BERNSTEIN
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Asia Tech Hardware

2Q26 PCB market update - revenue growth accelerates, profitability improves


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Following our primer Inside the War for AI Data Center Connectivity and 1Q26 PCB market update, this 2Q26 PCB/ABF tracker focuses on 1) 2Q26 financial performance of PCB suppliers 2) components shortage situation and 3) capex & capacity plan for 2027-28

Top AI PCB companies revenue grew c.45% YoY and 18% QoQ respectively in 2Q26. Among AI PCB/HDI players, Shengyi, GCE, and WUS—delivered the strongest growth. VGT grew more moderately and saw sequential GM decline ahead of new sites ramp up. The ABF substrate group (e.g. Unimicron, Ibiden) recorded meaningful sequential GM expansion, driven by ASP increases and a richer product mix. New suppliers in AI PCB market including Delton and Zhen Ding are also scaling AI exposure. **ABF substrate revenue growth accelerated to c.50% YoY in 2Q26**. The combined contract liabilities of key suppliers have also risen, reflecting better order visibilities. Initial shipments for NVIDIA Vera Rubin and Google TPU v8 are set to begin in 2H26, driving PCB & substrate demand in 2027.

The PCB industry entered a new investment cycle in 2025 (Exhibit 16)**, while this year marks the start of a new substrate capex cycle** (Exhibit 24)**.** Supported by customer prepayments, capex sharing arrangements, and long-term agreements, substrate makers have become more aggressive in expanding capacity. However, most new ABF substrate capacity will not come online until 2028, leaving supply tight through 2027. T-glass constraints should ease in 1H27 as tier-2 suppliers raise yields, but shortages of high-end CCL—used in both substrates and PCBs—are likely to persist longer.

For Unimicron (OP), the probe into country-of-origin labeling for PCB products is a near-term compliance overhang. On 28th Aug, Taoyuan prosecutors launched an investigation into alleged labeling irregularities. PCB & HDI represents c.35% of revenue, but we believe the products involved represent only a small portion of this business. While the probe may bring near term selling pressure, we do not expect a material impact on fundamentals, particularly given the tight ABF supply over the next two years. We forecast revenue and EPS CAGR of 33% and 117% in 2025-2028. Recent channel checks also suggest upside risk to our estimates.

For Ibiden (OP), we remain positive on the company's AI positioning. Management has turned more constructive on pricing and confirmed that new products are being launched at higher price points. Importantly, **the pricing improvement is broad-based across customers**, rather than concentrated in a specific product category or end market. We now forecast Ibiden's revenue to grow at a 33% CAGR over the next 3 years, reaching ¥980bn, driven by GPUs, CPUs and EMIB-T. We also expect the company's OP to reach ¥344bn in FY29/3E vs. ¥62bn in FY26/3, thanks to both robust demand (GPU, CPU), high utilization and high ASPs.

For Ajinomoto (OP), ABF film revenue and business profit growth both materially accelerated to +54% & 77% in the June-Q. Operational leverage stepped up to 1.4x, still short of the historic 1.5-1.7x range, which suggests that we are yet to see any impact from price increases. (continue on page 2)

See the Disclosure Appendix of this report for required disclosures, analyst certifications and other important information. Alternatively, visit our Global Research Disclosure Website.

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(continue from page 1) Management report the pace of ABF film demand growth and specification upgrade continuing into the September quarter and have strongly refuted rumors of 30% supply cuts to Chinese customers which have been raising questions over Ajinomoto's ability to flex ABF Film production capacity.

BERNSTEIN TICKER TABLE

			31 Aug 2026		TTM	Reported EPS				Reported P/E (x)		
Ticker	Rating	Cur	Closing Price	Price Target	Rel. Perf.	Cur	2025A	2026E	2027E	2025A	2026E	2027E
3037.TT (Unimicron)	O	TWD	999.00	990.00	564.7%	TWD	4.36	20.13	30.18	229.1	49.6	33.1
2802.JP (Ajinomoto)	O	JPY	5,402.00	7,300.00	(2.1)%	JPY	138.36	154.01	197.38	39.0	35.1	27.4
4062.JP (Ibiden)	O	JPY	20,455	29,000	428.7%	JPY	214.91	329.25	511.84	95.2	62.1	40.0
ASIAX			1,972.56									
JPL			2,690.35									

O - Outperform, M - Market-Perform, U - Underperform, NR - Not Rated, CS - Coverage Suspended

2802.JP estimate is Adjusted EPS; 2802.JP valuation is Adjusted P/E (x); 2802.JP base year is 2026;

Source: Bloomberg, Bernstein estimates and analysis.

INVESTMENT IMPLICATIONS

We rate Unimicron **Outperform** , with PT = **NT$990.00** (model).

We rate Ibiden **Outperform**, with PT = **¥**29,000 (model).

We rate Ajinomoto **Outperform** with PT at **JPY7,300** (model).

