MIRAE ASSET Securities

2H26 OUTLOOK REPORT

Electrical/Electronic Components (Overweight)

The next AI bottlenecks are emerging

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CONTENTS

[Summary] The next AI bottlenecks are emerging

Capital flows to AI bottlenecks

Capital flows where capacity is constrained

- As AI workloads shift from training to inference, token volumes and power consumption are rising nonlinearly, supporting a continued up-cycle in AI data center capex.
- HBM remains a critical bottleneck in the AI supply chain, but incremental capital is increasingly flowing toward the next set of constraints as the ecosystem expands.
- Bottlenecks are spreading beyond memory to include FC-BGA substrates, which underpin advanced packaging, and MLCCs, which support power delivery and signal transmission.
- Co-packaged optics (CPO) are also emerging as a potential bottleneck. Adoption is expected to accelerate as AI data centers pursue greater power efficiency, with deployment likely progressing from scale-out in 2026 to scale-up by 2028.

Entering a more structural up-cycle

- Increasing layer counts and larger form factors are extending lead times, causing supply additions to lag incremental demand and reinforcing the structural nature of the current cycle.
- With capacity effectively fully booked, the use of long-term supply agreements is expanding, supporting continued growth in both contracted volumes and pricing.
- Unlike past cycles characterized by short-lived, spot-driven price spikes, we expect a gradual but sustained increase in ASPs through 2028-30, supported by long-term contracts.

Top pick: Samsung Electro-Mechanics (SEMCO)

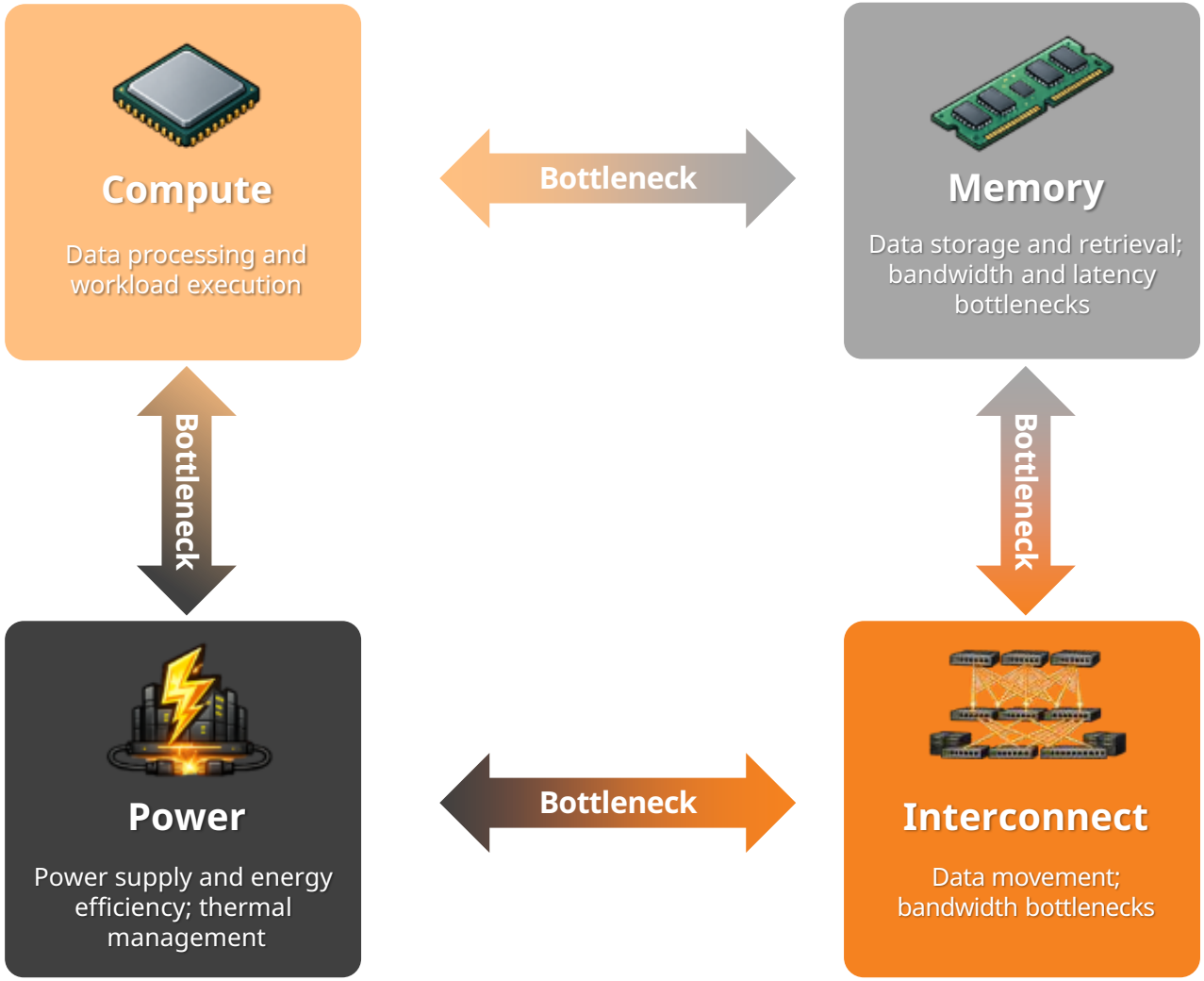
- SEMCO offers exposure to two key AI bottlenecks through its FC-BGA substrate business, where capacity is effectively fully booked, and its high-value-added MLCC portfolio.
- Long-term supply agreements provide greater certainty around capacity utilization and pricing, supporting more stable earnings and improved forecasting visibility.
- Improved earnings visibility underpins our move to a 2029 valuation framework and recent target price increase.

I

AI component bottlenecks

Four key hardware bottlenecks

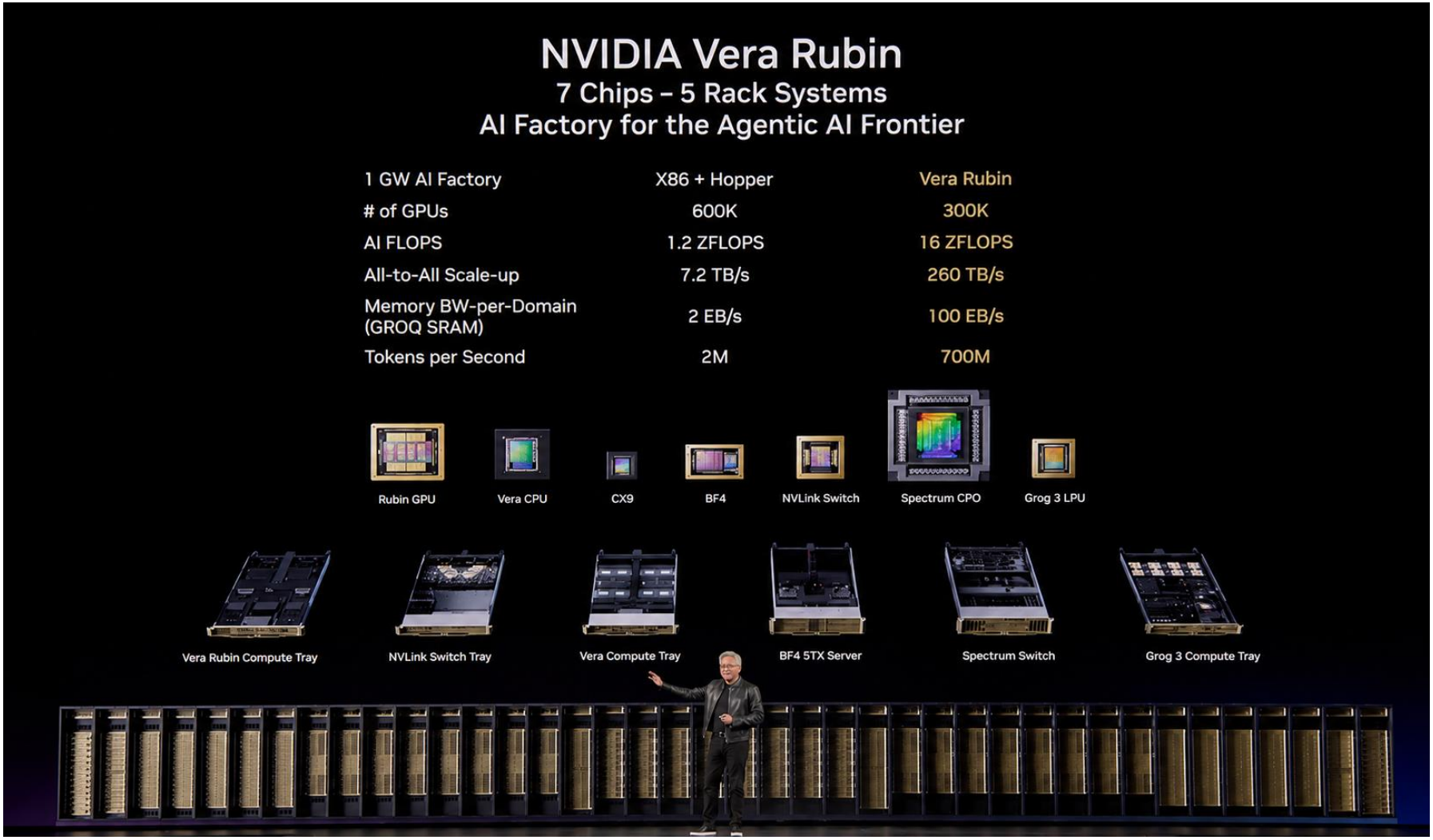
Compute, memory, interconnect, and power



Source: Nvidia, Mirae Asset Securities Research

Nvidia Vera Rubin architecture

Nvidia Vera Rubin architecture



Source: Nvidia, Mirae Asset Securities Research

Bottleneck analysis: 2026 vs. 2028

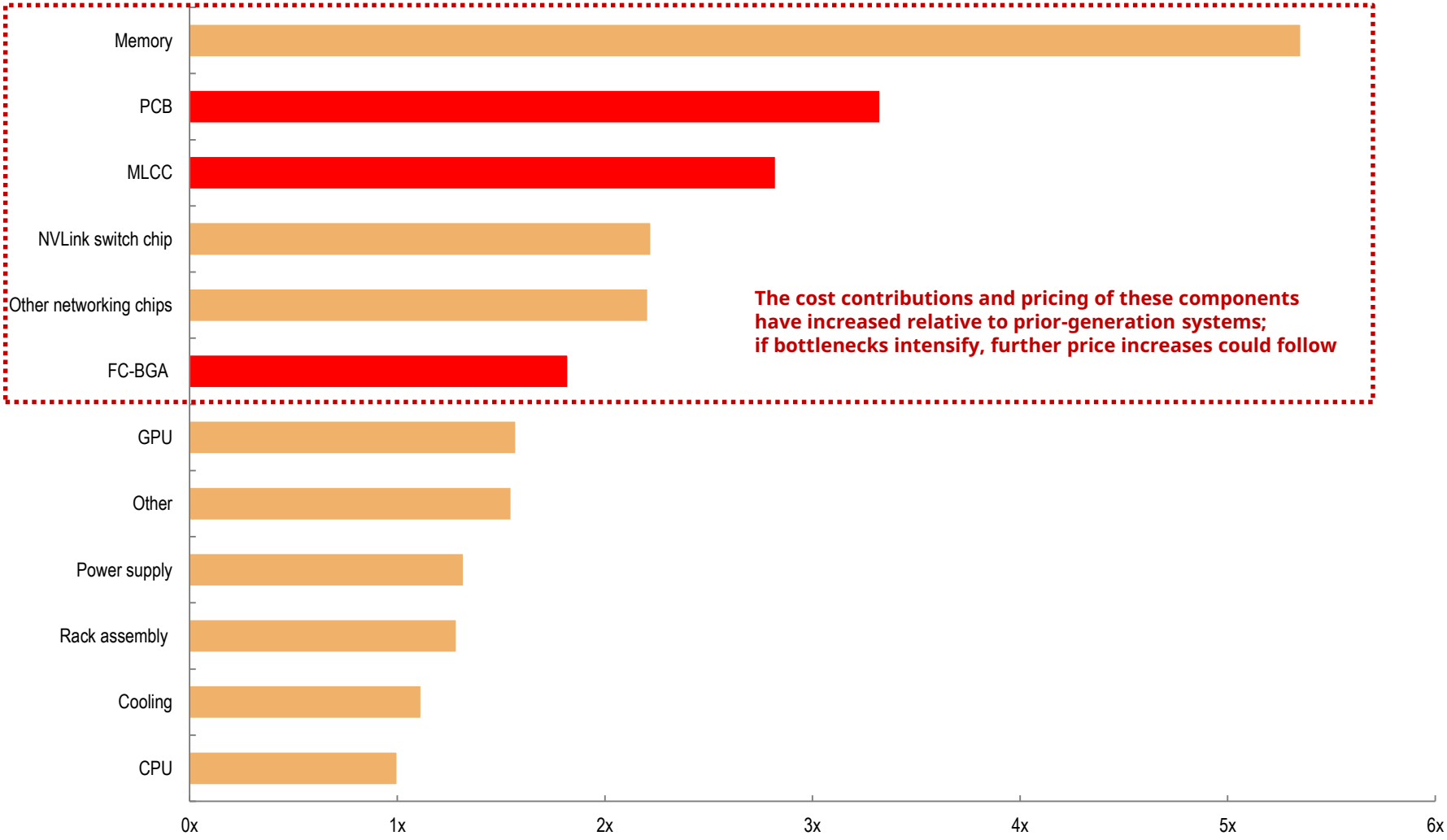
Evolution of bottleneck intensity by segment

