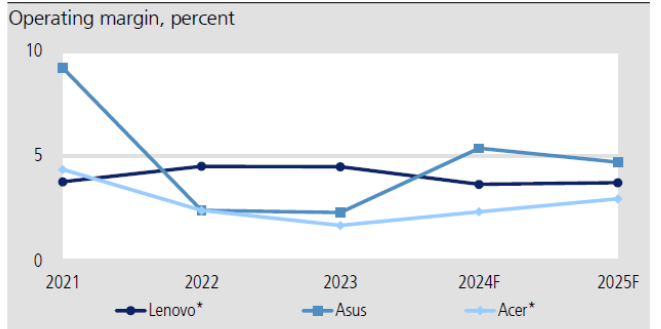
Source: Company data; Bloomberg; KGI Research estimates (*Bloomberg Consensus)

Figure 8: Asus' operating margin has grown since 1Q23



Source: Company data; Bloomberg; KGI Research estimates (*Bloomberg Consensus)

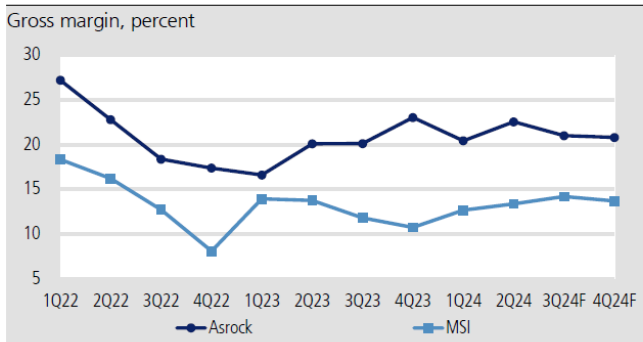
Figure 9: Asus' operating margin to outperform peers in 2024-25F



Source: Company data; Bloomberg; KGI Research estimates (*Bloomberg Consensus)

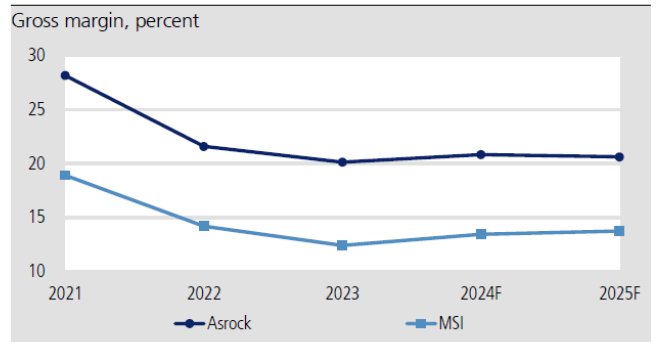
Brands – motherboards & graphics cards

Figure 10: MSI's gross margin will recover in 2024F



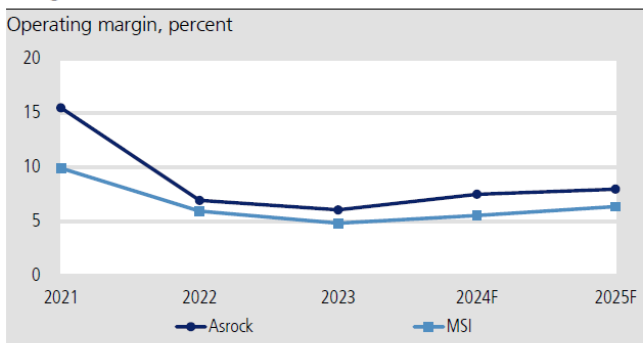
Source: Company data; KGI Research estimates

Figure 11: Asrock's (3515 TT, NT\$194.5, OP) gross margin outperforms MSI



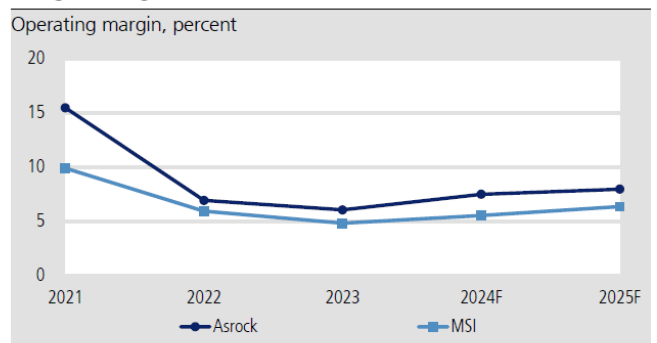
Source: Company data; KGI Research estimates

Figure 12: Motherboard & graphics card brands' operating margin will rise in 2H24F



Source: Company data; KGI Research estimates

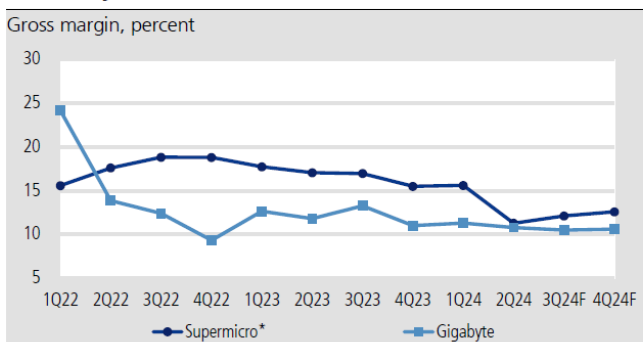
Figure 13: Motherboard & graphics card brands' operating margin will grow in 2024-25F



Source: Company data; KGI Research estimates

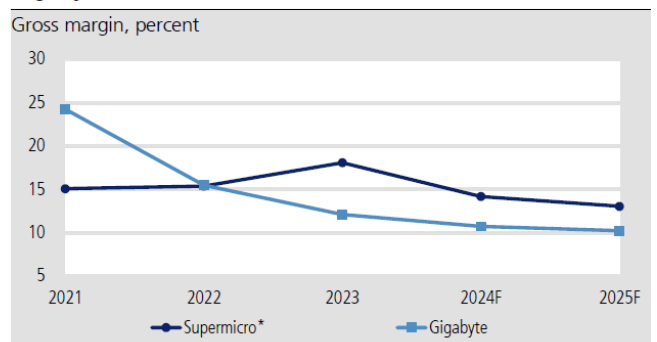
Brands – Server system ingegators

Figure 14: Server system integrators' gross margin being diluted by AI server sales