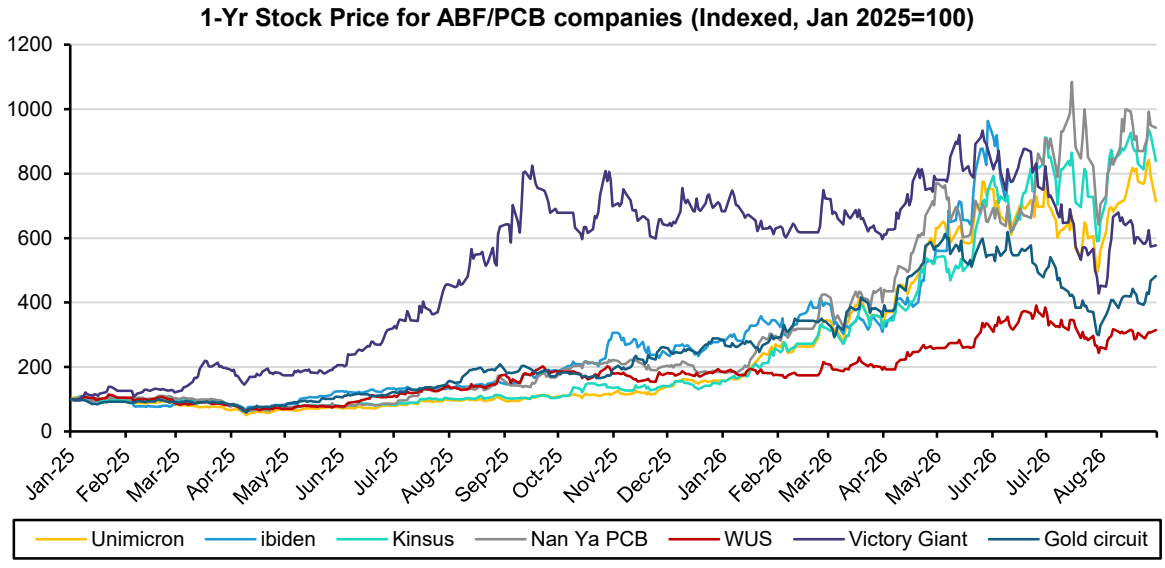
DETAILS

EXHIBIT 1: **Summary of PCB companies**

Ticker	Company	Mkt Cap (US$M)	Forward P/E	Revenue (US$M)		Gross Margin %		EPS
				2026E	25-28E CAGR	2026E	2027E	25-28E CAGR
Material Supplier								
600183 CH Equity	Shengyi Tech	52,575	41.9x	6,437	47%	30.4%	31.8%	68%
2802 JT Equity	Ajinomoto	33,147	34.6x	10,886	5%	37.8%	38.1%	13%
2383 TT Equity	EMC	62,215	29.0x	6,157	73%	34.1%	37.8%	104%
000150 KS Equity	Doosan	14,326	27.7x	15,333	13%	19.2%	20.3%	140%
5706 JP Equity	Mitsui Mining	10,394	17.6x	5,352	5%	22.4%	23.9%	6%
6274 TT Equity	TUC	14,112	22.4x	1,907	77%	30.6%	33.9%	125%
3110 JP Equity	Nittobo	3,573	25.0x	884	14%	41.7%	43.1%	-7%
Key ABF Substrate Suppliers								
3037 TT Equity	Unimicron	55,778	29.8x	5,850	42%	25.9%	36.1%	148%
4062 JT Equity	Ibiden	35,712	60.3x	3,360	24%	38.1%	41.3%	38%
009150 KS Equity	SEMCO	76,039	41.8x	10,381	30%	24.9%	31.8%	90%
8046 TT Equity	Nan Ya PCB	25,341	35.1x	1,878	52%	25.3%	37.9%	192%
3189 TT Equity	Kinsus	14,981	39.5x	1,679	43%	26.7%	32.8%	143%
AUS GR Equity	AT&S	6,779	17.3x	3,150	30%	26.4%	27.5%	n/a
Other PCB Suppliers								
300476 CH Equity	Victory Giant	38,381	17.6x	4,757	65%	37.4%	40.0%	70%
002463 CH Equity	WUS	34,803	28.6x	4,101	53%	38.4%	39.7%	67%
4958 TT Equity	Zhen Ding	16,979	22.7x	7,140	29%	24.4%	27.8%	75%
001389 CH Equity	Delton	10,629	22.3x	1,448	69%	37.9%	38.1%	79%
2368 TT Equity	Gold Circuit	18,689	20.5x	3,215	50%	36.0%	37.8%	70%
688183 CH Equity	Shengyi Electronics	16,331	29.3x	2,147	45%	34.3%	35.0%	60%
TTMI US Equity	TTM	12,500	19.1x	4,393	28%	23.0%	24%	47%

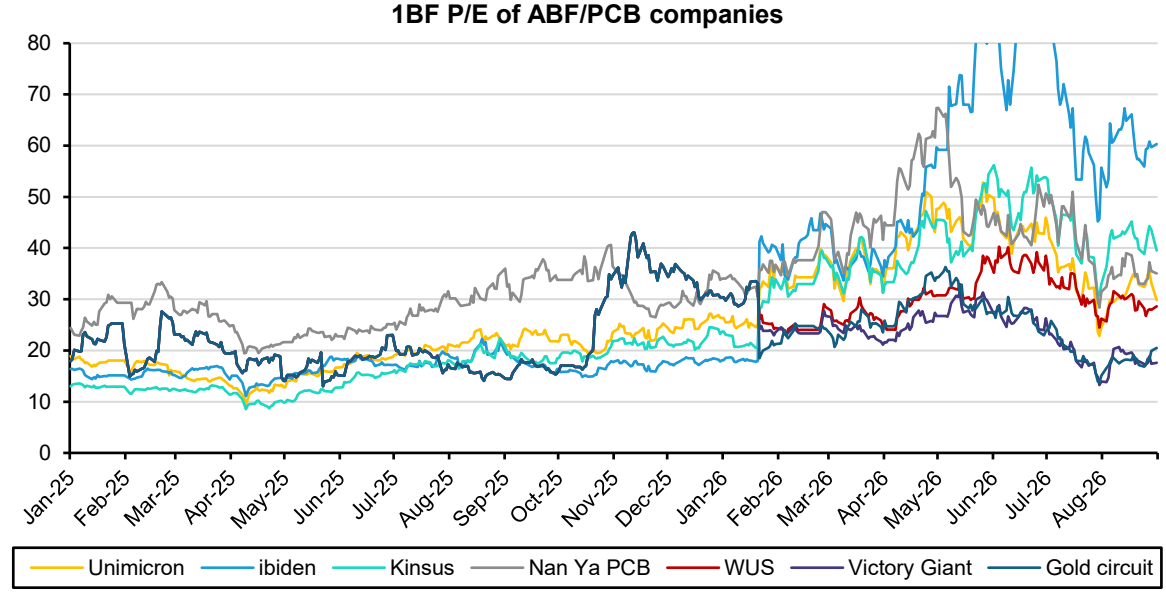
Notes: 1) Unimicron, Ibiden and Ajinomoto are covered by Bernstein, the rest are not covered; 2) Ibiden, AT&S, Ajinomoto, Mitsui Mining, Nittobo's CAGR is based on FY26 ending Mar-2026; 3) Nittobo's FY26 EPS boosted by a non-recurring real-estate asset sale; 4) AT&S's 2025 EPS was negative, pressured by increasign interest expense and FX losses
Source: Bloomberg, Bernstein analysis

EXHIBIT 2: **Following the recent pullback, ABF substrate names have recovered to new highs, whereas PCB suppliers are still trading meaningfully below their previous peaks**



Source: Bloomberg and Bernstein analysis

EXHIBIT 3: **ABF companies enjoys higher valuation than other PCB companies driven by more severe supply shortage**



Source: Bloomberg and Bernstein analysis

PCB MARKET UPDATE

Top AI PCB companies revenue grew c.45% YoY and 18% QoQ respectively in 2Q26 and the growth momentum is likely to continue in 2H26. Among non-substrate AI PCB players, **Shengyi, GCE, and WUS** delivered the strongest growth. VGT grew more moderately, at 38% YoY and 13% QoQ in US dollar terms, while gross margin declined due to upfront labor and depreciation costs ahead of new-site ramp-up.

Beyond revenue growth, the ABF substrate group—**Unimicron, Ibiden, Kinsus,** and **Nan Ya PCB**—recorded meaningful sequential gross-margin expansion, driven by ASP increases and a richer product mix *(see more discussions in ABF substrate market in next section)*.

Delton, which is exposed to CPU-board PCBs, doubled revenue YoY in 2Q and lifted gross margin to 41%, the highest in our sampled universe. Growth was supported by robust demand for general-server boards and ASIC MLPCBs, as well as strong profitability at its Thailand facility. Meanwhile, FPC leader **Zhen Ding** continued to increase its non-consumer exposure. Revenue from IC substrates and server/optical-transceiver PCBs rose 40% QoQ, reaching 23% of 2Q26 revenue, versus 20% in 1Q26. *(All stocks mentioned above are not under coverage except for Unimicron and Ibiden.)*

For more discussion on PCB technology & suppliers, please find details in Artificial Intelligence: Inside the War for AI Data Center Connectivity

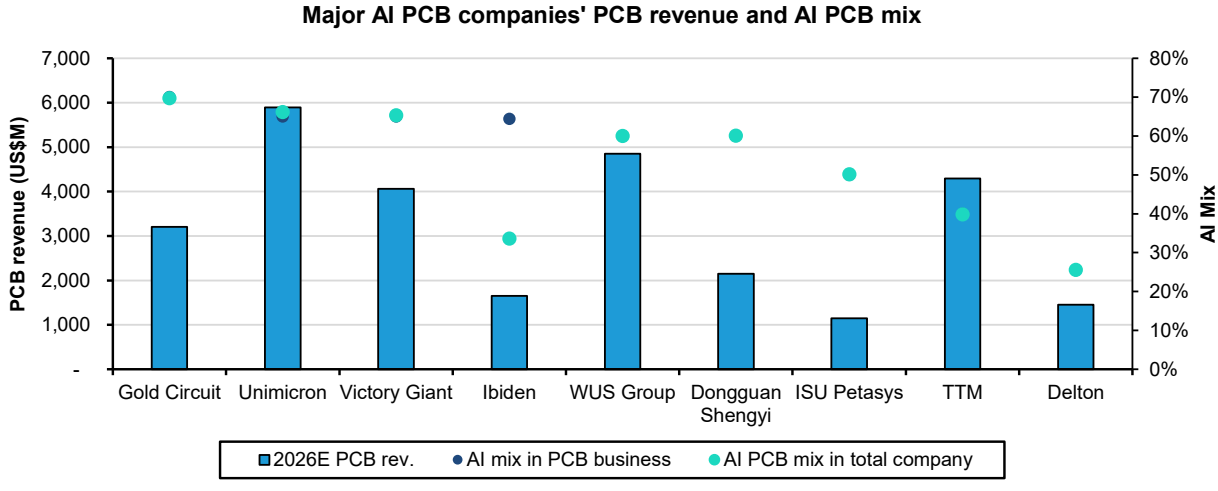
EXHIBIT 4: **Summary of major PCB/HDI/substrate suppliers with AI exposure**

	PCB			
	RPCB	HDI	IC Substrate	FPC+SMA
As % of total PCB market (2026E)	48%	20%	19%	13%
Delton	★			
Dongshan Precision	★	○		○
Gold Circuit	★			○
Ibiden	○		★	○
ISU	★			
Kinsus			★	
Nan Ya PCB	○		★	
SEMCO			★	
Shengyi Electronics	★			
TTM	★			
Unimicron	○	★	★	○
Victory Giant	○	★		
WUS Group	★			
Zhen Ding	○		○	★