Segment	2026	2027F	2028F	Key domestic companies
FC-BGA	Bottleneck	Bottleneck	Bottleneck	SEMCO, LG Innotek, Daeduck Electronics, Korea Circuit
HBM	Bottleneck	Bottleneck	Bottleneck	Samsung Electronics (SEC), SK Hynix
Memory substrates	Supply tightening	Bottleneck	Bottleneck	Simmtech, TLB, Korea Circuit, Haesung DS
CPO	Supply tightening	Bottleneck	Bottleneck	Sungho Electronics
MLCC	Bottleneck	Bottleneck	Bottleneck	SEMCO
800VDC PSU/BBU	Supply tightening	Bottleneck	Bottleneck	SoluM
High-voltage power semiconductors (SiC, GaN)	Supply tightening	Bottleneck	Bottleneck	None
Solder balls	Supply tightening	Bottleneck	Bottleneck	Duksan Hi-Metal
Lead frames	Supply tightening	Bottleneck	Bottleneck	Haesung DS
CDU/liquid cooling	Supply tightening	Bottleneck	Bottleneck	LG Electronics (LGE)

Source: Mirae Asset Securities Research

Nvidia Vera Rubin architecture

Nvidia VR200: BoM cost comparison vs. GB300 highlights growing importance of MLCCs and substrates



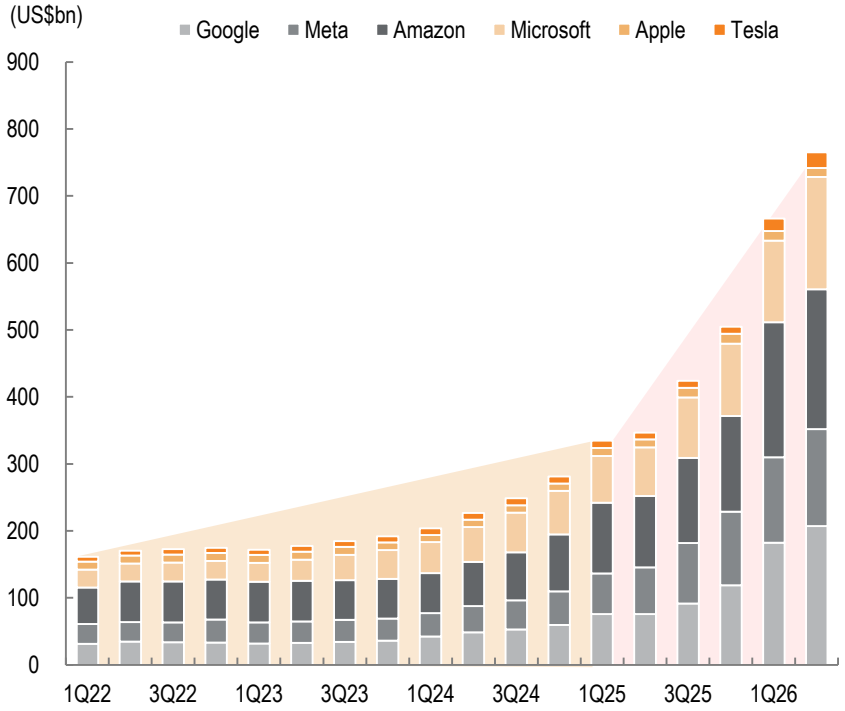
Source: Mirae Asset Securities Research

Key hardware bottlenecks

Inference-driven demand driving faster capex growth and broadening hardware bottlenecks

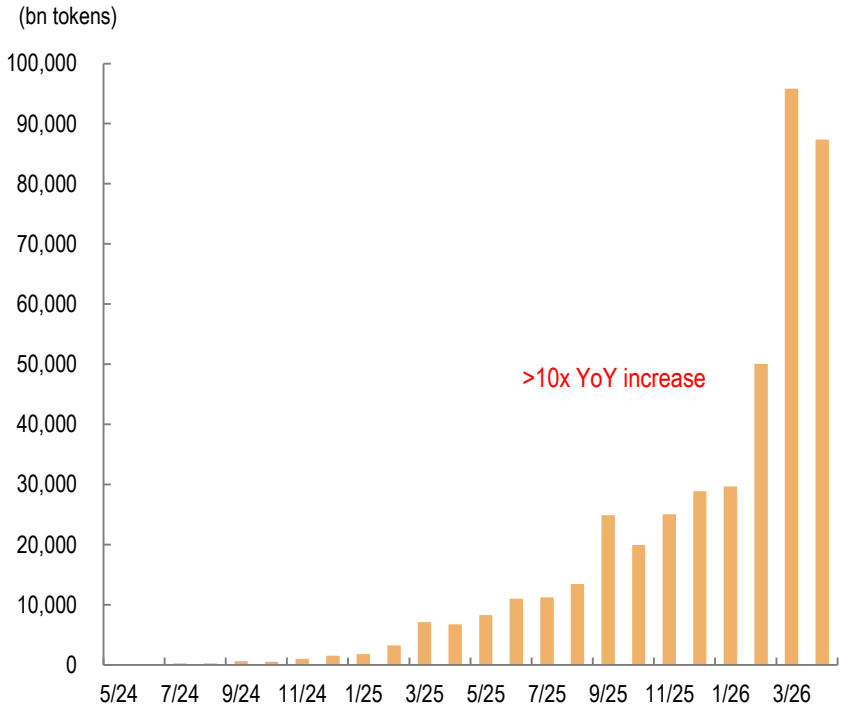
- The expansion of inference workloads is driving a structural increase in token throughput, supporting continued demand for AI accelerators.
- Big tech companies continue to raise AI data center capex, which serves as a leading indicator for component demand six to 12 months ahead.
- As compute demand surges, bottlenecks—and capital allocation—are progressively shifting beyond memory to substrates and power-related components.

Capex trends at big tech companies



Source: Bloomberg, Mirae Asset Securities Research

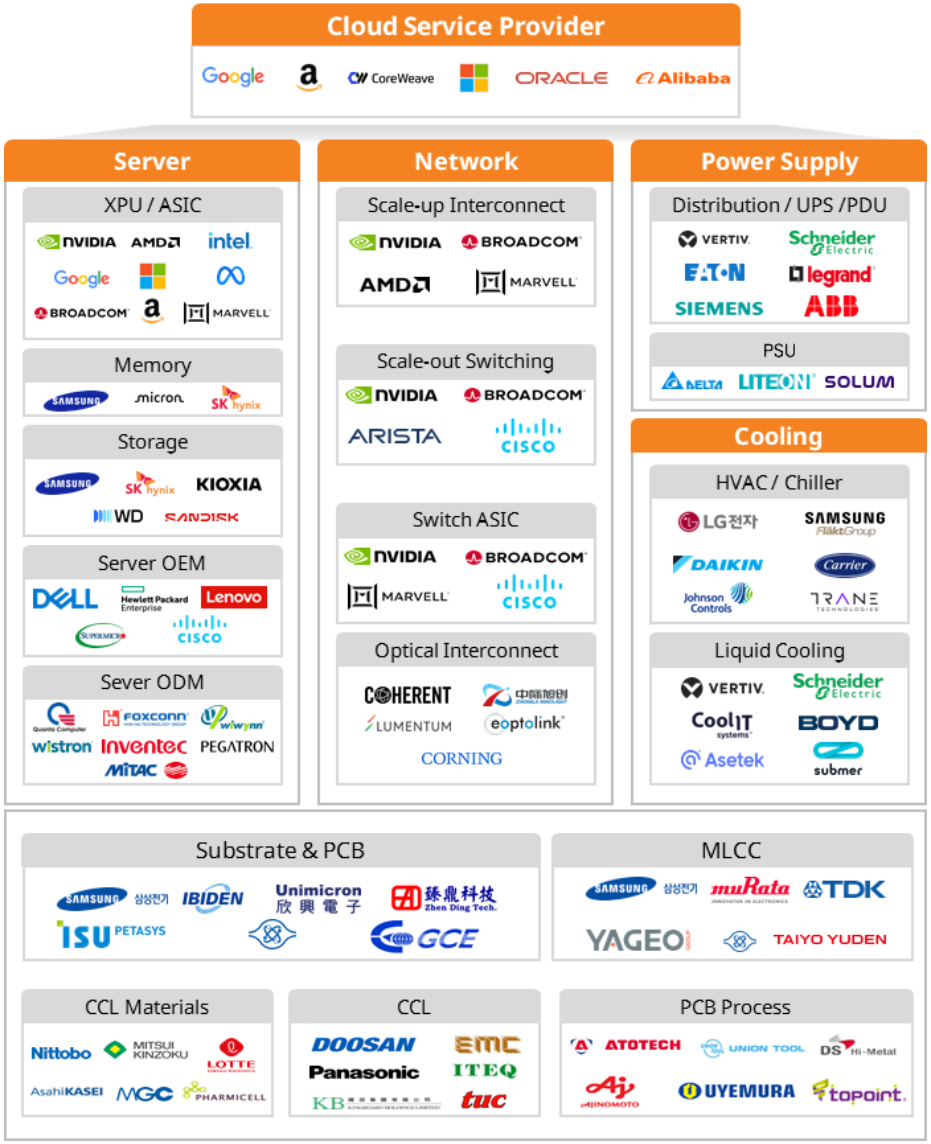
LLM token consumption



Source: OpenRouter, Mirae Asset Securities Research

AI data center supply chain

Value chain: Servers, networking, power, and cooling



Source: Mirae Asset Securities Research

Bottleneck-driven premiums: FC-BGA and MLCC suppliers

Valuation premiums supported by surging demand and constrained supply

Valuation comparison of FC-BGA suppliers

	Return (%)			P/E (x)				P/B (x)				EV/EBITDA (x)			
	1M	3M	YTD	25	26F	27F	28F	25	26F	27F	28F	25	26F	27F	28F
SEMCO	111.2	376.7	1,383.8	204.0	103.9	62.4	45.5	14.7	12.1	10.2	8.5	9.8	49.5	33.9	26.3
LG Innotek	76.0	323.4	646.1	56.6	35.6	29.1	25.2	4.5	4.2	3.7	3.3	4.0	12.8	11.7	10.8
Daeduck	25.2	138.9	891.6	164.4	41.3	29.7	23.0	8.5	7.4	6.3	5.1	14.3	22.8	17.8	14.6
Nan Ya PCB	7.0	113.6	738.5	301.8	71.8	31.9	18.1	12.8	11.3	9.4	7.2	16.7	33.8	18.3	12.3
Unimicron	18.5	128.5	812.7	291.1	64.1	31.8	20.4	14.7	12.7	9.9	7.4	13.7	33.8	19.0	13.5
Ibiden	18.8	133.1	538.2	175.1	130.1	77.6	53.6	10.4	9.3	8.4	7.5	5.1	39.3	28.3	20.0
Kinsus	55.9	160.6	787.7	207.4	75.3	36.3	20.8	10.3	8.8	7.4	5.6	8.4	26.3	19.7	13.3
Avg.	37.4	176.9	757.0	180.5	67.3	38.9	27.0	9.8	8.5	8.2	6.6	10.3	28.4	19.5	14.6