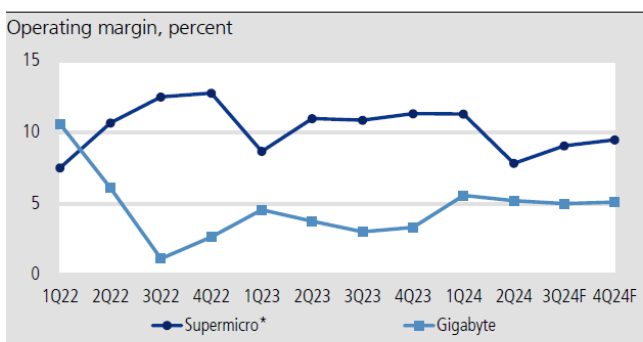
Source: Company data; Bloomberg; KGI Research estimates (*Bloomberg Consensus)

Figure 15: Super Micro's gross margin outperforms Gigabyte



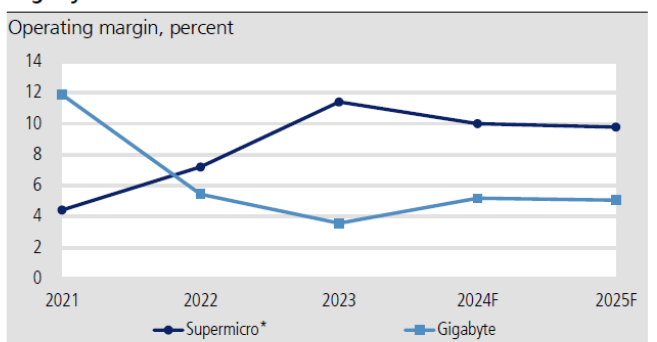
Source: Company data; Bloomberg; KGI Research estimates (*Bloomberg Consensus)

Figure 16: Super Micro's operating margin will recover in 2H24F



Source: Company data; Bloomberg; KGI Research estimates (*Bloomberg Consensus)

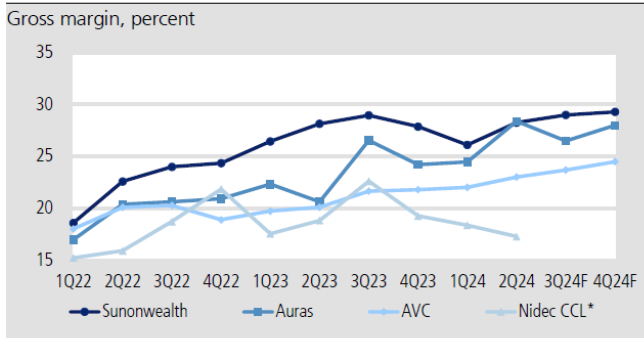
Figure 17: Super Micro's operating margin outperforms Gigabyte



Source: Company data; Bloomberg; KGI Research estimates (*Bloomberg Consensus)

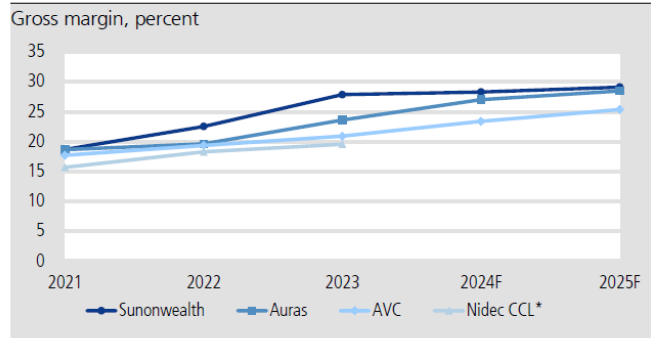
Thermal sector

Figure 18: Sunonwealth's gross margin outperformed thermal sector



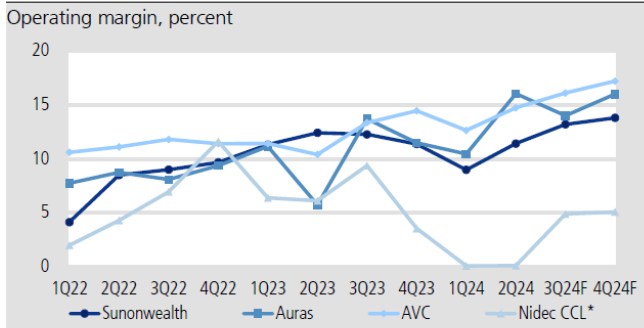
Source: Company data; Bloomberg; KGI Research estimates (*Bloomberg Consensus)

Figure 19: Auras' gross margin will keep expanding driven by liquid cooling sales



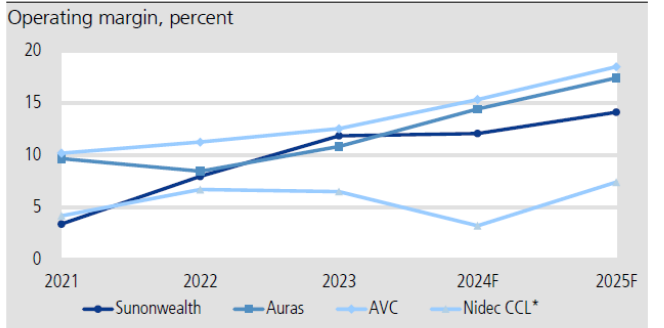
Source: Company data; Bloomberg; KGI Research estimates (*Bloomberg Consensus)

Figure 20: AVC's operating margin is relatively stable compared to peers



Source: Company data; Bloomberg; KGI Research estimates (*Bloomberg Consensus)

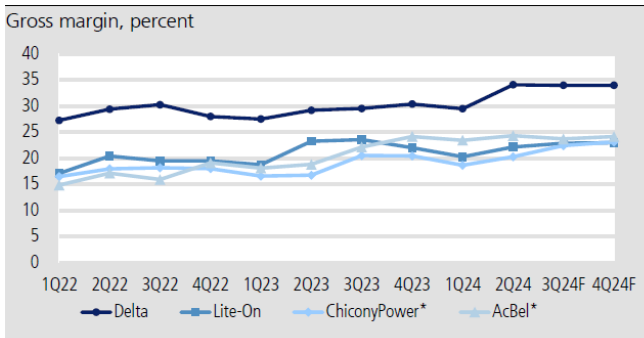
Figure 21: We expect AVC & Auras' operating margins to soar in 2024-25F



Source: Company data; Bloomberg; KGI Research estimates (*Bloomberg Consensus)

