This publication was downloaded for exclusive use by: jacob.kim@macquarie.com

Daeduck Electronics

Outperform

Initiation: Long tail, fat substrate margin

Key Points

- Daeduck Electronics is a major substrate company in Korea, producing FCBGA, FCCSP, MLB, and others.
- ASPs and volumes are rising in all segments thanks to strong PCB demand and better product mix, which should support capex goals.
- Initiate at Outperform. Daeduck is a high-beta play to ABF substrate upcycle given its investment scale and margin expansion.

- **Gaining multi-year growth momentum in every segment.** Daeduck Electronics is a major substrate supplier in memory value chain. At the same time, the company is s pivoting and upgrading its margin via expansion in non-memory applications; FCCSP, FCBGA (ABF substrate), and MLB.
- **Highly levered to ABF substrate upcycle.** Daeduck Electronics is Korea's second-largest ABF substrate supplier by revenue after SEMCO (009150 KS; Outperform/Marquee Buy) and ranked ninth globally as of 2025. We believe ABF substrate supply shortage extends beyond 2028E, while first-tier ABF substrate makers prioritise mostly GPU/CPU substrate production. Daeduck is fully leveraging the supply-demand gap in ABF substrate supply chain, expanding market share in segments such as network switches, auto ADAS, and optical modules. Moreover, Daeduck plans to expand FCBGA capacity by 2.2x by 2H28, which should drive strong ROE expansion towards 30+% in 2027E/28E.
- **We view the sell-off as an overreaction and a good buying opportunity.** Daeduck Electronics has been one of the weakest-performing stocks in the regional substrate/PCB supply chain over the past month, with its shares down 49%. However, the company's improving operating cash generation capacity supports Won1.4tn in capex (140% of total equity), and it has higher beta to the ABF substrate supercycle. In our view, customer prepayments for capex also signal robust demand.

Earnings outlook: We model 2026E/27E/28E EPS growth of 378%/73%/43%, which we expect will be driven by higher ASP mix (FCCSP, FCBGA).

Valuation: Our Won160,000 TP is based on a 20x 2027E P/E target multiple (five-year average), which is in line with the global ABF substrate average peer multiple.

Catalysts: Customer additions in AI server value chain (AI accelerators, switches); larger customer prepayments; faster substrate spec upgrades.

Investment Thesis and Recommendation

Initiate at Outperform. Daeduck Electronics is a high-ABF substrate beta play in Korea, reaching 30+% sales mix by end of 2027E. We believe recent negatives are overdone.

Technology Hardware & Equipment
Korea



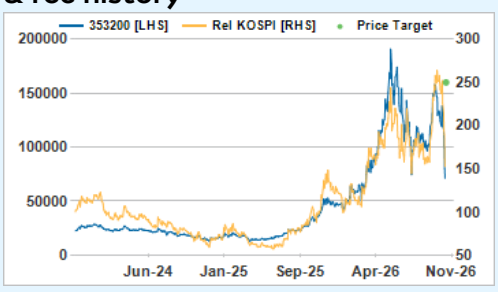
Jacob Kim

353200 KS	Outperform
Price (at 11 Nov 2026)	KRW90,000
12-month target	KRW160,000
12-month TSR (%)	78.5
Volatility Index	Very High
Market Cap (Local) (m)	4,493,215
Market Cap (USD) (m)	3,360
Free Float (%)	64
30-day avg turnover (USD) (m)	122.6

Investment Fundamentals

Year end 31 Dec	2025A	2026E	2027E	2028E
Revenue (bn)	1,065	1,596	2,143	2,831
Revenue growth (%)	19.4	49.8	34.2	32.1
EBIT (bn)	49.1	299.2	509.0	730.7
EBIT growth (%)	336.2	509.8	70.1	43.5
Reported profit (bn)	47.6	227.6	392.8	562.2
Adjusted profit (bn)	47.6	227.6	392.8	562.2
EPS rep [KRW]	963.4	4,606.0	7,949.3	11,377.3
EPS rep growth (%)	100.4	378.1	72.6	43.1
EPS adj [KRW]	963.4	4,606.0	7,949.3	11,377.3
EPS adj growth (%)	100.4	378.1	72.6	43.1
Net debt/equity (%)	0.8	(9.1)	(12.2)	(16.4)
ROA (%)	4.3	20.9	25.4	27.5
ROE (%)	5.4	22.8	30.6	32.3
PER rep (x)	93.4	19.5	11.3	7.9
PER adj (x)	93.4	19.5	11.3	7.9
EV/EBITDA (x)	23.0	8.5	5.1	3.6
P/BV (x)	5.0	4.0	3.0	2.2
Total div yield (%)	0.6	0.6	0.6	0.6