○ Industry exposure; ★ Major business

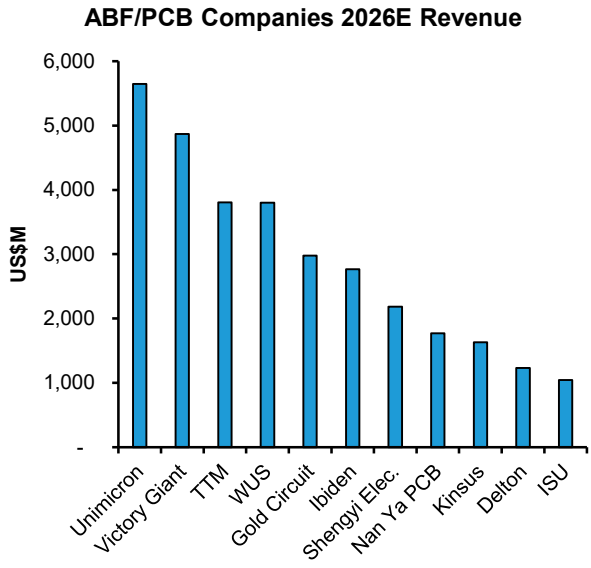
Source: Company reports, Prismark estimates of PCB market %, Bernstein analysis

EXHIBIT 5: **PCB revenue of major companies and AI PCB mix (2026E)**



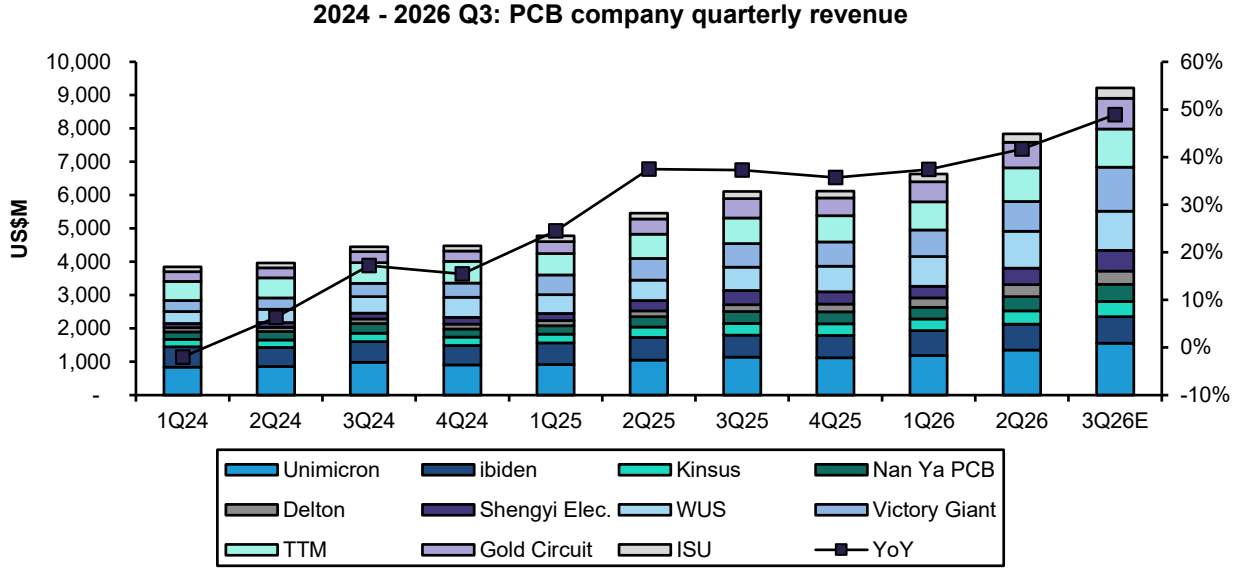
Source: Prismark, Bernstein analysis and estimates

EXHIBIT 6: **Bloomberg consensus revenue ranking for PCB companies (2026E)**



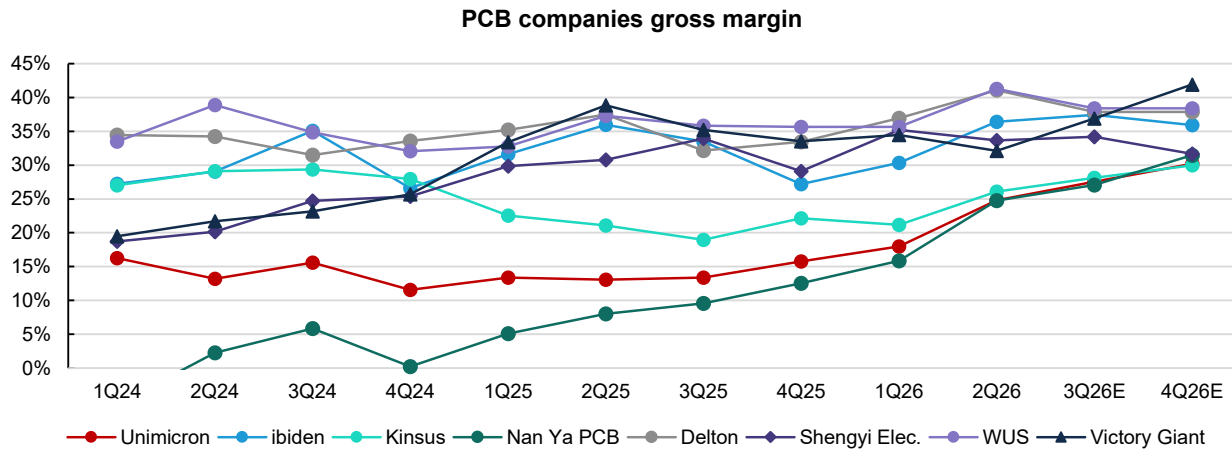
Source: Bloomberg, Bernstein analysis

EXHIBIT 7: **Quarterly revenue of PCB companies were trending up since 2H 2024**



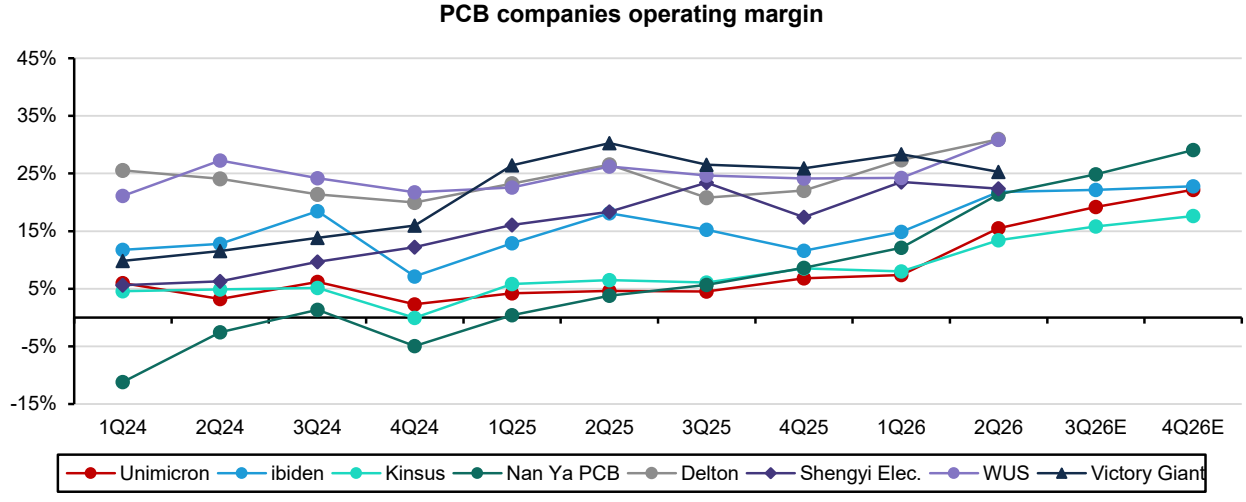
Source: Bloomberg and Bernstein analysis

EXHIBIT 8: **Consensus forecasts all PCB companies' GM to see sequential growth in 2026**