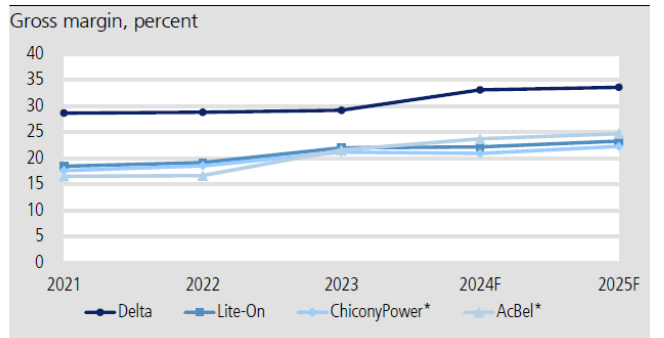
Power supplies

Figure 22: Delta's gross margin outperforms peers



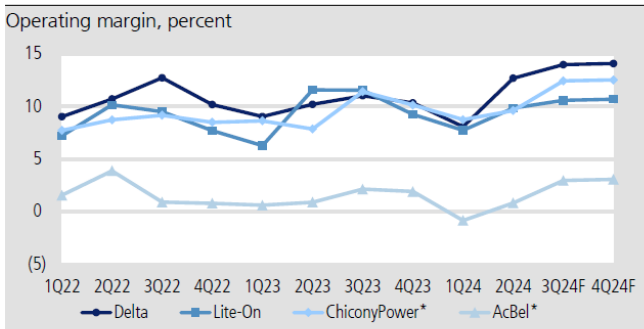
Source: Company data; Bloomberg; KGI Research estimates (*Bloomberg Consensus)

Figure 23: Continuing gross margin expansion for power plays



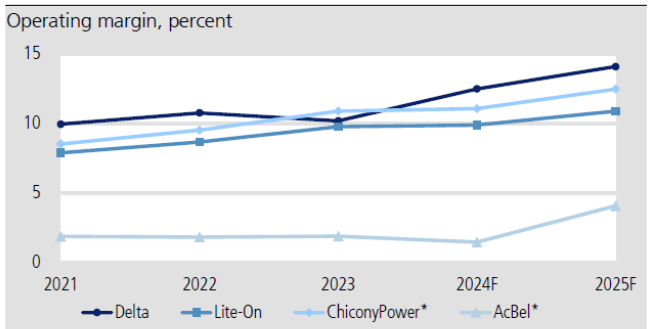
Source: Company data; Bloomberg; KGI Research estimates (*Bloomberg Consensus)

Figure 24: Expect power plays' operating margin to rebound from a trough in 1Q24



Source: Company data; Bloomberg; KGI Research estimates (*Bloomberg Consensus)

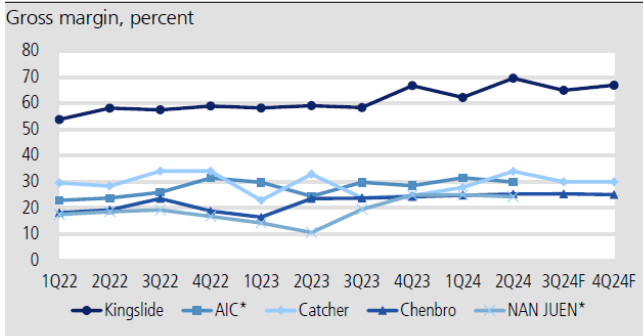
Figure 25: We expect power plays' operating margins to expand in 2025F



Source: Company data; Bloomberg; KGI Research estimates (*Bloomberg Consensus)

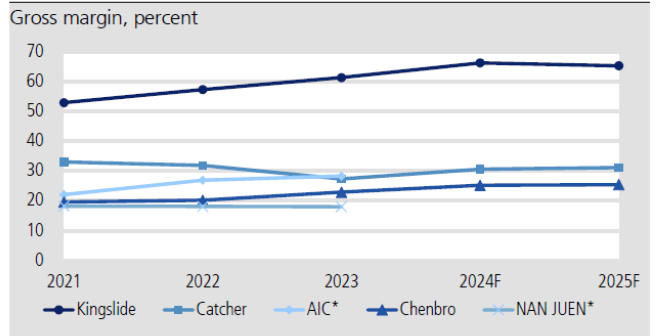
Mechanical parts (chassis / rail kits)

Figure 26: Kingslide's gross margin outperformed mechanical parts peers



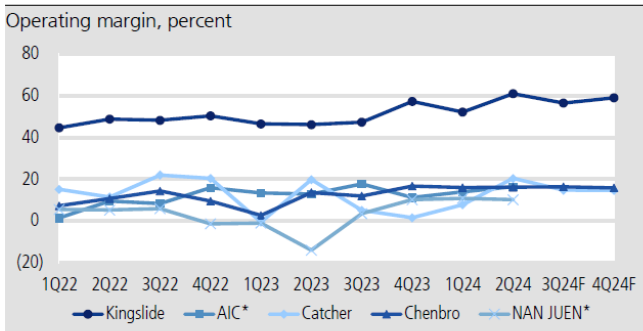
Source: Company data; Bloomberg; KGI Research estimates (*Bloomberg Consensus)

Figure 27: Most mechanical parts plays will see gross margin rise in 2024-25F



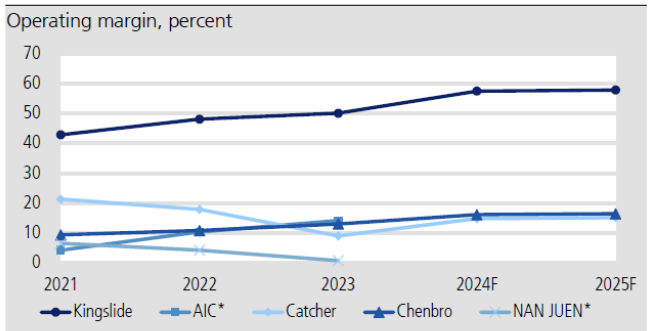
Source: Company data; Bloomberg; KGI Research estimates (*Bloomberg Consensus)

Figure 28: We expect Chenbro's operating margin to be relatively stable in the near-to-medium term



Source: Company data; Bloomberg; KGI Research estimates (*Bloomberg Consensus)