Source: Bloomberg, Mirae Asset Securities Research

Valuation comparison of global MLCC suppliers

	Return (%)			P/E (x)				P/B (x)				EV/EBITDA (x)			
	1M	3M	YTD	25	26F	27F	28F	25	26F	27F	28F	25	26F	27F	28F
SEMCO	111.2	376.7	1,383.8	204.0	103.9	62.4	45.5	14.7	12.1	10.2	8.5	9.8	49.5	33.9	26.3
Samwha Capacitor	77.6	133.0	353.5	96.7	-	-	-	4.4	-	-	-	7.0	-	-	-
Amotech	28.1	111.7	213.7	-	33.2	17.3	12.1	2.5	2.7	-	-	10.2	16.2	8.5	6.9
Murata	60.5	155.6	342.6	69.6	61.4	54.7	43.1	6.8	6.3	6.0	5.5	8.2	35.1	30.3	24.4
TDK	29.1	70.9	144.6	41.5	36.6	31.2	27.1	4.0	3.3	3.2	3.0	6.5	14.6	12.9	11.4
Yageo	112.3	219.5	564.8	72.1	46.0	32.1	23.9	9.9	8.3	6.9	5.6	13.4	31.4	22.7	17.1
Taiyo Yuden	171.9	343.1	643.7	669.2	139.0	93.8	60.8	7.1	6.6	6.6	6.1	7.1	35.2	28.3	22.7
Walsin	182.1	246.5	433.3	99.0	58.7	-	-	4.1	-	-	-	13.5	-	-	-
Avg.	96.6	207.1	510.0	178.9	68.4	48.6	35.4	6.7	6.5	6.6	5.7	9.5	30.3	22.8	18.2

Source: Bloomberg, Mirae Asset Securities Research

II

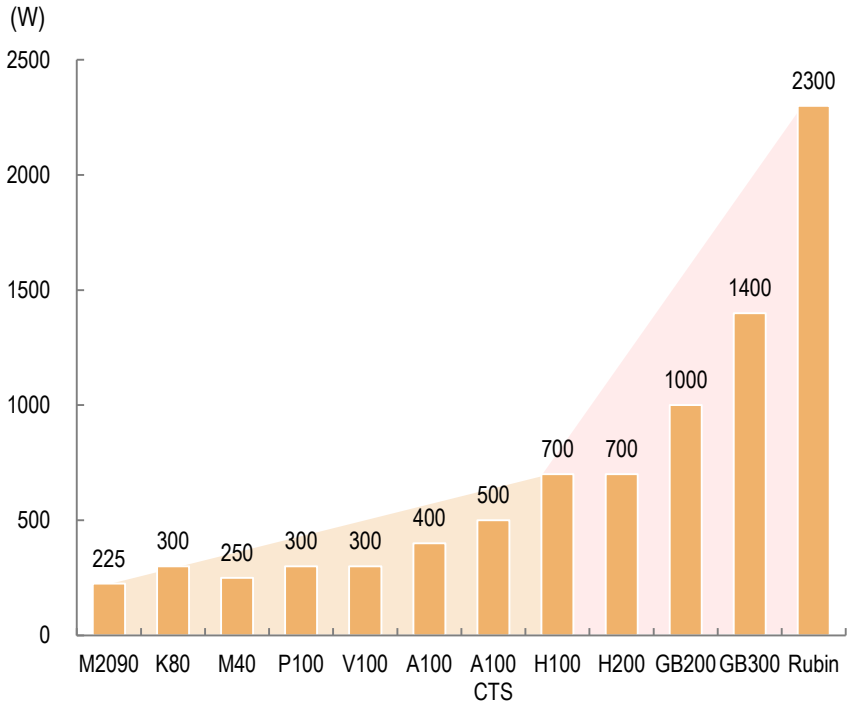
Substrates

FC-BGA package substrates

Rising TDP and die sizes driving simultaneous growth in FC-BGA area and layer counts

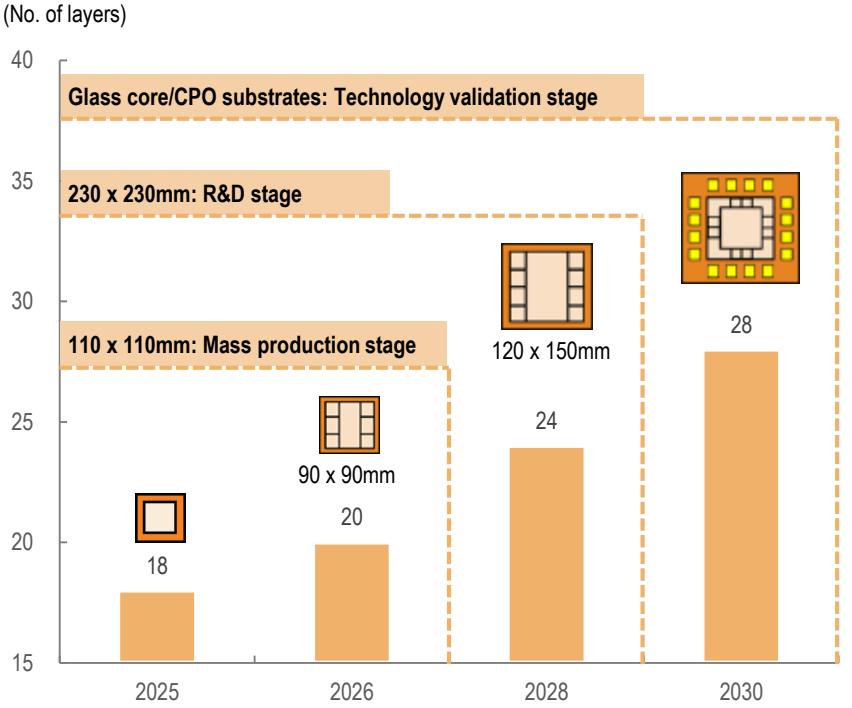
- The transition from Hopper to Blackwell to Rubin is accompanied by sharp increases in per-chip thermal design power (TDP), driving demand for larger package substrates with enhanced thermal performance.
- Road maps calling for higher ABF layer counts and larger areas point to a structural increase in substrate ASP.
- Supply remains constrained as larger form factors and higher layer counts increase manufacturing complexity and weigh on yields, causing capacity additions to lag demand growth.
- Stacking complexity is rising. Each additional FC-BGA layer can reduce yields by roughly 10%, making the business highly dependent on manufacturing expertise and process know-how.

Nvidia: Per-chip TDP



Notes: Figures for A100, H100, H200, GB200, and GB300 are based on Nvidia disclosures; other figures are based on our estimates.
Source: Nvidia, Mirae Asset Securities Research

ABF substrates (FC-BGA) layer count and area road map



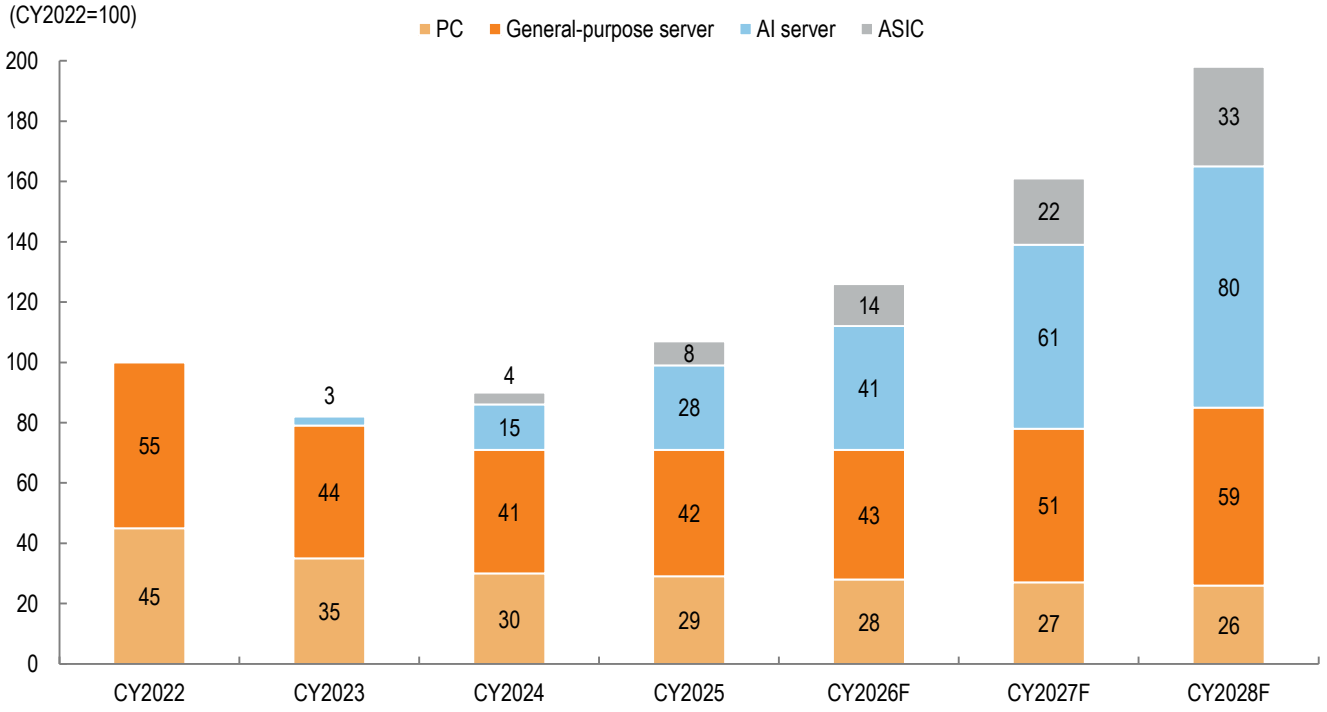
Source: Ibiden, Mirae Asset Securities Research

FC-BGA package substrates

FC-BGA market increasingly favors suppliers

- The product mix is shifting toward higher-value applications. At Ibiden, the AI server share of demand is expected to rise from 3% in 2023 to more than 57% by 2028.
- Pricing power is shifting to suppliers as incremental demand continues to outpace incremental capacity additions.
- For suppliers, a growing mix of high-value products directly supports margin expansion and a higher profitability profile.