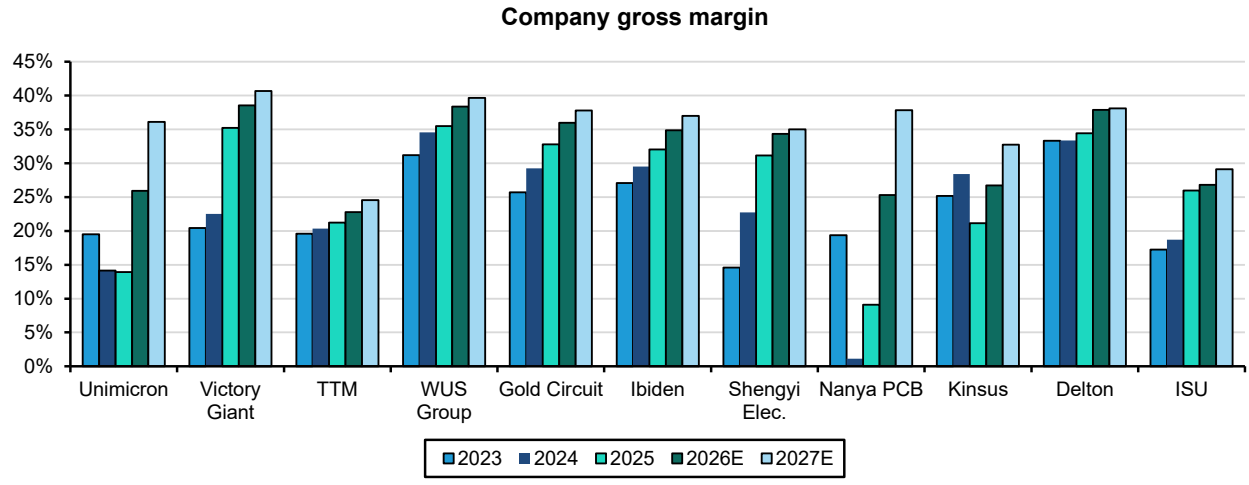
All forecasts are from Bloomberg consensus; Delton data starts from 2024
Source: Bloomberg, Bernstein analysis

EXHIBIT 9: **...same for OPM**



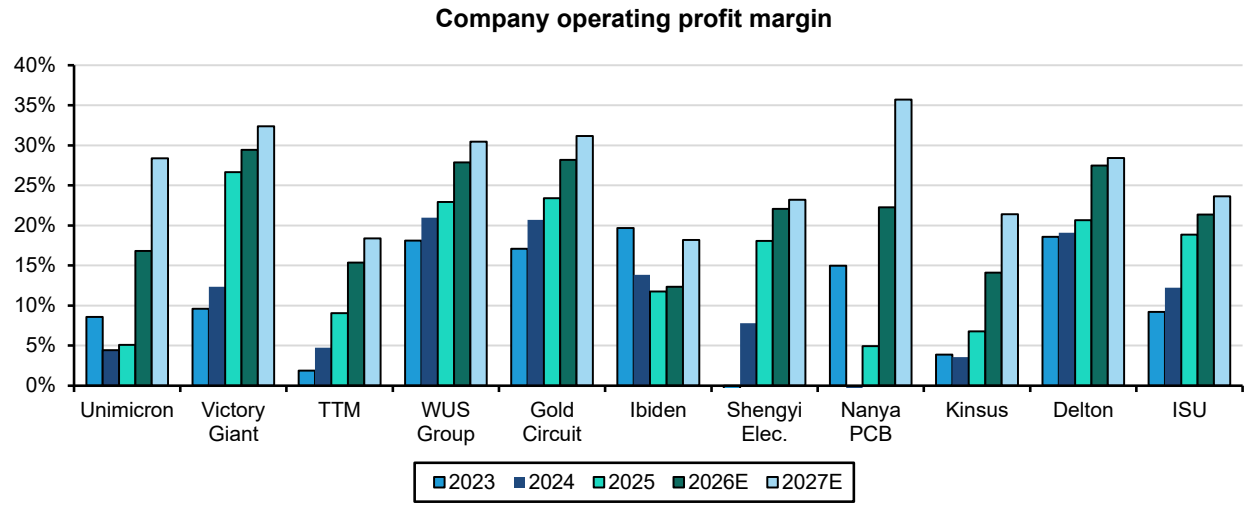
All forecasts are from Bloomberg consensus; Delton data starts from 2024
Source: Bloomberg, Bernstein analysis

EXHIBIT 10: **Most AI PCB companies saw meaningful gross margin expansion last year, and consensus expects most of them to see sequential growth in 2026-27E...**



All forecasts are from Bloomberg consensus, adjusted to calendar year
Source: Bloomberg, Bernstein analysis

EXHIBIT 11: **...similarly for operating margin**



All forecasts are from Bloomberg consensus, adjusted to calendar year
Source: Bloomberg, Bernstein analysis

Looking ahead, ongoing specification upgrades should further accelerate earnings growth for AI PCB and ABF substrate suppliers. Initial shipments for NVIDIA Vera Rubin and Google TPU v8 are set to begin in 2H26, both requiring significantly higher PCB and substrate performance. Key upgrades include an increase in MLPCB layer counts from ~20L to 30-44L, broader adoption of 6+N+6 HDI designs, and greater penetration of M8-grade-and-above CCLs and HVLP-4 copper foil. Meanwhile, NVIDIA and its supply chain continue to advance the development of PCB backplanes for the Kyber rack.

Outside of AI rack, **mSAP** HDI is also gaining tractions, driven by growing shipment of 1.6T optical transceivers. PCB technology in these modules is transitioning from the conventional subtractive process widely used in 800G optical transceivers to mSAP, which enables finer line/space dimensions and higher routing density. Several PCB manufacturers, including Zhen Ding, VGT, and Compeq, have announced mSAP capacity expansion plans over the next 12 months. Despite being the leading mSAP supplier, Unimicron's expansion efforts remain primarily focused on ABF substrates rather than HDI capacity.

EXHIBIT 12: **Nvdia's VR200 require substantially higher PCB performance vs. GB300**

		GB300	VR200
Compute tray	PCB	5+N+5 HDI (22L)	5+N+5 HDI (26L)
	CCL	M8 (mixed)	M8
	Copper foil	HVLP 3	HVLP 4
Switch tray	PCB	22L MLPCB & HDI	32L MLPCB & HDI
	CCL	M8	M8.5
	Copper foil	HVLP 3	HVLP 4
Mid-plane	PCB		44L MLPCB
	CCL		M8.5
	Copper foil		HVLP 4

Source: Bernstein analysis

EXHIBIT 13: **PCB spec for TPU rack**

		TPU v7	TPU v8
UBB	PCB	28L MLPCB	36-40L MLPCB
	CCL	M7	M8
	Copper foil	HVLP 2	HVLP 3
CPU board	PCB	16-18L MLPCB	22L MLPCB
	CCL	M6	M6

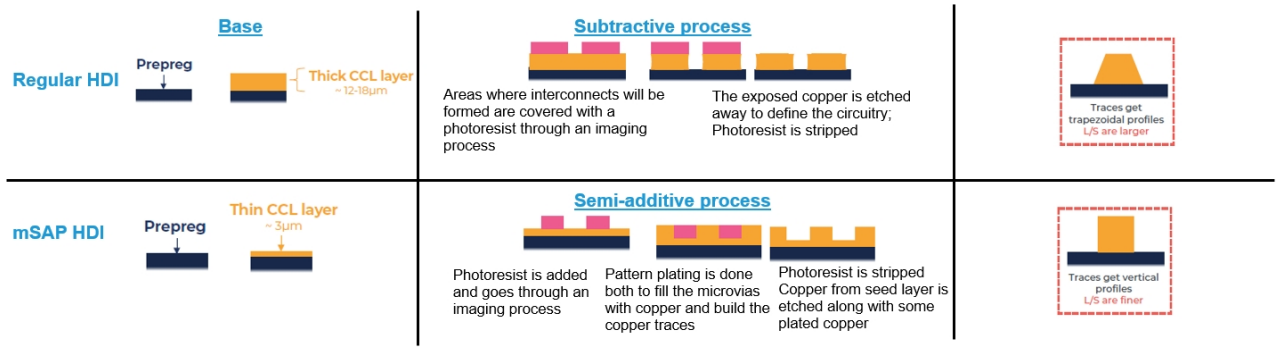
Source: Bernstein analysis

EXHIBIT 14: **mSAP HDI adoption has been expanded from smartphon to optical transceivers, particularly in 1.6T products**