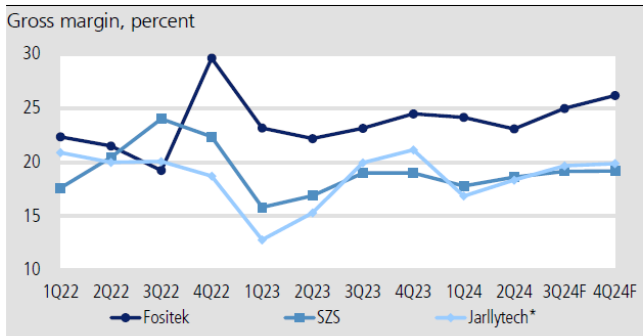
Figure 29: AI server sales growth boosting King Slide & Chenbro's operating margins



Source: Company data; Bloomberg; KGI Research estimates (*Bloomberg Consensus)

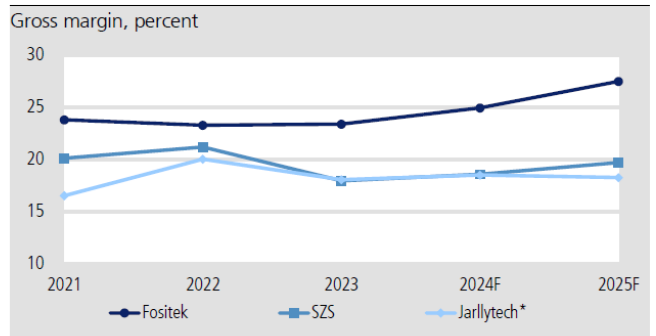
Hinges

Figure 30: Fositek's gross margin will grow QoQ in 3Q-4Q24F



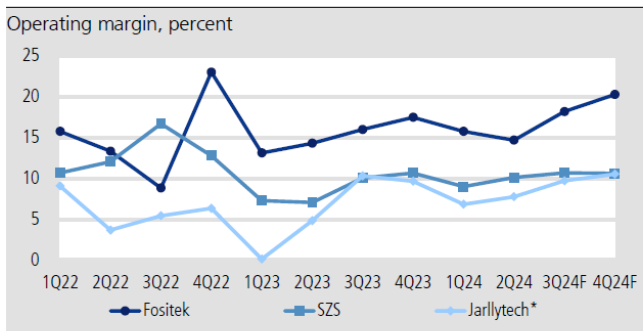
Source: Company data; Bloomberg; KGI Research estimates (*Bloomberg Consensus)

Figure 31: Fositek's gross margin outperforms peers



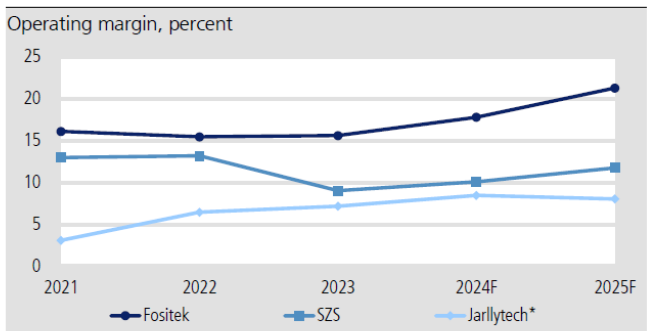
Source: Company data; Bloomberg; KGI Research estimates (*Bloomberg Consensus)

Figure 32: Fositek's operating margin will widen more than industry peers in the near-to-medium term



Source: Company data; Bloomberg; KGI Research estimates (*Bloomberg Consensus)

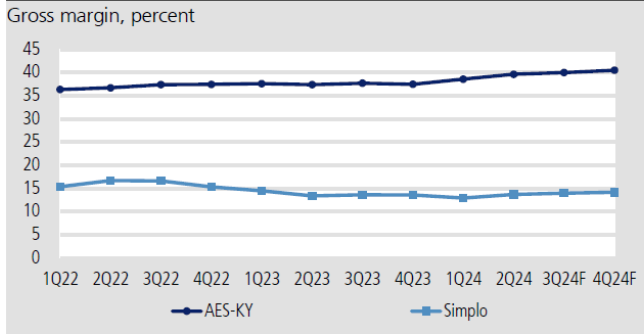
Figure 33: Hinge manufacturers' operating margin will grow YoY in 2024-25F



Source: Company data; Bloomberg; KGI Research estimates (*Bloomberg Consensus)

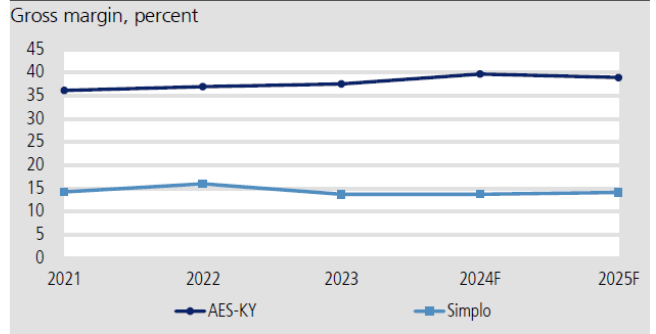
Battery packs

Figure 34: AES-KY's (6781 TT, NT\$502, OP) gross margin outperforms Simplo's on a higher non-3C sales weighting



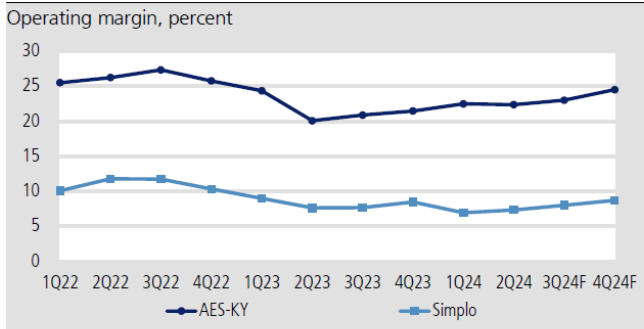
Source: Company data; Bloomberg; KGI Research estimates (*Bloomberg Consensus)

Figure 35: AES' gross margin has improved recently due to BBU sales growth



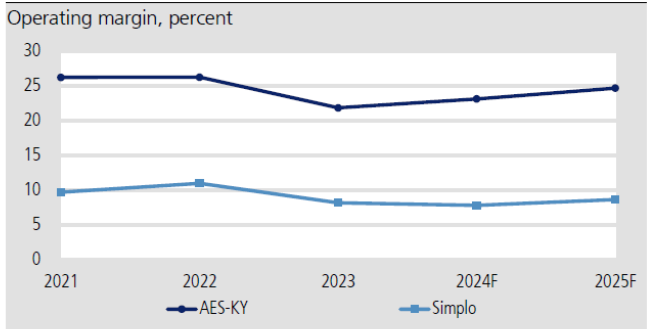
Source: Company data; Bloomberg; KGI Research estimates (*Bloomberg Consensus)