Ibiden: FC-BGA demand outlook



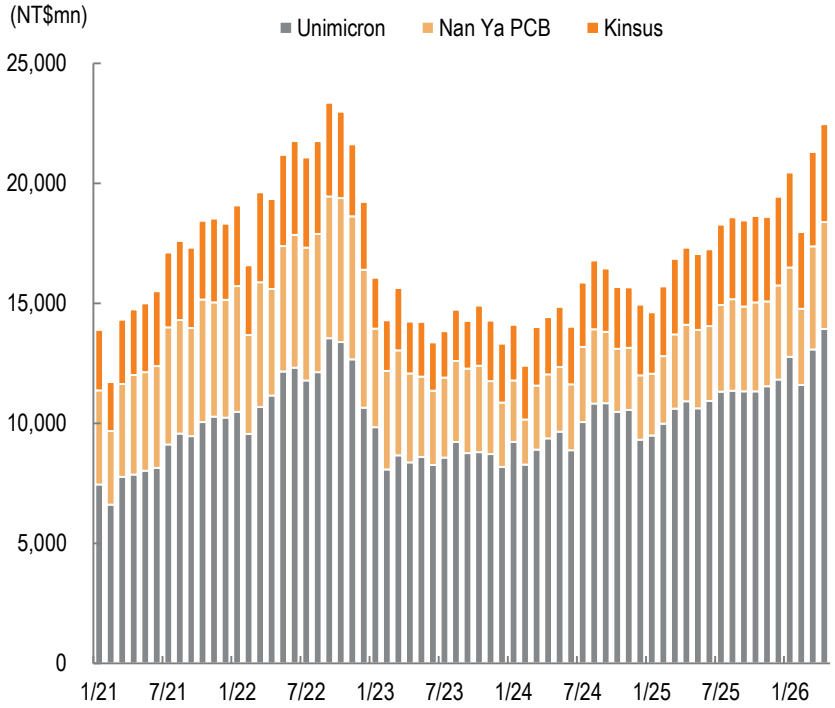
Source: Ibiden, Mirae Asset Securities Research

FC-BGA package substrates

High-end substrates running at full capacity; capacity at SEMCO is effectively fully booked

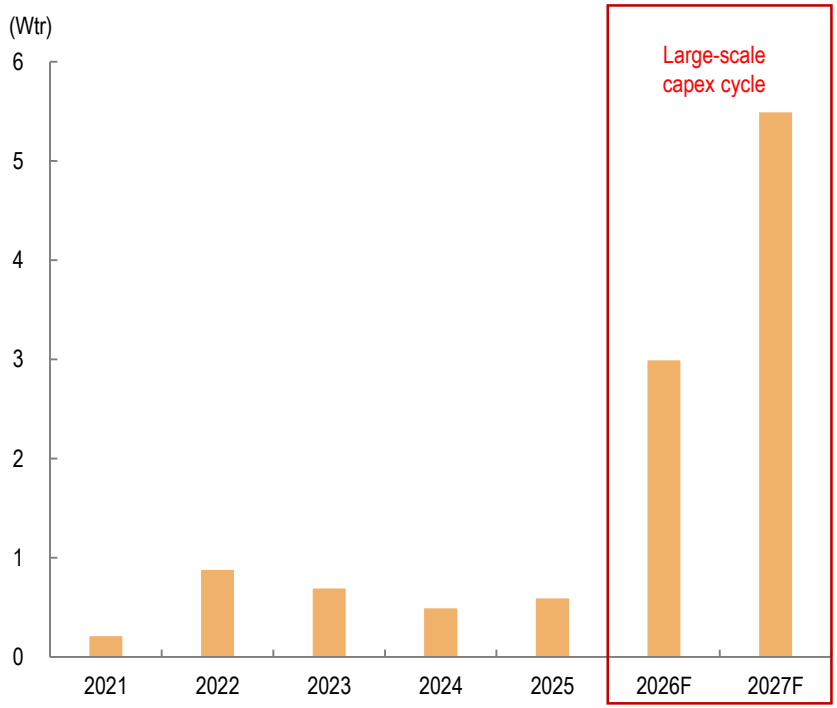
- Capacity utilization remains high across leading suppliers (90% at Unimicron, above 80% at Nan Ya PCB, and 80% at Ibiden). Combined revenue at the three Taiwanese substrate makers continues to trend higher.
- We estimate SEMCO's substrate-related capex at around W3tr for 2026 and W5tr for 2027.
- Capacity expansions and long-term supply agreements are helping to lock in volumes and pricing for 2028-30, improving earnings visibility.

Combined monthly revenue of three Taiwanese FC-BGA suppliers



Source: Mirae Asset Securities Research

SEMCO's FC-BGA capex outlook



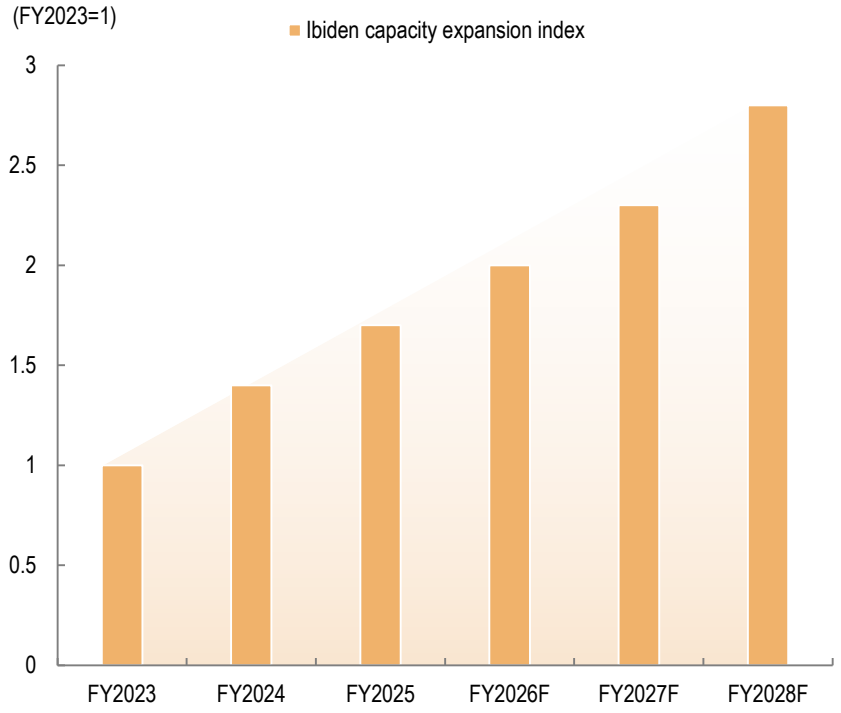
Source: Mirae Asset Securities Research

FC-BGA package substrates

Larger die sizes driving demand further up the value chain, including solder balls

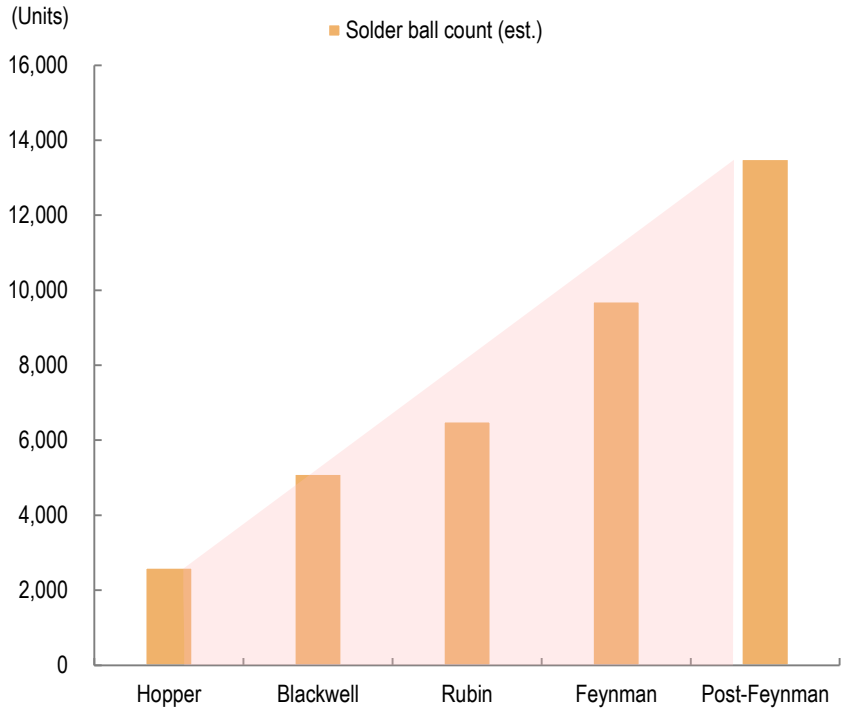
- Capacity expansion by industry leaders such as Ibiden, SEMCO, and LG Innotek is increasing FC-BGA capacity for AI GPU and ASIC applications.
- Larger die sizes and higher I/O pin counts directly increase solder ball usage.
- As AI-driven bottlenecks spread through the value chain, demand is extending to upstream materials and equipment suppliers.

Ibiden: Capacity expansion outlook



Source: Ibiden, Mirae Asset Securities Research

Estimated solder ball usage by Nvidia GPU generation



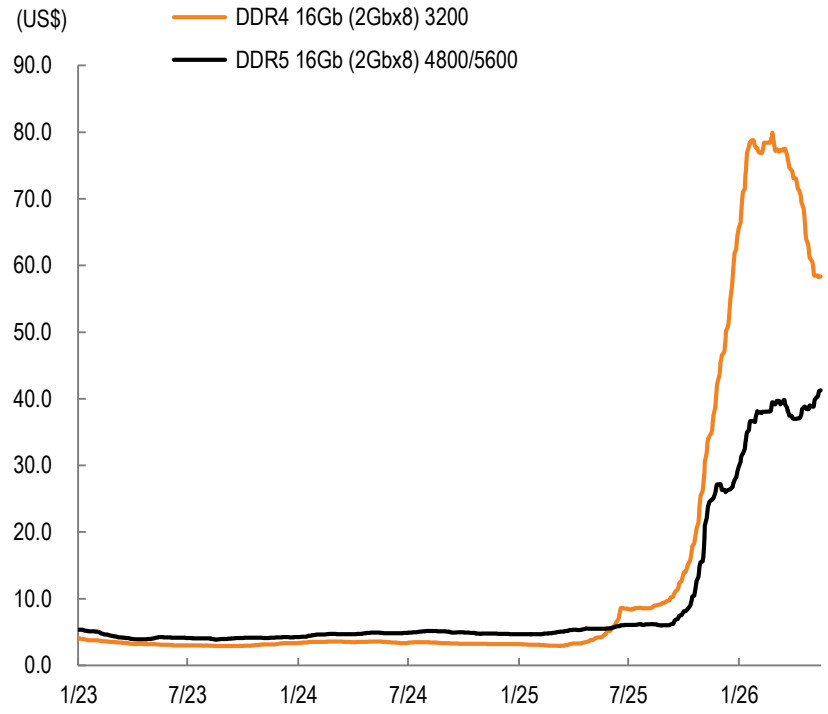
Source: Yole, Mirae Asset Securities Research

Memory module PCBs

DDR5 migration and AI servers are driving the memory substrate cycle

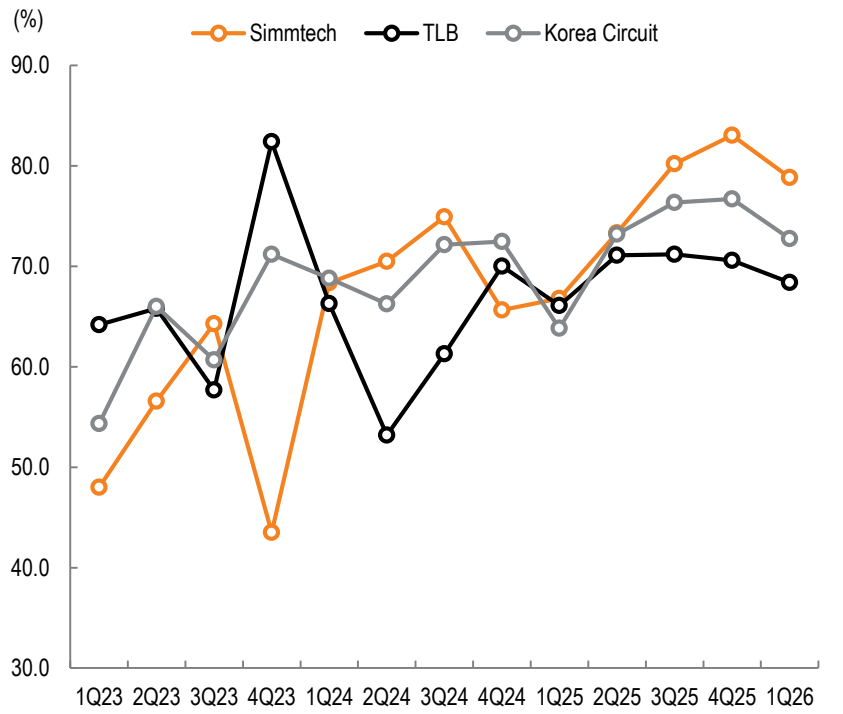
- DDR5 commands a structural price premium over DDR4, supporting a broader recovery in memory-related ASPs.
- Capacity utilization at the three major Korean memory substrate suppliers (Simmtech, TLB, and Korea Circuit) continues to trend higher.
- With supply tightness spreading beyond FC-BGA to memory module PCBs, bottlenecks are broadening across the substrate industry.