Optical transceivers	400G	800G	1.6T
HDI type	Regular HDI	Regular/ mSAP HDI	mSAP HDI
Line Width / Spacing	>50/50 μm	30/30-50/50μm	25/25-30/30μm

Source: Bernstein analysis

EXHIBIT 15: **mSAP manufacturing process**



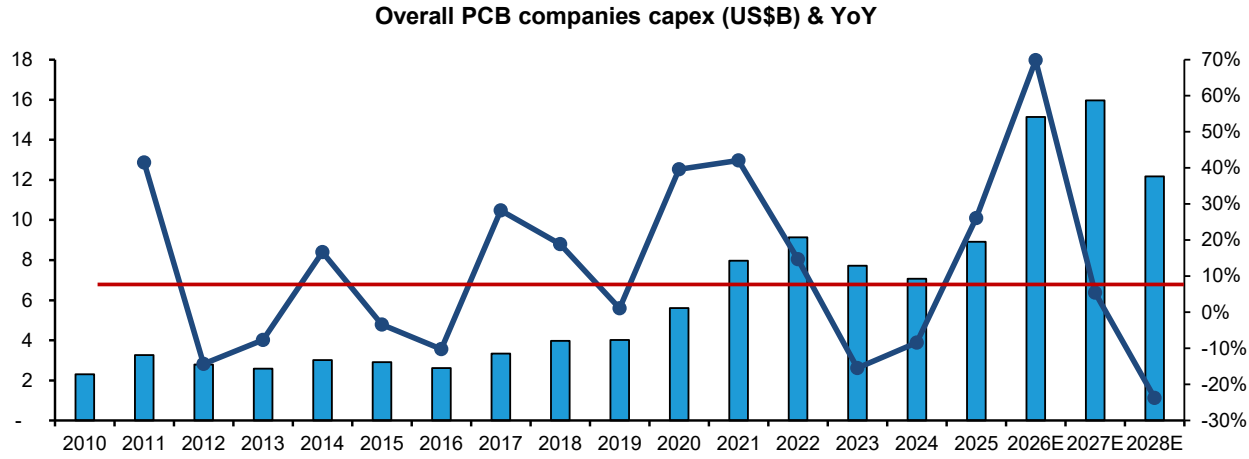
Source: Yole and Bernstein analysis

Supply tightness is likely to continue in the next few quarters. For overall PCB (incl. substrate), 2025 marked the 1st year of new capex cycle, with total spending increasing by 70% this year. Based on company guidance and Bloomberg consensus, the top spenders are Zhen Ding, VGT, and Unimicron. As a significant portion of this investment is allocated to new facility construction, many companies have indicated that capex will remain elevated next year as equipment purchases accelerate. We expect supply of MLPCB and HDI products to remain tight until new capacity is fully ramped up in 2H27.

Supply shortage of upstream materials has lead to several rounds of ASP hikes this year (Exhibit 17). Due to higher technological barriers, longer yield-ramp cycles, and constrained equipment availability, shortages of T-glass, HVLP-4 copper foil, and high-end CCLs, are likely to persist over the next few quarters. **T-glass, the key bottleneck for the ABF substrate industry this year,** should see some relief as Nittobo's new capacity begins ramping in 1H27. Tier-2 suppliers including Taiwan Glass, Sinoma and Grace Fabric are also ramping up capacity and yield, aiming to securing qualification from major AI accelerator customers. While ABF substrate makers like Unimicron expect raw material constraints to continue in the near term, they anticipate a more balanced supply environment next year. In addition, concerns are emerging over potential shortages of **ABF film**, following market reports that Ajinomoto may be reducing ABF film supply to Chinese customers, but the company strongly denied such claims.

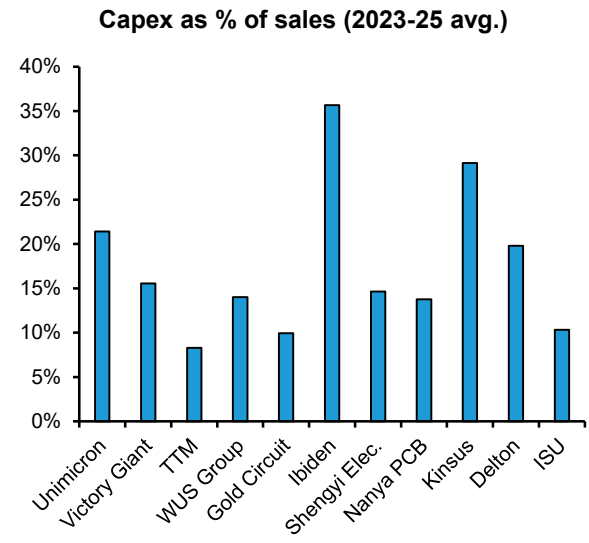
Amid persistent supply shortages, key upstream materials, particularly CCLs used in HDI and MLPCB production, are entering a new capacity expansion cycle. CCL industry leader EMC is set to begin ramping its Guanyin facility in Taiwan in 4Q26. Together with new plants in China and Malaysia, the company has guided for a 50% increase in capacity by 2027. Meanwhile, despite a few months' delay due to long equipment lead time, TUC's Thailand site will come online in 3Q26, with the company targeting a 45% expansion in total capacity next year.

EXHIBIT 16: **Consensus expects industry-wide PCB capex to grow by 70% in 2026E**



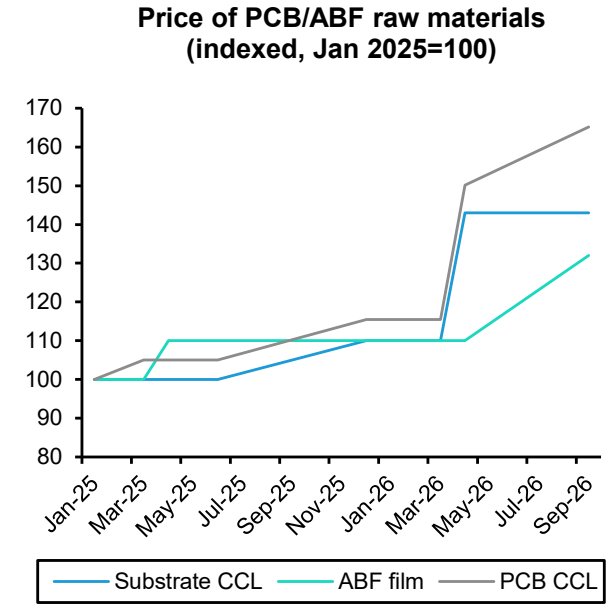
Source: Bloomberg and Bernstein analysis

FIGURE 1: **PCB companies' capex intensity diversified historically**



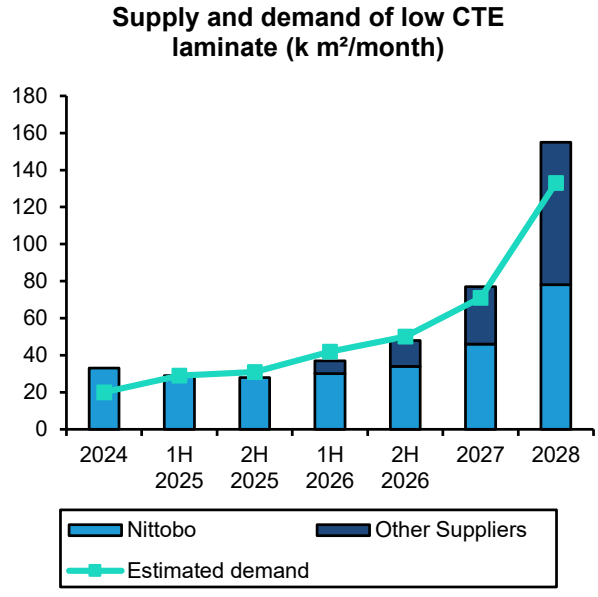
All forecasts are from Bloomberg consensus, adjusted to calendar year
Source: Bloomberg, Bernstein analysis

EXHIBIT 17: **Upstream material prices continue to rise as supply shortages persist**