Figure 36: Simplo's operating margin recover from 1Q24's trough



Source: Company data; Bloomberg; KGI Research estimates (*Bloomberg Consensus)

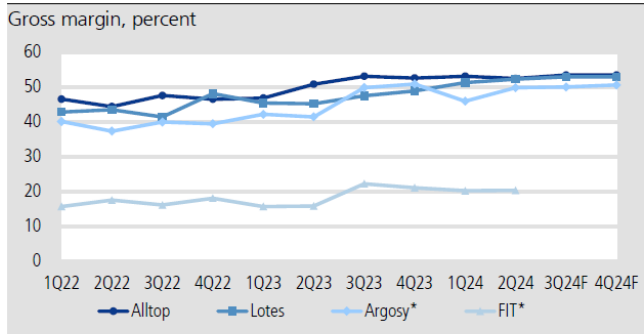
Figure 37: Operating margin expansion for battery pack plays in 2024-25F



Source: Company data; Bloomberg; KGI Research estimates (*Bloomberg Consensus)

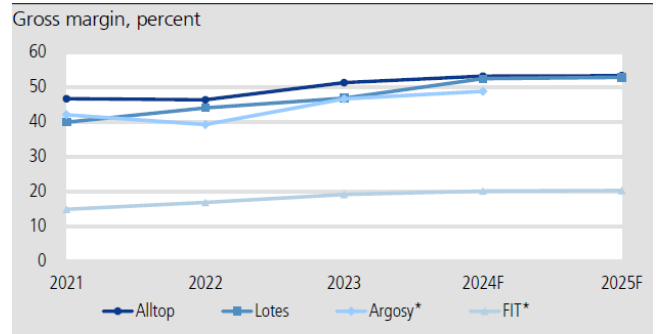
Connectors

Figure 38: We expect most connector plays' gross margins to stay close to 45% in the near-to-medium term



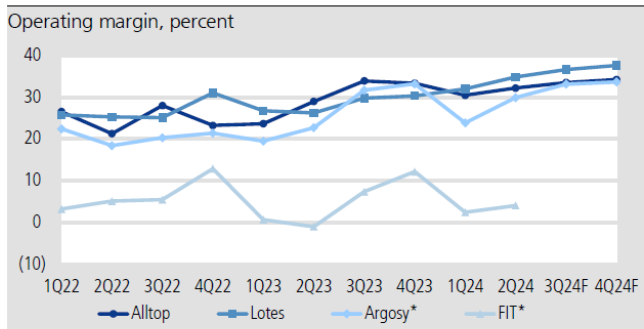
Source: Company data; Bloomberg; KGI Research estimates (*Bloomberg Consensus)

Figure 39: Connector plays' gross margin keep improving



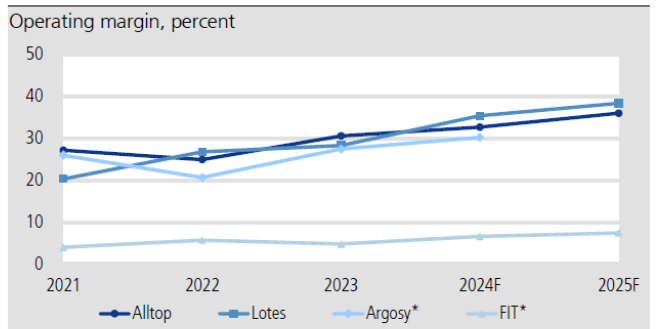
Source: Company data; Bloomberg; KGI Research estimates (*Bloomberg Consensus)

Figure 40: Most connector plays' operating margins keep improving



Source: Company data; Bloomberg; KGI Research estimates (*Bloomberg Consensus)

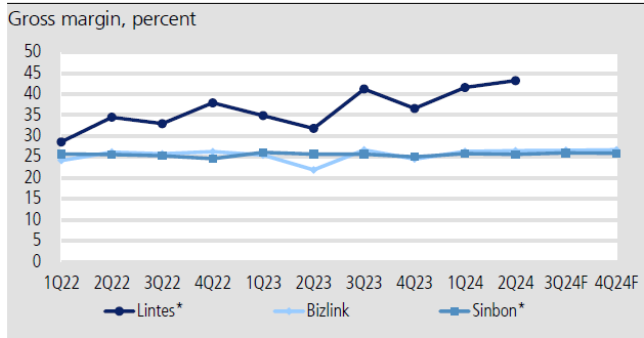
Figure 41: Lotes' operating margin will exceed peers in 2024-25F



Source: Company data; Bloomberg; KGI Research estimates (*Bloomberg Consensus)

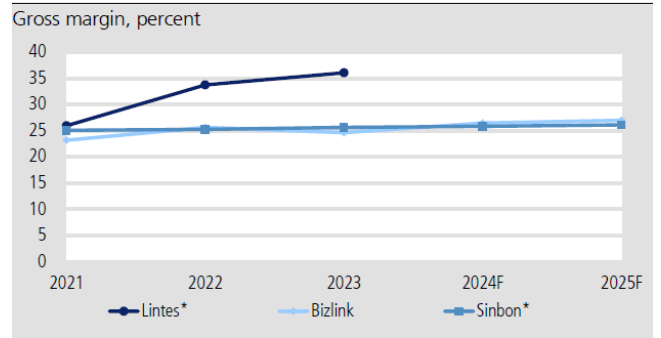
Cables

Figure 42: Bizlink and Sinbon's (3Q23 TT, NT\$298.5, OP) gross margins are relatively stable with less seasonality



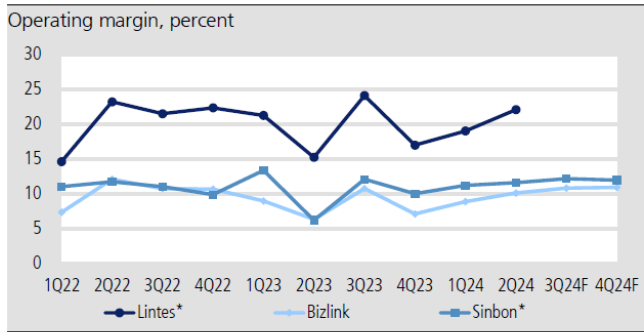
Source: Company data; Bloomberg; KGI Research estimates (*Bloomberg Consensus)