DDR4 vs DDR5 spot prices



Source: DRAMeXchange, Mirae Asset Securities Research

Utilization at Korea's three leading memory substrate suppliers



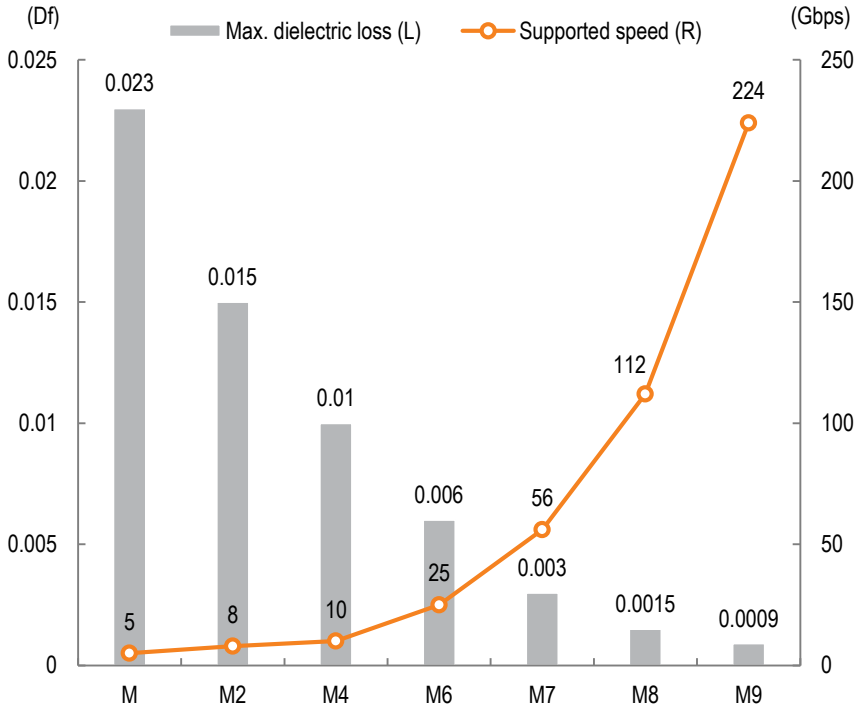
Source: DART, Mirae Asset Securities Research

CCL

Move to higher-grade CCL (M7 → M8.5)

- Demand for lower-loss, higher-frequency performance is driving adoption of higher-grade CCL materials, supporting wider pricing premiums.
- Demand for MLBs continues to rise as networking and server applications become increasingly complex, with Isu Petasys seeing growing adoption of 22- to 44-layer products.
- The specification upgrade cycle across the PCB value chain—from raw materials to CCL to MLBs—is supporting profitability for certain players.

CCL upgrade road map



Source: Panasonic, Mirae Asset Securities Research

Korean companies with CCL/MLB exposure

	Part	Hopper	Blackwell	GB200/GB300	VR NVL72
CCL	SXM/HPM	M6	M7	M7/M5	M8.5/M6
		EMC	Doosan Corp.	Doosan Corp.	Doosan Corp.
	UBB	M7	M7	-	-
		Doosan Corp.	Doosan Corp.	-	-
MLB	UBB	22L–28L	28L–30L	-	-
		Isu Petasys	Isu Petasys	-	-
	NVLink	-	-	22L	32L
		-	-	Isu Petasys	Isu Petasys
	Midplane	-	-	-	44L
		-	-	-	Isu Petasys
	Peripheral PCB	-	-	12L – 14L	20L
		-	-	-	Isu Petasys

Source: SemiAnalysis, Mirae Asset Securities Research

Glass substrates

Commercialization coming into view (samples in 2026, mass production in 2027)

- Glass substrates are moving closer to commercial adoption as a next-generation packaging technology, with sample shipments expected in 2026 and mass production in 2027.
- SEMCO and SKC (via affiliate Absolics) are preparing for mass production, while Intel's public showcase of glass substrate technology should help expand the industry ecosystem.
- Glass substrates offer lower thermal expansion and superior flatness, enabling ultra-fine line widths and helping overcome the limitations of conventional FC-BGA technology.

Glass substrate timeline

Company	Year	Developments
Intel	2023	Officially unveiled glass substrates for next-generation advanced packaging; commercialization targeted for the late 2020s
	2026	Showcased commercial glass substrate samples at NEPCON Japan
SKC (Absolics)	2023	Announced construction of a glass substrate facility in Georgia (US) with capacity of 4,000 sheets/month, along with plans for further expansion
	2024	Received US$75mn in support under the CHIPS Act and began developing glass substrate production capabilities in Georgia
	2026	- SKC announced a W1tr rights offering, allocating approximately W590bn to Absolics product development - Absolics supplied embedded-glass products to a US communications semiconductor company; customer qualification testing is underway, with mass-production readiness targeted within the year upon approval
SEMCO	2025	- Established a glass substrate pilot line at its Sejong facility; plans to provide samples to two to three customers within the year and begin mass production in 2027 - Showcased a glass-core substrate at KPCA Show 2025
	2026	Signed an MOU with Sumitomo Chemical to establish a glass core manufacturing joint venture Transferred glass substrate operations from the R&D center to the package solutions division, marking a shift from development to commercialization preparation
	2027+	Pursuing mass production of glass package substrates through the joint venture with Sumitomo

Source: Mirae Asset Securities Research

III

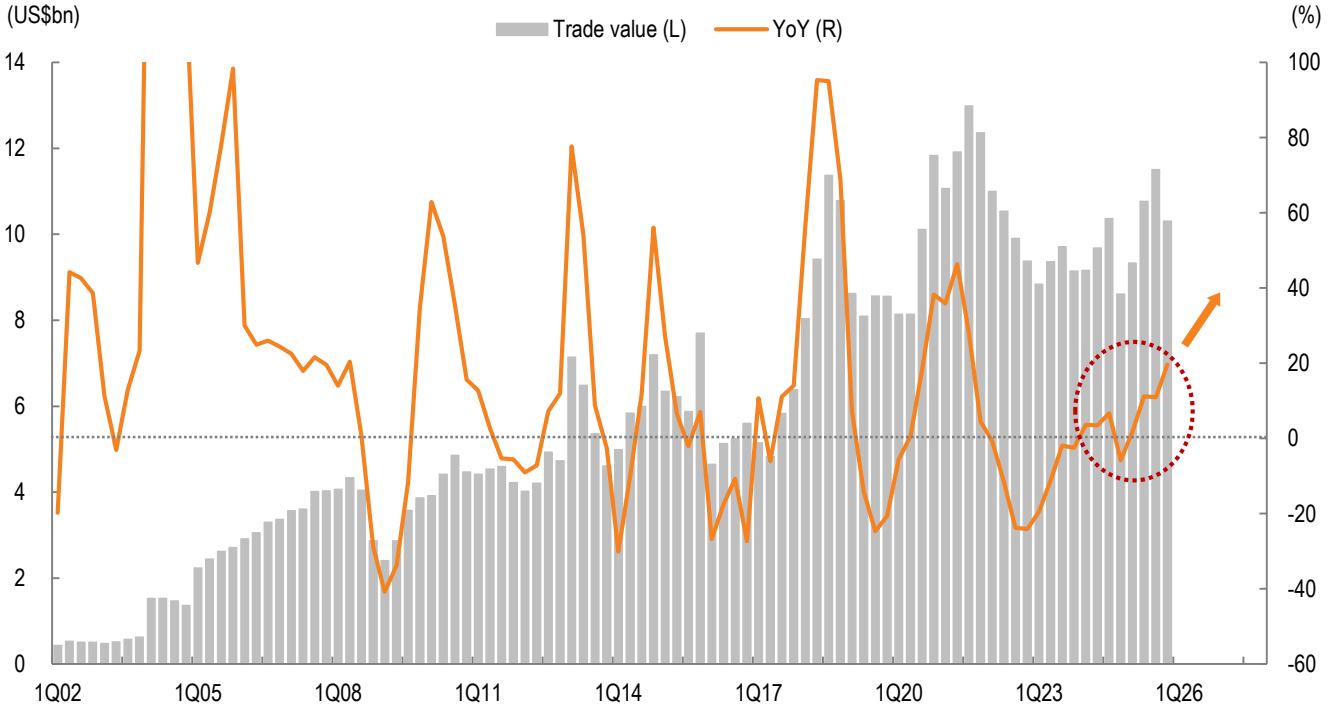
MLCCs

MLCCs

Down-cycle has ended; AI server-driven up-cycle is just beginning

- After 17 consecutive quarters of declining trade value, the MLCC industry has entered a recovery phase, supported by AI server demand.
- The sustainability of the current up-cycle is supported by demand from both AI infrastructure upgrades and vehicle electrification.
- With the up-cycle still in its early stages, we expect continued improvement in both pricing and volumes.

Quarterly global MLCC trade by value



Source: ITC, Mirae Asset Securities Research

MLCCs

A familiar cycle pattern, but with a more structural demand driver

- The cycle is following a familiar pattern: capacity shifts by major players create shortages in commodity products, prompting Taiwanese suppliers to raise prices first, with major players following later.
- However, unlike the smartphone-driven demand surge seen in 2017, which proved short-lived, the current cycle is being driven by AI servers and is expected to be more gradual and durable.
- The primary beneficiaries of increased pricing power will likely shift from Taiwanese suppliers (e.g., Yageo) to major players such as Murata and SEMCO.
- The current environment resembles phase 1 of the 2017 cycle; we expect the ASP up-cycle to continue.

2017-18 MLCC price hike timeline

Phase	Timing	Key developments
0	Late 2016/early 2017	Japanese players shift capacity toward automotive MLCCs
	Early 2017	Murata and SEMCO expand auto MLCC capacity, leading to commodity MLCC shortages
1	Sep. 2017	Yageo initiates price hikes (15-20%)
	Nov. 2017	Prices increase further (20-30%); lead times surge
	End-2017	Vendor-managed inventory programs discontinued, triggering bidding competition and spike in spot prices
2	Feb. 2018	Yageo implements another round of price hikes (10-20%)
	Mar. 2018	Murata follows suit
	Apr. 2018	Yageo raises prices by 40-50% (cycle peak)
	Apr. 2018	Walsin also increases prices
3	2018	SEMCO follows suit, leading to sharp earnings growth
4	4Q18-2019	Slowdown in smartphone demand → price normalization

Source: Mirae Asset Securities Research

MLCC cycle comparison: 2017-18 vs. 2026

	2017-18	2026
Pattern	Capacity shifts → commodity MLCC shortages → price hikes by Taiwanese firms → major players follow suit	Similar
Demand catalysts	Smartphones and automotive applications	AI servers
Demand characteristics	Sharp, short-term surge	Structural and sustained increase
Price increases	Commodity MLCC prices up 5-10x (spot prices up as much as 30x)	+15-35% for high-value products; +10% for commodity MLCCs
Cycle duration	Rapid surge over 6-12 months followed by normalization	Gradual, long-term uptrend
Panic buying	Significant	Not yet observed
Key beneficiaries	Taiwanese companies such as Yageo	Murata and SEMCO