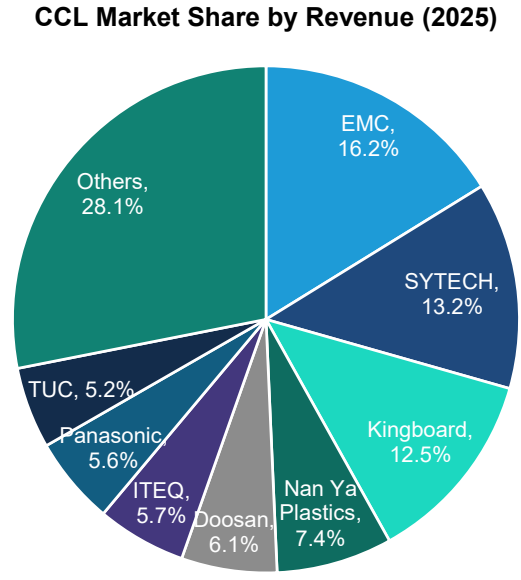
Source: Digitimes, Bernstein analysis

EXHIBIT 18: **Prismark expects low-CTE laminate supply to catch up with demand next year**



Source: Prismark estimates and Bernstein analysis

EXHIBIT 19: **EMC. Sytech and Kingboard led the CCL market in 2025**



Source: Prismark and Bernstein analysis

EXHIBIT 20: **CCL suppliers in Taiwan and China mainland are leading the industry's current capacity expansion cycle**

Company	Capacity (mn sheets / month)				Notes
	2024	2025	2026E	2027E	
EMC	4.4	5.9	6.2	9.3	2026: Expand in Guanyin (Taiwan). 2027: Expand four sites in China, one in Taiwan, and one in Malaysia.
TUC	2.0	2.3	2.6	3.8	2026: Add capacity in China and Thailand. 2027: Further expand in both China and Thailand.
Shengyi Technology	13.0	14.5	15.5	16.1	Jiangsu II: Annual capacity of 18M sqm CCL and 34M meters prepreg; reaching full operations by 1H26. Thailand: Mass production to start in Sep 2026 with initial capacity of 400k sheets/month. Dongguan II: Ramp-up begins in 2H27, reaching full scale in 2028; adding 48M sqm CCL and 100M meters prepreg annually.
Doosan	1.3	1.3	1.5	2.0	Plan to expand capacity by 50% by early 2027.

Source: company guidance, Bernstein estimates and analysis

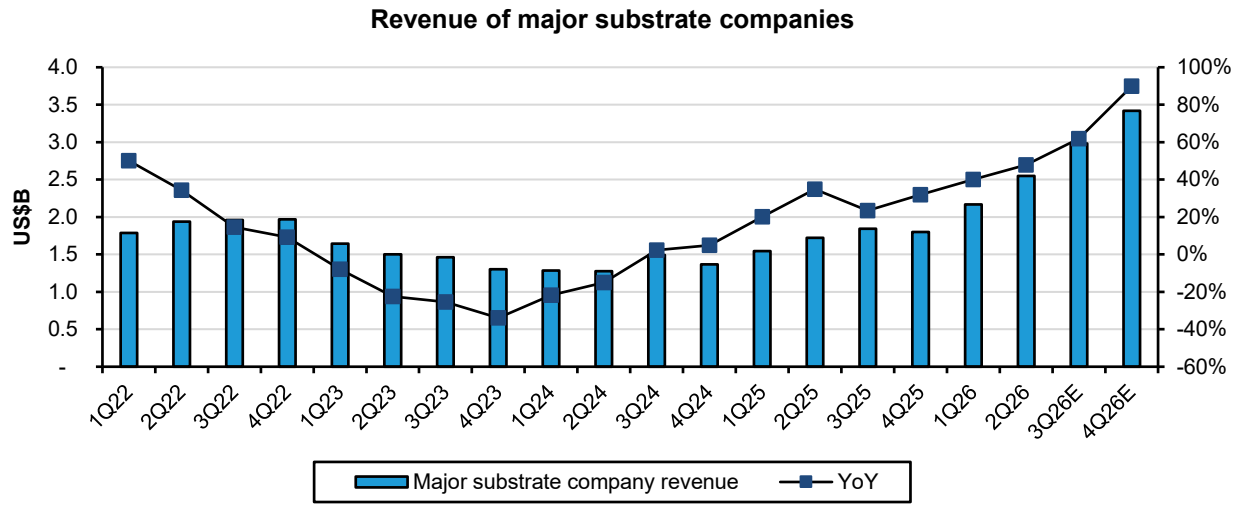
ABF SUBSTRATE

ABF substrate revenue growth accelerated in 2Q26 and is likely to gain momentum in the coming quarters. Top 8 companies' ABF substrate revenue in 1Q26 has exceeded the 4Q22 peak. Growth rate accelerated to nearly 50% YoY in 2Q26, driven by ASP hike and shipment. Demand is strong across CPU, GPU, ASICs and networking chips, and is likely to further accelerate in 2H26. The combined contract liabilities of key suppliers have also risen in 2Q, reflecting better order visibilities (Exhibit 21-Exhibit 23,).

With customer support through mechanisms such as prepayments, capex sharing, and LTAs, substrate companies have become more aggressive in capex this year (Exhibit 24-Exhibit 26)**. Unimicron** has increased its 2026 capex budget to NT$53.7bn from initial plan of NT$19.4B. The company targets 40% YoY ABF capacity growth by end-2026, with additional expansion expected from the ramp-up of its new Kaohsiung (KF) and Yangmei facilities in 2H27 and 2028, respectively. **Ibiden** has guided FY27/3E capex of ¥210bn, representing more than 40% of its ¥500bn three-year substrate investment plan. Meanwhile, **Kinsus** plans to invest c.NT$23.5bn during 2026–28, including NT$7–8bn in 2026. Its Yangmei K6 Phase 1 should raise AI-related revenue mix to 10–15% in 2026 from 5–10% last year; Phase 2, planned for 2027, would add c.25% capacity to 50m

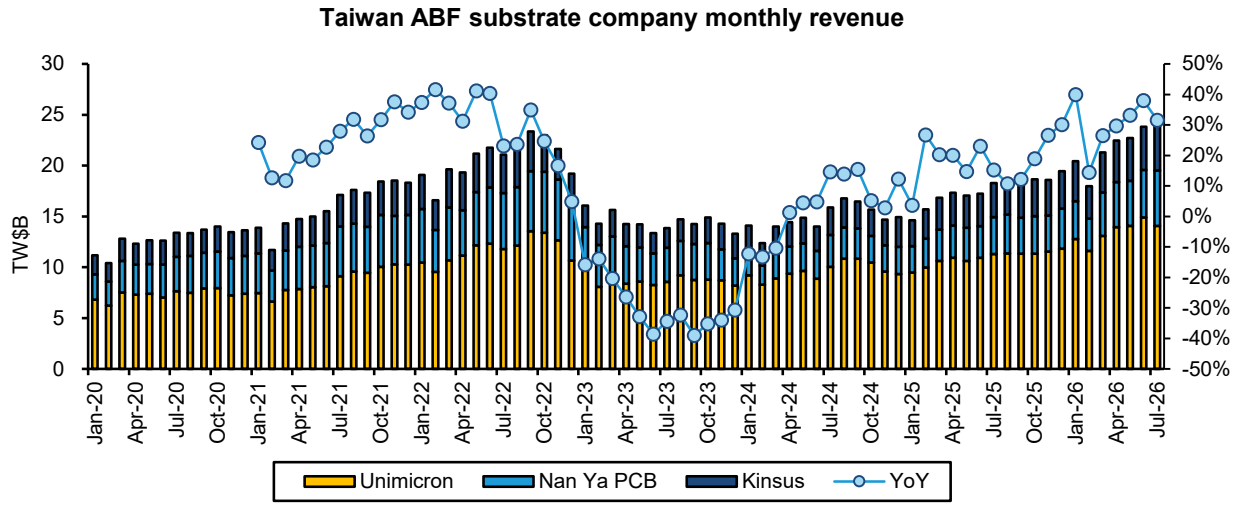
units per month. **Nan Ya PCB** announced an additional NT$19.6bn investment plan in July, lifting expectations for FY26 capex to c.NT$40bn. **SEMCO** expects its ABF capacity to reach full utilization in 2H26 and has reportedly registered a ~KRW1.8tn (~US $1.4bn) second-phase investment targeting ABF substrates for robotics, autonomous driving, and AI in Vietnam plant. Last but not least, **AT&S** recently guided to €1.0–1.2bn of FY26/27 capex, announced a €1.5–2.0bn Malaysia investment plan in June, and continues to expand its Chongqing facility. **Overall, consensus FY26 capex estimates for major ABF substrate suppliers have risen by 66% since the beginning of the year.**