Figure 43: Lintes' (6715 TT, NT\$163, NR) gross margin improved significantly in 2022-23



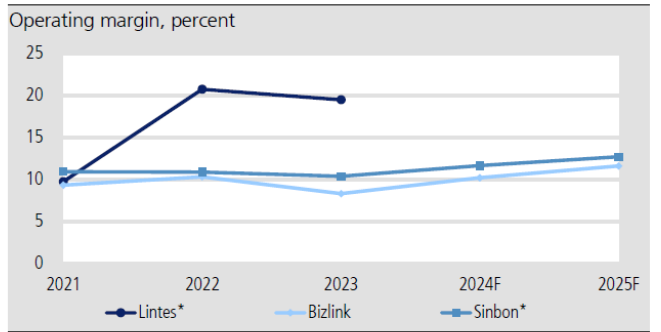
Source: Company data; Bloomberg; KGI Research estimates (*Bloomberg Consensus)

Figure 44: We expect cable plays' operating margins to recover from a trough in 4Q23



Source: Company data; Bloomberg; KGI Research estimates (*Bloomberg Consensus)

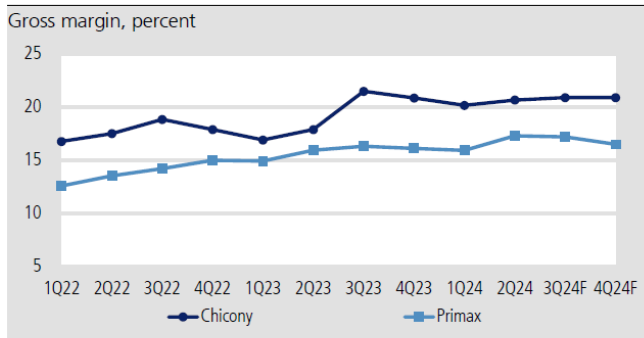
Figure 45: Cable plays' operating margins will keep growing in 2024-25F



Source: Company data; Bloomberg; KGI Research estimates (*Bloomberg Consensus)

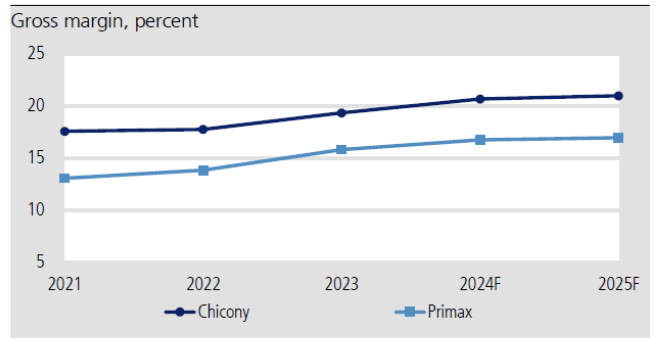
Peripherals

Figure 46: Chicony's gross margin outperforms Primax



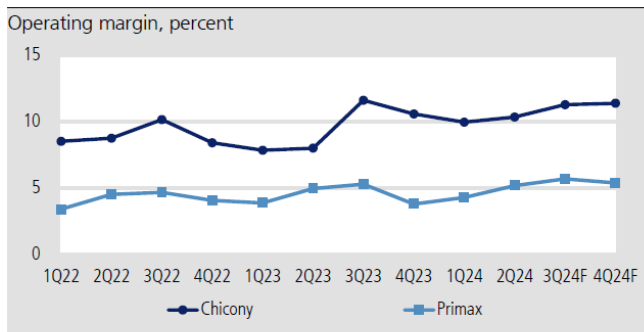
Source: Company data; Bloomberg; KGI Research estimates (*Bloomberg Consensus)

Figure 47: Peripheral manufacturers' gross margins will grow in 2024-25F, driven by product mix improvement



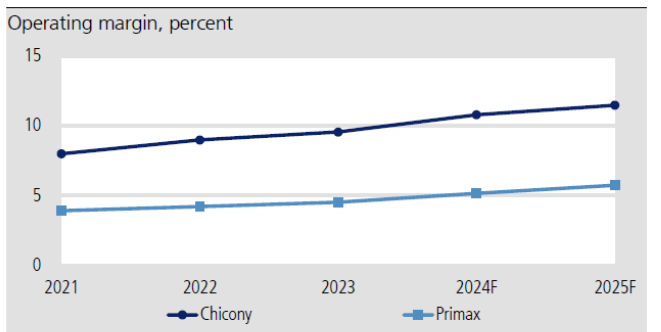
Source: Company data; Bloomberg; KGI Research estimates (*Bloomberg Consensus)

Figure 48: Chicony's operating margin outperforms Primax



Source: Company data; Bloomberg; KGI Research estimates (*Bloomberg Consensus)

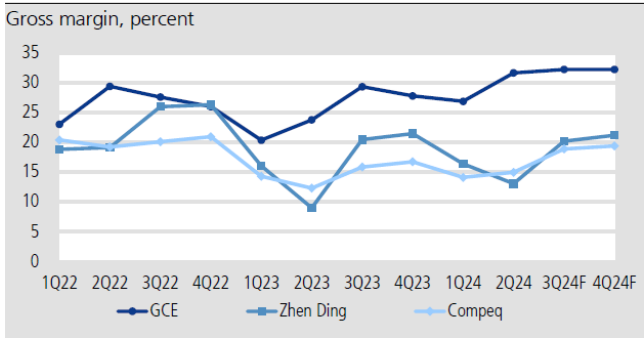
Figure 49: Peripheral manufacturers' operating margins will continue to grow in 2024-25F



Source: Company data; Bloomberg; KGI Research estimates (*Bloomberg Consensus)