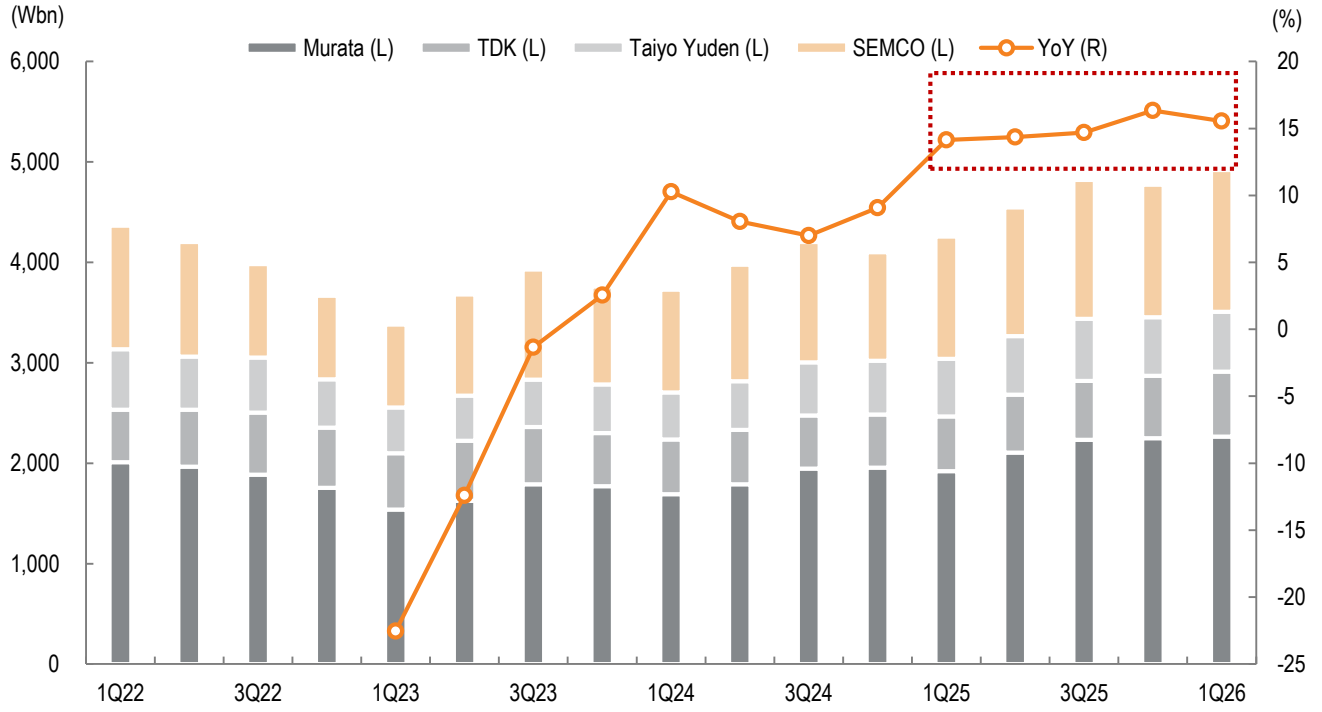
Source: Mirae Asset Securities Research

MLCCs

Upward guidance revisions from leading players reinforce tight supply outlook

- Murata has raised its outlook, now forecasting FY2026 AI data center-related revenue growth at 84% YoY and AI data center MLCC sales growth at 85–90% YoY.
- Capacity utilization remains high at 90-95%, while capacity additions are expected to increase effective output by only slightly over 20%.
- Strong demand coupled with restrained capacity expansion by industry leaders should support further price increases going forward.

Component revenue of four major MLCC players



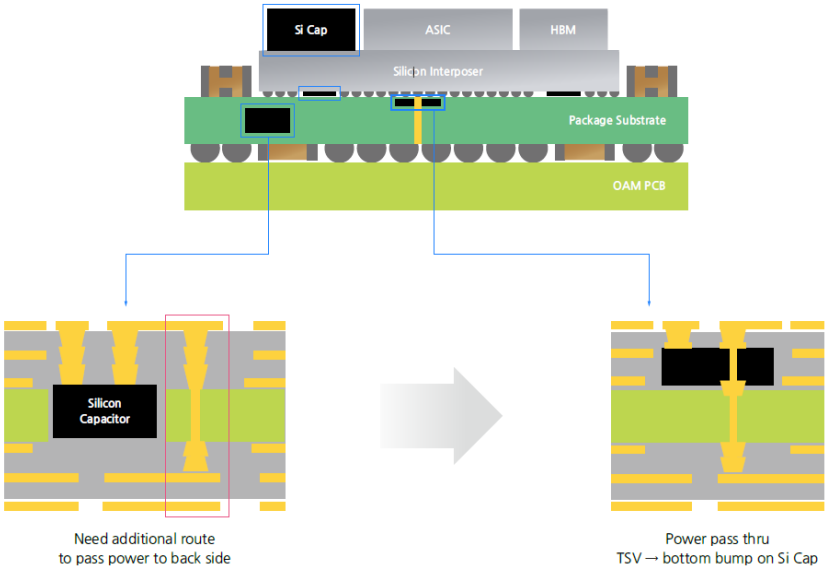
Source: Bloomberg, Mirae Asset Securities Research

Silicon capacitors

High-value lineup expanding on growing power and signal integrity requirements

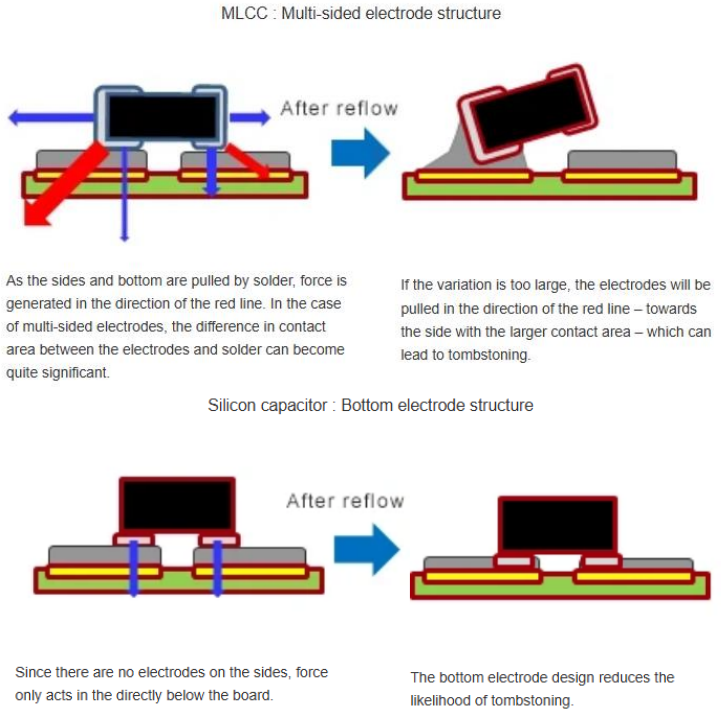
- AI processors present significant power delivery challenges. GPUs operate below 1V while handling transient current swings of several hundred amps, making near-chip decoupling critical to performance and reliability.
- Embedded MLCCs shorten current paths and minimize parasitic inductance by integrating capacitors directly into the substrate, helping overcome the limitations of conventional surface-mounted designs.
- Ultra-thin silicon capacitors offer lower parasitic inductance and resistance than conventional MLCCs, minimizing high-frequency losses and supporting broader adoption within advanced packages.
- SEMCO's recent W1.5tr silicon capacitor order reinforces its position in the AI supply chain, while its portfolio spanning surface-mounted, embedded, and silicon capacitors could serve as a further re-rating catalyst.

TSV-based embedded silicon capacitors



Source: SEMCO, Mirae Asset Securities Research

Silicon capacitors not susceptible to tombstoning after reflow



Source: Mirae Asset Securities Research

IV

Power components

Power components

Power emerging as the next bottleneck:
100kW → 1MW+
48V → 800VDC

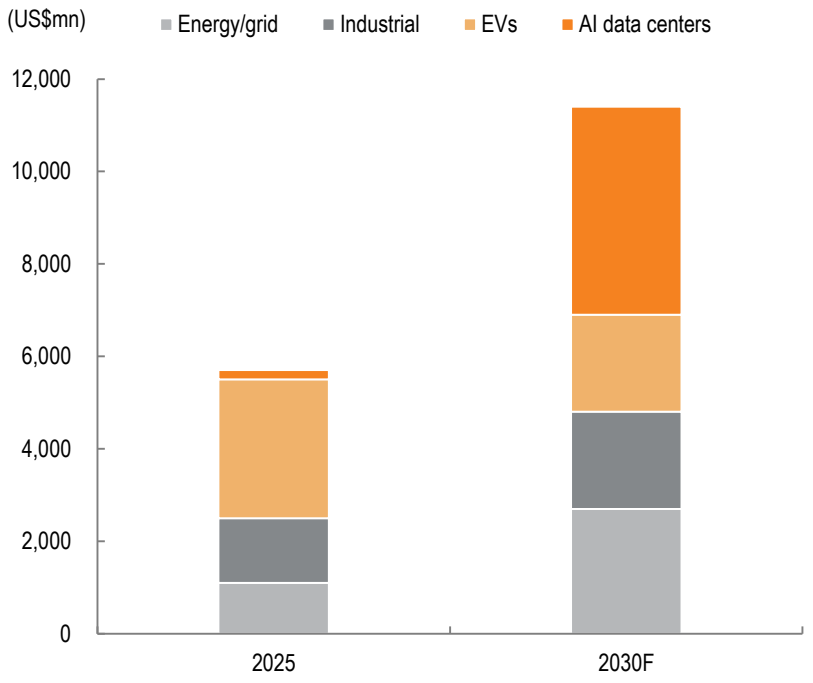
- Power requirements are surging, with next-generation AI racks expected to consume 600kW–1MW+, representing a 6–10x increase in power density vs. current systems.
- The transition to 800VDC architectures reduces current-related constraints, driving demand for SiC/GaN power devices and high-voltage passive components.
- Rising power-system content per rack should provide an additional boost to demand for MLCCs and power semiconductors.

Comparison of current and next-generation AI server rack power architectures

	Current	Next-generation
Rack power	100kW+	600kW-1MW+
Power scaling	2-5x higher than conventional servers	6-10x higher than current AI racks
Distribution voltage	48V/54VDC	800VDC
Current load	Rises to several thousand amperes as power increases	High-voltage architectures significantly reduce current requirements
Power delivery architecture	Centered on power shelves and PSUs inside racks	800V sidecar, centralized power conversion, and high-voltage DC distribution
Key challenges	Reliance on copper busbars and cables, rising thermal loads, and rack space requirements	High-voltage safety, DC/DC conversion, and SiC/GaN adoption
Components with higher demand	PSUs, MLCCs, VRMs, and low-voltage MOSFETs	SiC, GaN, IBCs, BBUs, power ICs, and high-voltage capacitors

Source: Industry sources, Mirae Asset Securities Research

SiC power device TAM by application



Source: Yole, Mirae Asset Securities Research

Power components

Power semiconductor content value per rack set to increase 12x

- The shift to 800VDC architectures is expected to increase the value of BBU, DC-DC converter, and power IC content per rack by roughly 12x.
- SoluM's power module business generated W18bn in revenue in 2025 and is likely to begin contributing meaningfully to earnings from 2026 as revenue recognition picks up. Securing all three leading global hyperscalers as customers could serve as a catalyst for a valuation re-rating.