EXHIBIT 21: **Revenue growth among major ABF substrate suppliers accelerated to c.60% YoY in 2026E**



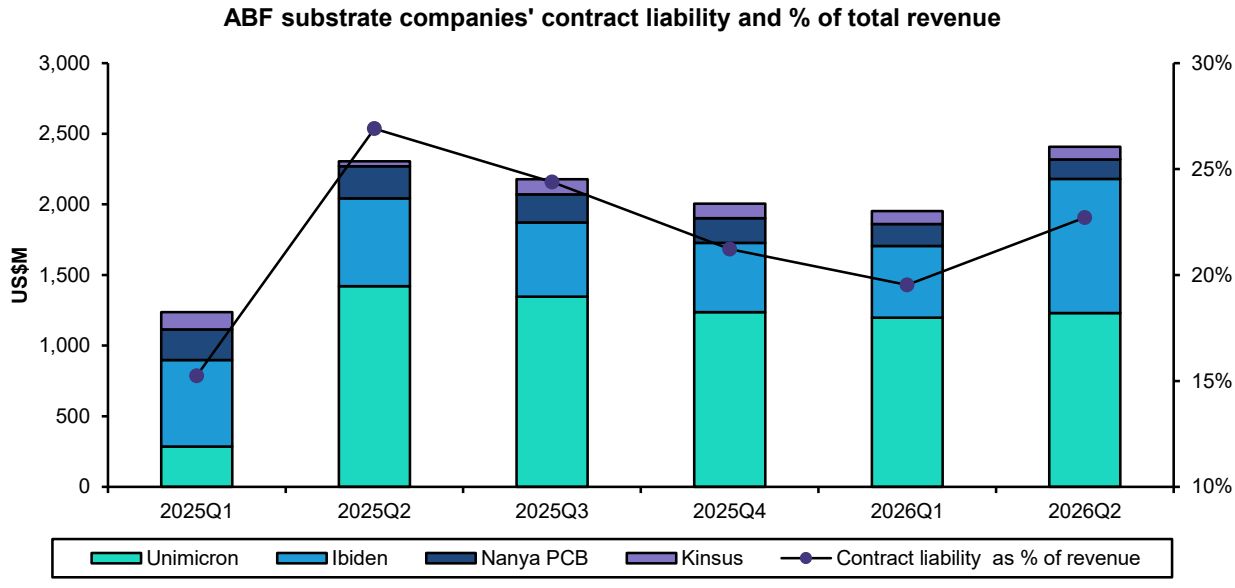
Companies included: Ibiden (OP), Unimicron (OP), Zhen Ding, Nanya PCB, Kinsus, SEMCO, Shinko, and AT&S (all not covered); All 3Q26 and 4Q26 numbers are Bernstein estimates
Source: Bloomberg, Bernstein analysis and estimates

EXHIBIT 22: **Taiwan ABF substrate companies' monthly sales are trending higher in recent months**



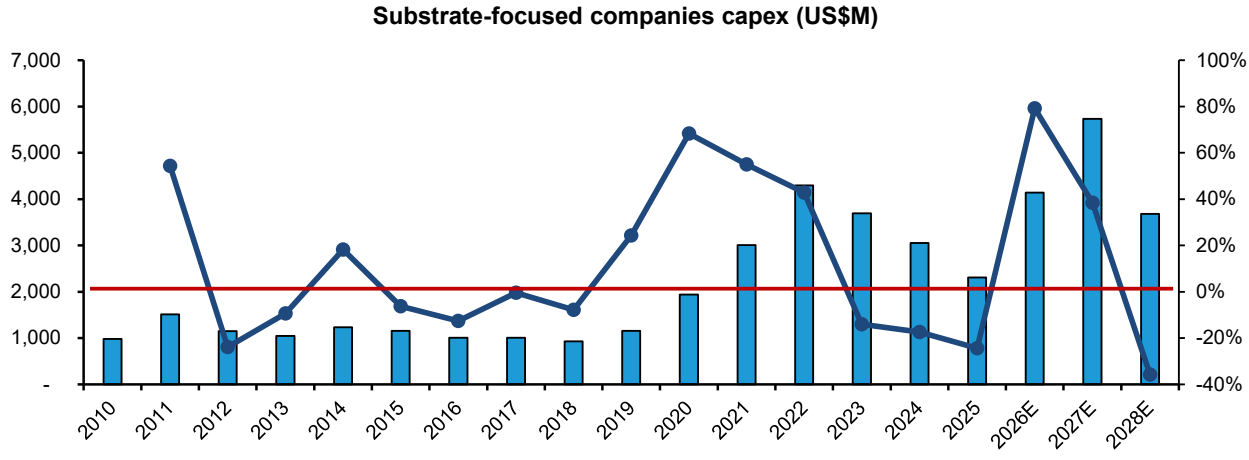
Source: Company disclosure, Bloomberg, Bernstein analysis

EXHIBIT 23: **Contract liabilities at major ABF substrate suppliers have started to rise since 2Q26, reflecting strong customer commitments and improving demand visibility**



Source: Bloomberg and Bernstein analysis

EXHIBIT 24: **Consensus expects substrate industry capex to rise by c.80% in 2026E**



Source: Bloomberg and Bernstein analysis

EXHIBIT 25: **Major ABF substrate suppliers have significantly increased capex investments in 2026**

Company name	2025 capex (US$M)	2026 capex (initial cons., US$M)	2026 capex (latest cons., US$M)	Notes
Unimicron	826	704	965	Raised 2026 capex by TW$86B in Mar 2026 and TW$197B in Jul 2026
Ibiden	877	652	1132	Announced a 500 billion yen capex plan for FY26-28 in Feb 2026
Nan Ya PCB	78	108	127	Announced additional TW$46.8B capex plan in Aug 2026
Kinsus	199	178	243	Announced additional TW$19.6B capex plan in Jul 2026
AT&S	229	329	825	Guided EUR1-1.2B capex for FY26/27 in Aug 26; Announced EUR1.5-26 investment in Malaysia sites in Jun 26
Total	**2,209**	**1,971**	**3,292**	

Source: Company disclosures and Bloomberg

EXHIBIT 26: **Substrate Capacity Expansion Plan**

Company	Site	Product	Capacity	Production Start (Calendar Year)
Unimicron	Yangmei site, TW	ABF (Server)	Site 1 for both YM/GF is 35% of total capacity; Site 2 of both projects will add another 30% of capacity from mid-2027 to end-2028	2021 (site 1 starts in 2024 and fully ramp up in end-2026; 2nd/3rd sites start in 2028 focusing on EMIB-T)
	Guangfu site, TW	ABF (Server)		End-2024 (site 1 fully ramp by end-2026, 2nd site starts in mid-2027)
Ibiden	Ogaki	ABF	Will almost double ibiden's capacity with these investments	Expansion in 2023
	Ono Plant, JP	ABF (Server)		2H25
	Gama Plant, JP	ABF (Server)		2027
Nanya	Shulin, TW (1st Phase)	ABF	Total ABF production capacity: 50M Units/M by End-2023	3Q22
	Shulin, TW (2nd Phase)	ABF (HPC)		3Q23
	Kunshan, CN (2nd Phase)	ABF		3Q22
	Jinxing, TW	ABF		Upgrade in 2Q23-1Q24
Shinko	Chikuma Plant (New)	Flip Chip	Increase capacity by c.50% by 1H25, compared to 2H21	By 1Q24
	Kohoku Plant	Flip Chip		By 1Q24
	Wakaho Plant	Flip Chip		4Q24-1Q25
SEMCO	Vietnam Plant	Flip Chip		Expansion in 2022; potentially to expand 2nd phase in 2026-27
Kinsus	Yangmei K6 site, TW	ABF	To increase capacity by c.25% with 2nd phase in 2027; 3rd-4th phase start ramp up in 2028-29	1st phase fully ramped, 2nd phase mass production starts in 2027
Leading (ZDT)	Shenzhen, CN	ABF	2026 production value is guided to be NT$10B+	Site 1 reached 30% of designed capacity in 2025, and will fully ramped up by 2027; site 2 starts ramping this year
AT&S	Chongqing, CN	ABF		Summer 2027
	Kedah, Malaysia	ABF		Site 1 will ramp in summer/fall 2027; Site 2 will start to ramp in 2028

Source: Company reports, Bernstein analysis

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VALUATION METHODOLOGY

Unimicron Technology Corp

We set a NT$990 target price using a P/E multiple of 27X against our 2027-28 avg. EPS of NT$36.9.