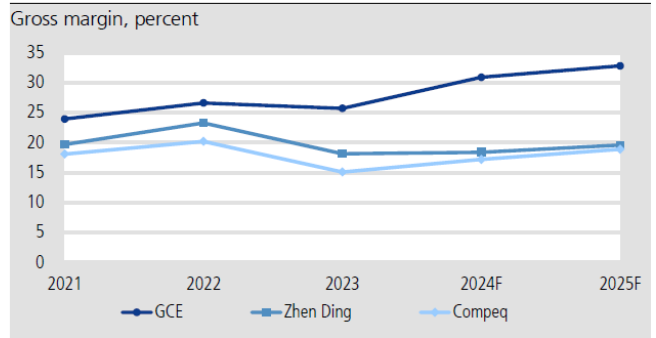
PCB

Figure 50: PCB plays' gross margins will grow QoQ in 3Q-4Q24F



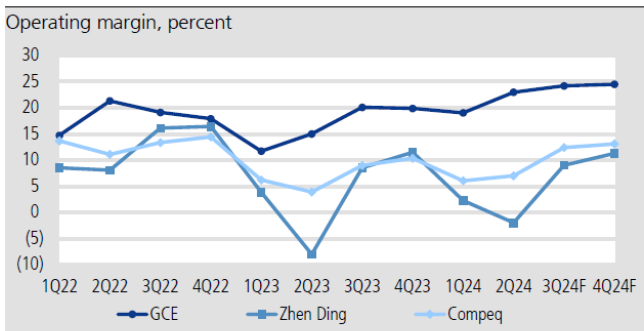
Source: Company data; Bloomberg; KGI Research estimates (*Bloomberg Consensus)

Figure 51: GCE's gross margin outperforms peers



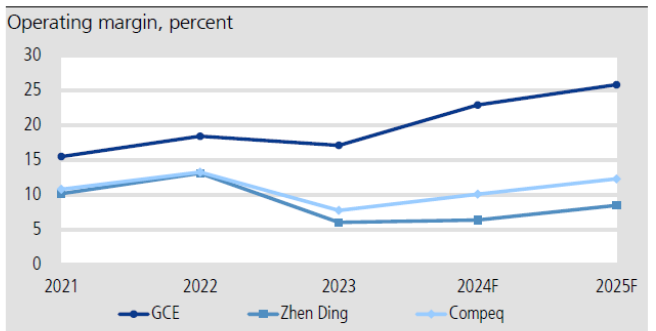
Source: Company data; Bloomberg; KGI Research estimates (*Bloomberg Consensus)

Figure 52: Expect operating margins to pick up for PCB plays in 2H24



Source: Company data; Bloomberg; KGI Research estimates (*Bloomberg Consensus)

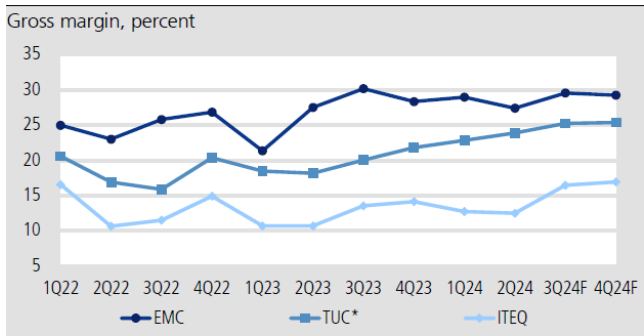
Figure 53: Operating margin to grow in 2024-25F



Source: Company data; Bloomberg; KGI Research estimates (*Bloomberg Consensus)

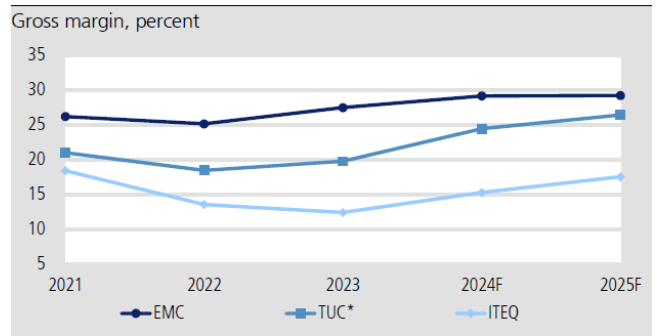
CCL

Figure 54: CCL manufacturers' gross margin will recover in 2H24F



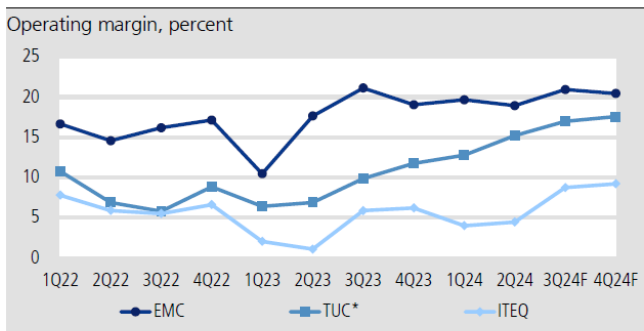
Source: Company data; Bloomberg; KGI Research estimates (*Bloomberg Consensus)

Figure 55: EMC's gross margin outperform peers



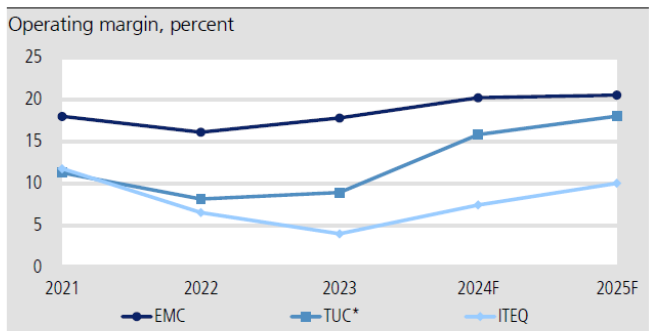
Source: Company data; Bloomberg; KGI Research estimates (*Bloomberg Consensus)

Figure 56: EMC's operating margin outperforms peers



Source: Company data; Bloomberg; KGI Research estimates (*Bloomberg Consensus)

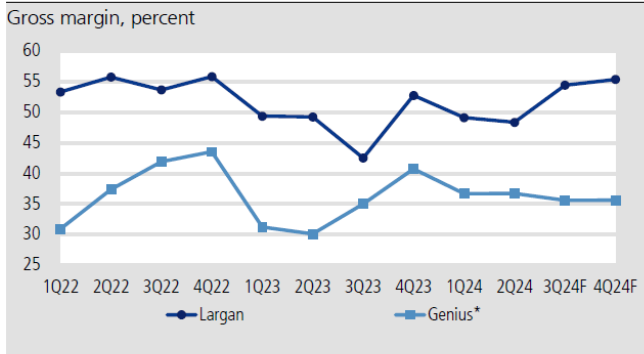
Figure 57: CCL manufacturers' operating margins will keep growing in 2024-2025F



Source: Company data; Bloomberg; KGI Research estimates (*Bloomberg Consensus)