Current vs. next-generation power architectures

Category	Item	Current vs. next-generation	Increase
Voltage	Power rack voltage	400VDC → 800VDC	2.00x
Voltage	BBU output voltage	49VDC → 800VDC	16.33x
Rack power	Power per rack	600kW → 1500kW	2.50x
Power shelf	Power shelf output	33kW → 110kW	3.33x
PSU	PSU output per unit	4.5kW → 8.5kW	1.89x
PSU	Next-gen PSU output per unit	8.5 → 18.3kW	2.15x
DC-DC	DC-DC power brick	1.8 → 2.5kW	1.39x
Semiconductor content	Power semiconductor content per rack (value)	US$9,500 → US$115,000	12.11x

Source: Mirae Asset Securities Research

SoluM: BBU-related catalysts

	Existing track record	New catalysts
Customers/deals	Intel, Supermicro	In discussions to enter the BBU supply chain of a Taiwanese OSAT customer
Applications	DC-DC converters for BBUs	Potential adoption in Amazon data centers
Revenue	BBU revenue of W18bn in 2025	Meaningful revenue recognition from 2026
Implications	Beginning of BBU revenue recognition	Securing three global hyperscalers as customers could drive a re-rating

Source: Mirae Asset Securities Research

Company analysis

Samsung Electro-Mechanics (009150 KS)

Top pick

Substrates gain strategic importance in the AI era

(Maintain)	Buy
Target price	W2,800,000
Current price (6/10/26)	W1,805,000
Upside	55.1%

OP (26F, Wbn)	1,562
Consensus OP (26F, Wbn)	1,589
EPS growth (26F, %)	85.9
Market EPS growth (26F, %)	243.0
P/E (26F, x)	106.7
Market P/E (26F, x)	8.3
KOSPI	7,730.82
Market cap (Wbn)	134,822
Shares (mn)	75
Free float (%)	73.5
Foreign ownership (%)	37.6
Beta (12M)	1.59
52-week low (W)	126,900
52-week high (W)	2,127,000

(%)	1M	6M	12M
Absolute	97.5	572.3	1,290.6
Relative	91.5	259.6	416.6

Strategic importance of FC-BGAs increases amid supply chain realignment

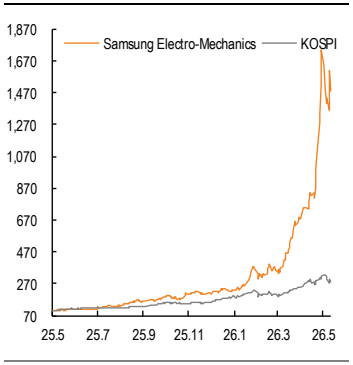
- FC-BGA substrates—critical components for AI semiconductors—are directly benefiting from ongoing efforts to realign global supply chains in response to geopolitical risks.
- Growing non-China procurement demand from North American big tech customers is increasingly flowing to SEMCO, strengthening long-term visibility on both volume and pricing growth.

Non-China capacity supports negotiating power

- We forecast SEMCO's FC-BGA capex at around W3tr in 2026 and W5tr in 2027, supporting solid medium/long-term growth visibility.
- The company has secured first-vendor status for FC-BGAs used in an inference-focused LPU to be incorporated into a North American GPU maker's next-generation AI platform.
- Customers are increasingly willing to enter into long-term exclusive supply deals as well as provide prepayments and investment support. In addition, discussions around domestic and overseas capacity expansion are accelerating.

Tight supply + geopolitical tailwinds; MLCCs becoming strategic assets

- SEMCO has already raised FC-BGA ASPs for certain customers and, given the current supply-constrained environment, is increasingly able to prioritize orders for higher-value products.
- For MLCCs, longer global lead times and shorter inventory cycles are further tightening supply.



(Dec.)	2023	2024	2025F	2026F	2027F
Revenue (Wbn)	8,892	10,294	11,314	13,520	16,465
OP (Wbn)	661	735	913	1,562	3,408
OP margin (%)	7.4	7.1	8.1	11.6	20.7
NP (Wbn)	423	679	706	1,313	2,827
EPS (W)	5,450	8,752	9,099	16,914	36,428
ROE (%)	5.5	8.2	7.7	13.0	23.5
P/E (x)	28.1	14.1	28.0	106.7	49.5
P/B (x)	1.5	1.1	2.3	14.5	11.4
Dividend yield (%)	0.8	1.5	0.7	0.1	0.1

Notes: Under consolidated K-IFRS; NP is attributable to owners of the parent

Source: Company data, Mirae Asset Securities Research estimates

Samsung Electro-Mechanics (009150 KS)

Top pick

(Wbn, %)

	1Q25	2Q25	3Q25	4Q25	1Q26	2Q26F	3Q26F	4Q26F	2025	2026F	2027F
Revenue	2,738.6	2,786.2	2,889.5	2,903.1	3,209.1	3,293.8	3,542.2	3,475.2	11,317.5	13,520.2	16,465.3
Components	1,216.2	1,280.7	1,381.3	1,320.3	1,408.5	1,531.7	1,748.3	1,711.9	5,198.5	6,400.4	8,549.9
Package solutions	499.4	564.6	593.2	644.6	725.0	764.0	796.0	824.6	2,301.8	3,109.6	3,938.6
Optics solutions	1,023.0	939.9	914.0	937.3	1,075.6	997.0	996.9	937.6	3,814.2	4,007.1	3,972.7
OP	200.5	213.0	260.3	206.0	280.6	381.3	466.7	433.6	879.8	1,562.2	3,408.1
Components	133.5	156.7	180.7	138.5	159.5	223.4	286.0	266.9	609.4	935.8	2,454.5
Package solutions	22.7	24.8	40.0	47.7	76.7	119.4	137.5	145.1	135.2	478.7	787.7
Optics solutions	44.3	31.5	39.6	19.8	44.4	38.4	43.2	21.7	135.2	147.7	166.0
Pretax profit	173.7	171.4	281.7	235.4	288.5	383.0	466.0	442.9	862.3	1,580.4	3,441.9
NP attr. to owners	133.7	129.7	219.9	189.3	243.6	309.2	390.3	369.5	672.5	1,312.6	2,826.9
OP margin	7.3	7.6	9.0	7.1	8.7	11.6	13.2	12.5	7.8	11.6	20.7
Components	11.0	12.2	13.1	10.5	11.3	14.6	16.4	15.6	11.7	14.6	28.7
Package solutions	4.6	4.4	6.7	7.4	10.6	15.6	17.3	17.6	5.9	15.4	20.0
Optics solutions	4.3	3.4	4.3	2.1	4.1	3.9	4.3	2.3	3.5	3.7	4.2
QoQ/YoY (%)											
Revenue	9.9	1.7	3.7	0.5	10.5	2.6	7.5	-1.9	9.9	19.5	21.8
OP	74.3	6.2	22.2	-20.9	36.2	35.9	22.4	-7.1	19.7	77.6	118.2
NP attr. to owners	-35.8	-3.0	69.5	-13.9	28.7	27.0	26.2	-5.3	-1.0	95.2	115.4

TP calculation

Category	P/E (x)	Implied price (W)	Notes
2029F EPS		93,242	Based on 2029F NP attributable to owners of the parent
Target P/E (x)	30.0x	2,797,260	Avg. multiple during 2018 up-cycle
Target price (W)	30.0x	2,800,000	Rounded
Current price (W)		1,805,000	Jun. 10
Upside (%)		55.1%	

Source: Mirae Asset Securities Research

Samsung Electro-Mechanics (009150 KS)

Top pick

Income statement (summarized)

(Wbn)	2024	2025	2026F	2027F
Revenue	10,294	11,314	13,520	16,465
Cost of revenue	8,335	9,037	10,336	11,081
GP	1,959	2,277	3,184	5,384
SG&A expenses	1,224	1,364	1,622	1,976
OP (adj.)	735	913	1,562	3,408
OP	735	913	1,562	3,408
Non-operating profit	62	-17	18	34
Net financial income	-1	-4	-19	5
Net income from associates	-1	1	37	37
Pretax profit	797	896	1,580	3,442
Income tax	132	164	271	614
Profit from continuing operations	665	732	1,309	2,828
Profit from discontinued operations	38	-26	4	-1
NP	703	706	1,313	2,827
Attributable to owners	679	706	1,313	2,827
Attributable to minority interests	24	0	0	0
Total comprehensive income	1,074	706	1,313	2,827
Attributable to owners	1,028	676	1,257	2,707
Attributable to minority interests	46	30	56	120
EBITDA	1,575	1,838	2,542	4,432
FCF	654	298	582	2,155
EBITDA margin (%)	15.3	16.2	18.8	26.9
OP margin (%)	7.1	8.1	11.6	20.7
Net margin (%)	6.6	6.2	9.7	17.2

Balance sheet (summarized)

(Wbn)	2024	2025	2026F	2027F
Current assets	5,892	7,098	8,184	10,765
Cash & equivalents	2,013	2,701	3,051	4,966
AR & other receivables	1,484	1,923	2,287	2,772
Inventory	2,251	2,413	2,754	2,936
Other current assets	144	61	92	91
Non-current assets	6,901	7,498	7,726	7,931
Investments in associates	65	26	30	39
PP&E	5,933	6,222	6,275	6,293
Intangible assets	146	152	172	192
Total assets	12,792	14,596	15,909	18,697
Current liabilities	3,057	3,819	3,910	3,959
AP & other payables	750	1,117	1,052	1,111
Short-term financial liabilities	1,580	1,863	1,964	1,960
Other current liabilities	727	839	894	888
Non-current liabilities	720	979	1,040	1,105
Long-term financial liabilities	56	218	156	206
Other non-current liabilities	664	761	884	899
Total liabilities	3,777	4,799	4,950	5,064
Equity attributable to owners	8,789	9,541	10,686	13,342
Capital stock	388	388	388	388
Capital surplus	1,054	1,148	1,148	1,148
Retained earnings	6,490	7,065	8,155	10,755
Minority interests	227	256	274	291
Shareholders' equity	9,016	9,797	10,960	13,633

Key valuation metrics/ratios

	2024	2025	2026F	2027F
P/E (x)	14.1	28.0	106.7	49.5
P/CF (x)	5.5	13.3	62.8	35.0
P/B (x)	1.1	2.3	14.5	11.4
EV/EBITDA (x)	5.9	10.3	53.4	30.2
EPS (W)	8,752	9,099	16,914	36,428
CFPS (W)	22,681	19,212	28,722	51,628
BPS (W)	115,152	110,838	124,889	158,383
DPS (W)	1,800	1,800	1,800	1,800
Dividend payout ratio (%)	18.6	18.5	10.0	4.6
Dividend yield (%)	1.5	1.3	1.3	1.3
Revenue growth (%)	15.8	9.9	19.5	21.8
EBITDA growth (%)	5.2	16.7	38.3	74.3
OP growth (%)	11.3	24.3	71.0	118.2
EPS growth (%)	60.6	4.0	85.9	115.4
AR turnover (x)	8.2	7.1	6.9	7.0
Inventory turnover (x)	4.7	4.9	5.2	5.8
AP turnover (x)	15.2	15.0	14.9	15.9
ROA (%)	5.8	5.2	8.6	16.3
ROE (%)	8.2	7.7	13.0	23.5
ROIC (%)	7.3	8.6	12.7	25.3
Debt-to-equity ratio (%)	41.9	49.0	45.2	37.1
Current ratio (%)	192.7	185.8	209.3	272.0
Net debt-to-equity ratio (%)	-4.3	-6.8	-8.8	-21.0
Interest coverage ratio (x)	10.1	12.0	17.2	37.5

Source: Company data, Mirae Asset Securities Research estimates

LG Innotek (011070 KS)

Substrates emerging as a key growth driver

(Maintain)	Buy
Target price	▲ W1,400,000
Current price (6/10/26)	W1,090,000
Upside	28.4%

OP (26F, Wbn)	1,275
Consensus OP (26F, Wbn)	1,113
EPS growth (26F, %)	176.5
Market EPS growth (26F, %)	243.0
P/E (26F, x)	27.3
Market P/E (26F, x)	8.3
KOSPI	7,730.82
Market cap (Wbn)	25,797
Shares (mn)	24
Free float (%)	59.2
Foreign ownership (%)	23.0
Beta (12M)	1.48
52-week low (W)	143,400
52-week high (W)	1,530,000

(%)	1M	6M	12M
Absolute	74.7	277.2	636.0
Relative	69.4	101.7	173.4

Raise TP by 106% to W1,400,000 on higher FC-BGA valuation and extended valuation horizon

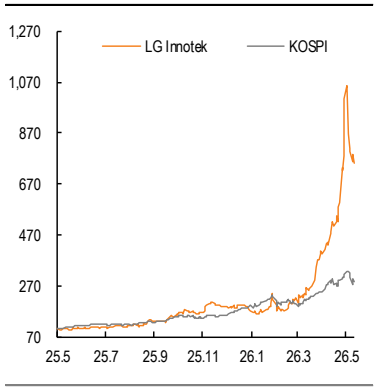
- The planned expansion of the Vietnam facility has significantly improved visibility on substrate revenue from 2028 onward, supporting both a higher target multiple for the substrate business and a shift in our valuation horizon.
- We removed the discount previously applied to the substrate business (relative to incumbent players), as LG Innotek has now secured server CPU-grade FC-BGA substrate technology (large-area substrates with around 20 layers) as well as long-term supply commitments backed by customer prepayments.