Ajinomoto Co Inc

We set a JPY7,300 price target for Ajinomoto using an NTM P/E multiple of 35.0x against our forward NTM+1 EPS estimate of JPY207. This compares to an implied 34.8x FY3/28E P/E based on our DCF (8.5% WACC, 3.5% TVGR) and 35.2x P/E based on our SOTP analysis.

Ibiden Co Ltd

We set a ¥29,000 target price using a P/E multiple of 35x against our FY29/3 EPS estimate of ¥829.

RISKS

Unimicron Technology Corp

Downside risks to our price target for Unimicron include:

- Aggressive ABF capacity expansion among competitors that slow down the ABF market recovery
- Slower-than-expected recovery of HDI yield and gross margin
- Macroeconomic pressure and tariff issue could delay the recovery of smartphones and PCs, impacting the utilization of multiple products at Unimicron

Ajinomoto Co Inc

Potential downside risks to our Price Target for Ajinomoto:

- Natural disaster results in supply chain disruption at single Functional Materials production site
- Entry of a new Build Up Film competitor / near term significant capacity expansion by existing competitor Sekisui
- IC packaging substrate technology advances reduce requirement for thermal barriers like ABF
- Competition from Chinese MSG producers spreads from B2B to branded products
- Value destructive M&A in Healthcare

Ibiden Co Ltd

There are a number of downside risks to our Ibiden target price. (1) Potential continuation of overall pricing pressure with industry level oversupply, (2) Potential expedited share loss in Nvidia's products, (3) More than expected capex burden and hence higher depreciation drag.

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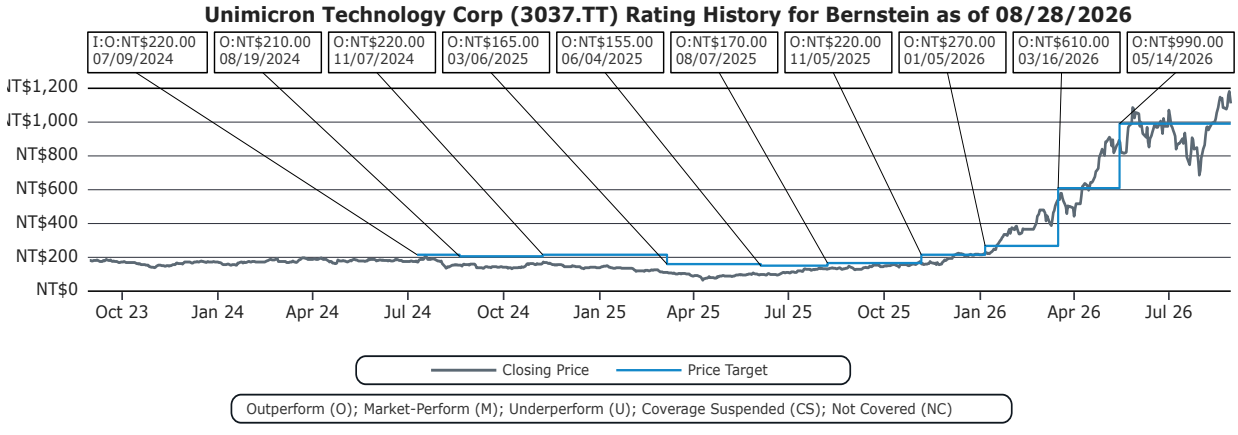
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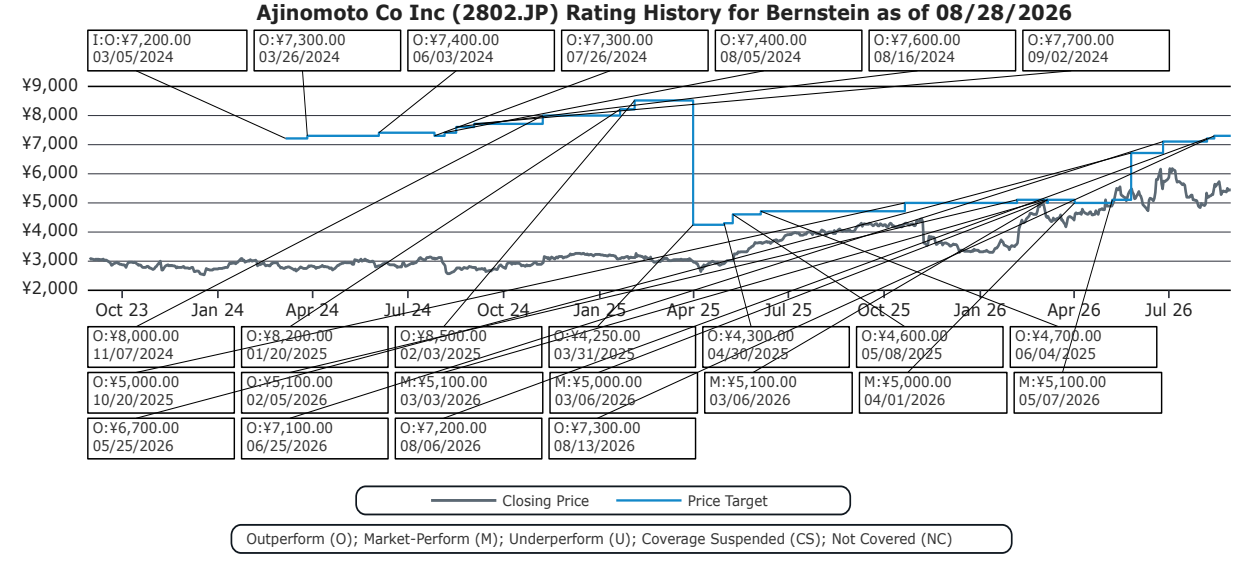
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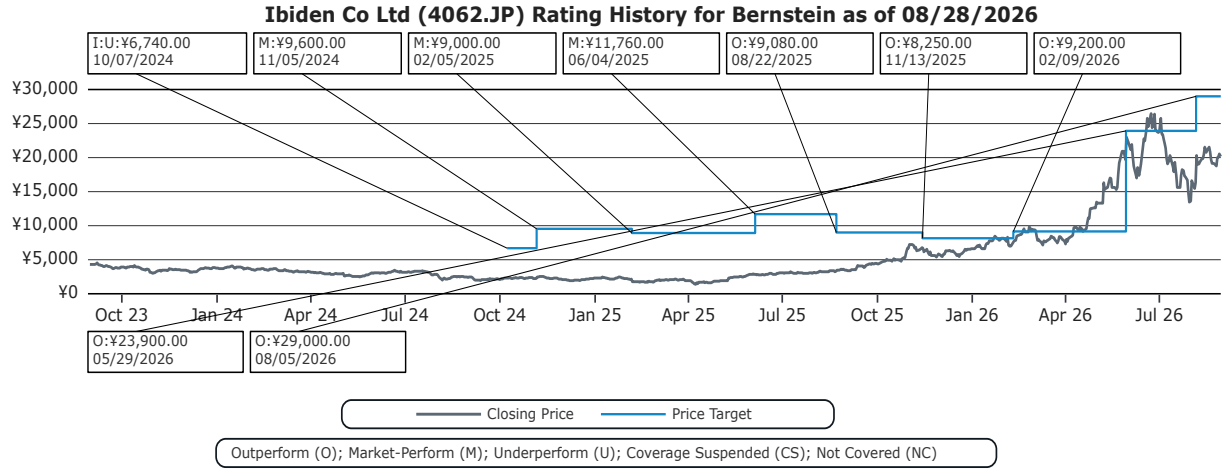
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