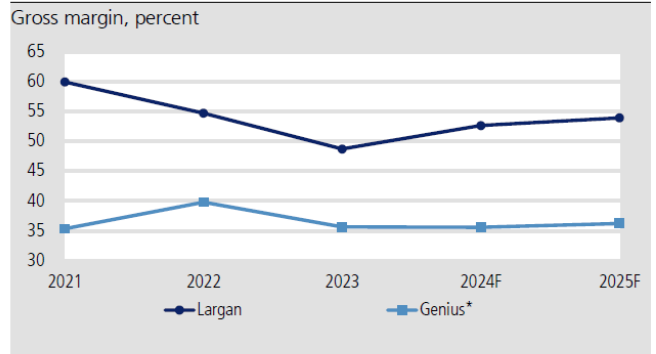
Lenses

Figure 58: Largan's gross margin significantly outperforms Genius Electronic Optical (GSEO; 3406, NT\$519, NR)



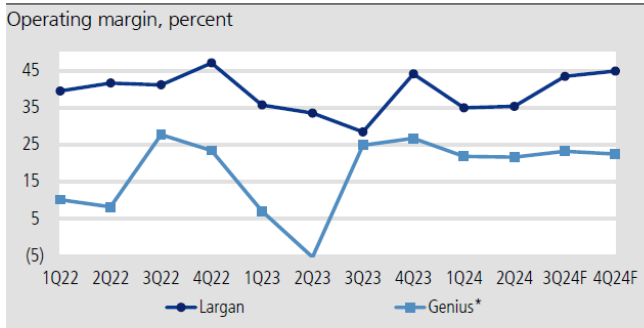
Source: Company data; Bloomberg; KGI Research estimates (*Bloomberg Consensus)

Figure 59: Largan is the global lens market leader



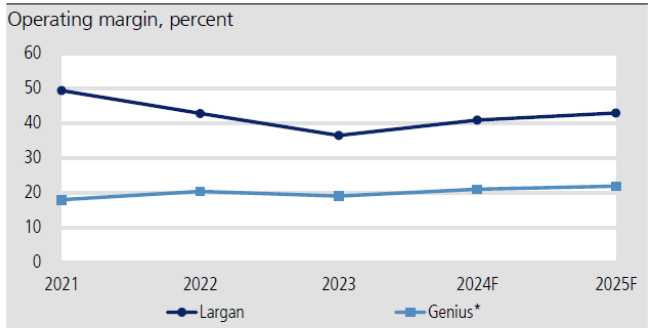
Source: Company data; Bloomberg; KGI Research estimates (*Bloomberg Consensus)

Figure 60: Largan's operating margin will grow QoQ in 3Q-4Q24F on peak season



Source: Company data; Bloomberg; KGI Research estimates (*Bloomberg Consensus)

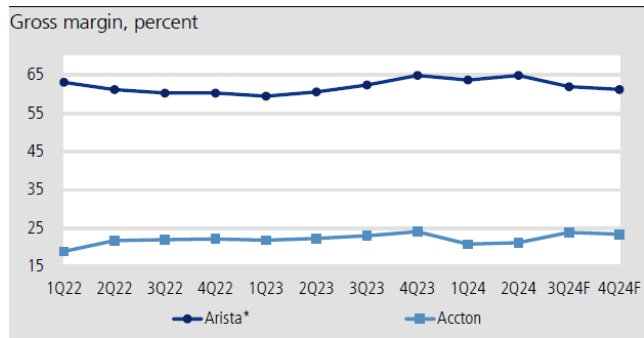
Figure 61: Lens manufacturers' operating margins will keep growing in 2024-25F



Source: Company data; Bloomberg; KGI Research estimates (*Bloomberg Consensus)

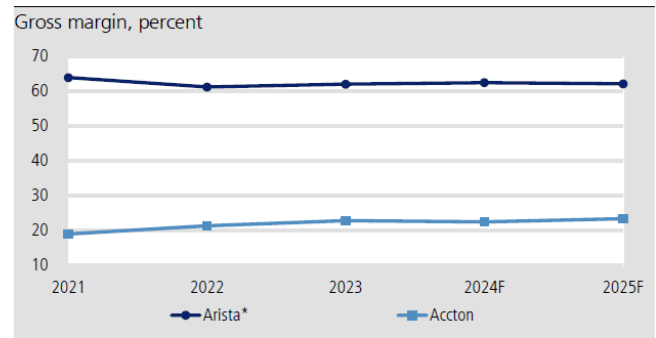
Networking

Figure 62: Arista's (US) gross margin outperform peers



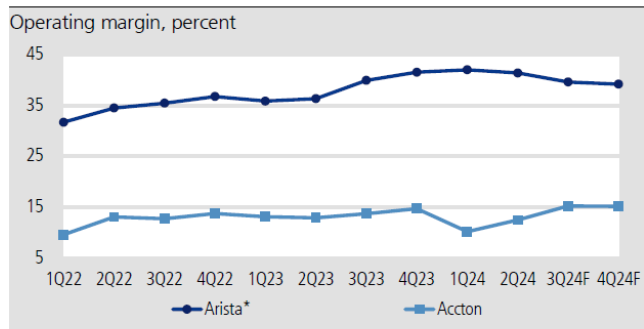
Source: Company data; Bloomberg; KGI Research estimates (*Bloomberg Consensus)

Figure 63: Arista is the global leader in the networking switch market



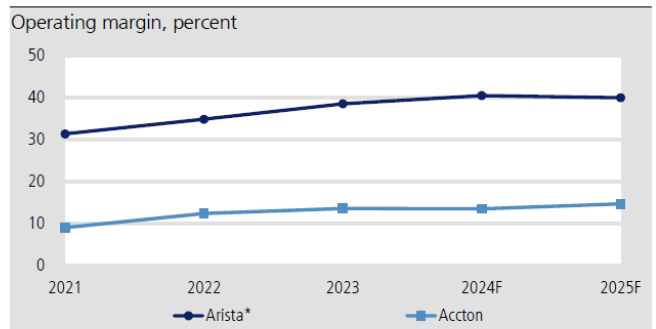
Source: Company data; Bloomberg; KGI Research estimates (*Bloomberg Consensus)

Figure 64: Accton's (2345 TT, NT\$515, OP) operating margin will grow in 2H24F



Source: Company data; Bloomberg; KGI Research estimates (*Bloomberg Consensus)

Figure 65: Switch manufacturers' operating margin will grow in 2024-25F



Source: Company data; Bloomberg; KGI Research estimates (*Bloomberg Consensus)