Revising up package solutions OP forecasts on solid longer-term growth outlook

- With the market environment increasingly shifting in favor of suppliers, we raise our operating profit forecasts for the package solutions division to W336.2bn (+80% YoY) for 2027 and W547.4bn (+45% YoY) for 2028.
- In addition to improved visibility based on prepayments and long-term contracts, we now see further earnings upside from price pass-through.

2Q26 OP likely to beat consensus by 25%; demand at key customer remains solid

- Premium model sales by the firm's key North American customer should remain robust, while the next iPhone lineup is expected to adopt camera modules featuring variable aperture technology.



(Dec.)	2023	2024	2025	2026F	2027F
Revenue (Wbn)	20,605	21,201	21,897	23,393	25,083
OP (Wbn)	831	706	665	1,275	1,612
OP margin (%)	4.0	3.3	3.0	5.5	6.4
NP (Wbn)	565	449	341	944	1,329
EPS (W)	23,881	18,983	14,419	39,874	56,165
ROE (%)	12.6	8.9	6.1	15.2	18.3
P/E (x)	10.0	8.5	18.8	27.3	19.4
P/B (x)	1.2	0.7	1.2	4.0	3.4
Dividend yield (%)	1.1	1.3	1.0	0.3	0.4

Notes: Under consolidated K-IFRS; NP is attributable to owners of the parent

Source: Company data, Mirae Asset Securities Research estimates

LG Innotek (011070 KS)

(Wbn, %, %p)

	1Q25	2Q25	3Q25	4Q25	1Q26	2Q26F	3Q26F	4Q26F	2025	2026F	2027F
Revenue	4,982.8	3,934.6	5,369.4	7,609.8	5,534.8	4,954.6	5,623.9	7,279.3	21,896.6	23,392.6	25,083.3
Optics solutions	4,138.4	3,052.7	4,481.2	6,646.2	4,610.6	3,963.7	4,600.4	6,190.4	18,318.5	19,365.0	20,046.0
Auto components	467.5	465.7	437.7	474.3	487.1	488.9	498.3	506.8	1,845.2	1,981.1	2,391.7
Substrates	376.9	416.2	450.6	489.2	437.1	502.0	525.2	582.1	1,732.9	2,046.5	2,645.6
OP	125.1	11.4	203.8	324.8	295.1	180.7	332.6	466.3	665.1	1,274.7	1,611.9
Optics solutions	73.4	-33.6	161.9	280.6	229.0	103.1	249.0	379.0	482.2	959.9	1,143.1
Auto components	22.9	22.4	13.1	-4.5	25.0	21.1	16.5	19.8	53.9	82.3	132.6
Substrates	28.8	22.6	28.8	48.7	41.2	56.6	67.1	67.6	128.9	232.4	336.2
Pretax profit	103.8	-7.7	156.9	155.6	277.2	153.8	302.0	364.5	408.7	1,097.5	1,440.6
NP attr. to owners	85.6	-8.7	128.5	135.9	266.8	127.8	223.4	325.7	341.3	943.7	1,329.3
OP margin	3%	0%	4%	4%	5%	4%	6%	6%	3%	5%	6%
Optics solutions	2%	-1.1%	4%	4%	5%	3%	5%	6%	3%	5%	6%
Auto components	5%	4.8%	3%	-1%	5%	4%	3%	4%	3%	4%	6%
Substrates	8%	5.4%	6%	10%	9%	11%	13%	12%	7%	11%	13%
QoQ/YoY											
Revenue	-25%	-21%	36%	42%	-27%	-10%	14%	29%	3%	7%	7%
OP	-50%	-91%	1691%	59%	-9%	-39%	84%	40%	-6%	92%	26%
NP attr. to owners	-20%	-110%	-1578%	6%	96%	-52%	75%	46%	-24%	176%	41%

TP calculation (Wbn)

	EBITDA	EV/EBITDA (x)	Implied EV	Notes
Optics solutions	2,521	5.5	13,866	Avg. EV/EBITDA of Mcnex, Partron, Sunny Optical, and Sharp
Auto components	217	6.0	1,301	Peer avg.
Substrates	890	21.1	18,784	2026F → 2028F; avg. of Ibiden, SEMCO, and Unimicron
Fair value			33,951	
Net debt			856	
Total equity value			33,095	
Shares (mn)			24	
TP (W)			1,400,000	
CP (W)			1,090,000	
Upside (%)			28.4%	

Source: Mirae Asset Securities Research

LG Innotek (011070 KS)

Income statement (summarized)

(Wbn)	2024	2025	2026F	2027F
Revenue	21,201	21,897	23,393	25,083
Cost of revenue	19,457	20,147	20,956	22,225
GP	1,744	1,750	2,437	2,858
SG&A expenses	1,038	1,085	1,161	1,246
OP (adj.)	706	665	1,275	1,612
OP	706	665	1,275	1,612
Non-operating profit	-117	-256	-178	-171
Net financial income	-74	-46	-37	-6
Net income from associates	0	0	0	0
Pretax profit	589	409	1,097	1,441
Income tax	140	67	154	111
Profit from continuing operations	449	341	944	1,329
Profit from discontinued operations	0	0	0	0
NP	449	341	944	1,329
Attributable to owners	449	341	944	1,329
Attributable to minority interests	0	0	0	0
Total comprehensive income	701	341	944	1,329
Attributable to owners	701	341	944	1,329
Attributable to minority interests	0	0	0	0
EBITDA	1,986	1,815	2,479	2,931
FCF	231	720	331	-361
EBITDA margin (%)	9.4	8.3	10.6	11.7
OP margin (%)	3.3	3.0	5.5	6.4
Net margin (%)	2.1	1.6	4.0	5.3

Balance sheet (summarized)

(Wbn)	2024	2025	2026F	2027F
Current assets	5,853	6,778	7,921	8,713
Cash & equivalents	1,329	1,406	1,656	1,155
AR & other receivables	2,809	3,439	3,243	3,955
Inventory	1,575	1,789	2,862	3,434
Other current assets	140	144	160	169
Non-current assets	5,525	5,153	4,869	5,278
Investments in associates	0	0	0	0
PP&E	4,480	3,724	3,374	3,711
Intangible assets	219	296	280	263
Total assets	11,378	11,931	12,789	13,991
Current liabilities	3,955	4,507	4,467	4,441
AP & other payables	2,737	3,249	3,156	3,170
Short-term financial liabilities	693	692	735	706
Other current liabilities	525	566	576	565
Non-current liabilities	2,069	1,661	1,661	1,661
Long-term financial liabilities	2,007	1,614	1,612	1,613
Other non-current liabilities	62	47	49	48
Total liabilities	6,024	6,168	6,127	6,101
Equity attributable to owners	5,354	5,763	6,662	7,890
Capital stock	118	118	118	118
Capital surplus	1,134	1,251	1,251	1,251
Retained earnings	3,868	4,191	5,090	6,318
Minority interests	0	0	0	0
Shareholders' equity	5,354	5,763	6,662	7,890

Key valuation metrics/ratios

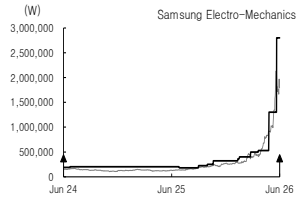
	2024	2025	2026F	2027F
P/E (x)	8.5	18.8	27.3	19.4
P/CF (x)	1.9	4.0	11.0	9.3
P/B (x)	0.7	1.2	4.0	3.4
EV/EBITDA (x)	2.6	4.0	10.7	9.2
EPS (W)	18,983	14,419	39,874	56,165
CFPS (W)	84,347	67,830	98,798	116,824
BPS (W)	226,229	234,963	272,958	324,824
DPS (W)	2,090	2,700	3,500	4,000
Dividend payout ratio (%)	11.0	18.7	8.8	7.1
Dividend yield (%)	1.3	1.5	2.0	2.3
Revenue growth (%)	2.9	3.3	6.8	7.2
EBITDA growth (%)	5.8	-8.6	36.5	18.2
OP growth (%)	-15.0	-5.8	91.7	26.5
EPS growth (%)	-20.5	-24.0	176.5	40.9
AR turnover (x)	8.4	7.1	7.1	7.1
Inventory turnover (x)	13.5	13.0	10.1	8.0
AP turnover (x)	8.2	8.3	8.1	8.7
ROA (%)	4.0	2.9	7.6	9.9
ROE (%)	8.9	6.1	15.2	18.3
ROIC (%)	8.9	12.7	15.7	18.2
Debt-to-equity ratio (%)	112.5	107.0	92.0	77.3
Current ratio (%)	148.0	150.4	177.3	196.2
Net debt-to-equity ratio (%)	25.4	15.4	10.1	14.6
Interest coverage ratio (x)	6.2	7.6	15.2	19.0

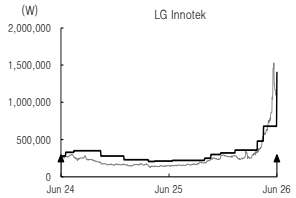
Source: Company data, Mirae Asset Securities Research estimates

Appendix 1

Two-year rating and TP history

Company	Date	Rating	TP (W)
Samsung Electro-Mechanics (009150)			
	06/01/26	Buy	2,800,000
	05/06/26	Buy	1,300,000
	03/31/26	Buy	530,000
	03/05/26	Buy	500,000
	01/26/26	Buy	400,000
	01/21/26	Buy	360,000
	10/30/25	Buy	320,000
	10/10/25	Buy	250,000
	09/10/25	Buy	225,000
	07/07/25	Buy	180,000
	07/03/25	One year	200,000
	07/03/24	Buy	200,000
	11/28/23	Buy	190,000
LG Innotek (011070)			
	06/11/26	Buy	1,400,000
	04/27/26	Buy	680,000
	04/06/26	Buy	480,000
	01/21/26	Buy	360,000
	12/03/25	Buy	320,000
	10/31/25	Buy	300,000
	10/10/25	Buy	250,000
	06/23/25	Buy	220,000
	04/24/25	Buy	210,000
	04/03/25	Buy	205,000
	01/10/25	Buy	230,000
	10/24/24	Buy	280,000
	07/25/24	Buy	350,000
	06/27/24	Buy	330,000
	01/29/24	Buy	280,000





Stock ratings	
Buy	Expected 12-month return: +20% or greater
Hold	Expected 12-month return: Greater than -10% and less than +10%
Sell	Expected 12-month return: -10% or less

Sector ratings	
Overweight	Expected to outperform the market over 12 months
Neutral	Expected to perform in line with the market over 12 months
Underweight	Expected to underperform the market over 12 months

As of May 12, 2025, the Trading Buy rating category has been removed from our investment rating system.
Stocks expected to deliver a 12-month return between +10% and less than +20% may be rated either Buy or Hold at the discretion of the research analyst.

Rating and TP history: Share price (─), TP (▬), Not Rated (■), Buy (▲), Trading Buy (■), Hold (●), Sell (♦)
* Our investment rating is a guide to the expected return of the stock over the next 12 months.
* Outside of the official ratings of Mirae Asset Securities Co., Ltd., analysts may call trading opportunities should technical or short-term material developments arise.
* The TP was determined by the research analyst through valuation methods discussed in this report, in part based on estimates of future earnings.
* TP achievement may be impeded by risks related to the subject securities and companies, as well as general market and economic conditions.

Ratings distribution and investment banking services

	Buy	Trading Buy	Hold	Sell
Ratings distribution	80.84%	0%	18.56%	0.6%
Investment banking services	86.67%	0%	13.33%	0%

* Based on recommendations in the last 12-months (as of March 31, 2026)

Appendix 1

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