353200 KS rel KOSPI performance, & rec history



Source: FactSet, Macquarie Research, Nov 2026 (all figures in KRW unless noted, TP in KRW)

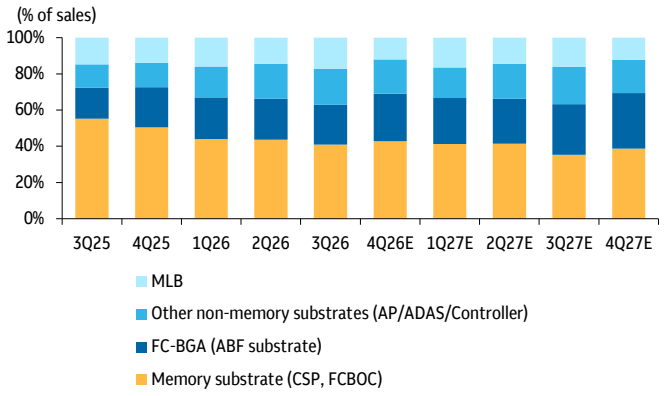
Key Risks to Investment Thesis

- Poor yields/high material prices may limit margin expansion.
- Upstream component (CCL shortage) bottlenecks may constraint capacity growth.
- Additional funding needs may lead to share dilution.

Company Description

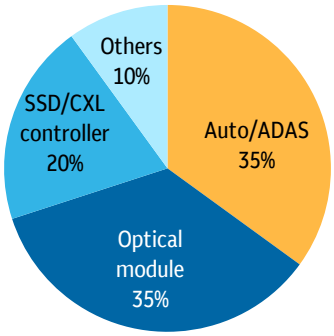
Daeduck Electronics (Daeduck) is a Korean PCB/substrate maker mainly with three product line ups: memory package substrates (BT substrate), non-memory substrates (FCBGA, FCCSP) and high-layer MLBs. The company has been shifting its business focus from memory to high-end FCCSP/FCBGA and MLB.

Figure 1 - Daeduck Electronics: Quarterly sales mix



Source: Company data, Macquarie Research, November 2026

Figure 2 - Daeduck Electronics: FCBGA sales breakdown (3Q26)



Source: Company data, Macquarie Research, November 2026

Daeduck Electronics (353200 KS) KRW/(bn) unless otherwise noted

Income Statement Dec FY	2025A	2026E	2027E	2028E	Q3/26A	Q4/26E
Revenue	**1,065**	**1,596**	**2,143**	**2,831**	**418.1**	**430.6**
Cost of Goods Sold	957.0	1,179	1,505	1,931	296.9	315.0
Gross Profit	**108.3**	**416.9**	**637.6**	**900.6**	**121.2**	**115.6**
EBITDA	**149.6**	**405.5**	**671.9**	**957.5**	**116.7**	**121.1**
Depreciation	96.9	102.7	160.3	224.9	28.0	30.5
Amortisation	3.6	3.5	2.6	1.9	0.9	0.8
EBIT	**49.1**	**299.2**	**509.0**	**730.7**	**87.9**	**89.8**
Net Interest Income	6.1	5.3	3.9	5.1	1.3	1.4
Associates	0.0	0.0	0.0	0.0	0.0	0.0
Exceptionals	0.0	0.0	0.0	0.0	0.0	0.0
Forex Gains / Losses	(4.6)	10.5	0.0	0.0	0.0	0.0
Other Pre-Tax Income	2.9	(18.2)	4.0	4.0	(19.0)	1.0
Pre-Tax Profit	**53.4**	**296.8**	**516.9**	**739.8**	**70.2**	**92.2**
Tax Expense	(5.8)	(69.2)	(124.1)	(177.5)	(15.8)	(22.1)
Net Profit	**47.6**	**227.6**	**392.8**	**562.2**	**54.4**	**70.1**
Minority Interests	0.0	0.0	0.0	0.0	0.0	0.0
Reported Earnings	**47.6**	**227.6**	**392.8**	**562.2**	**54.4**	**70.1**
Adjusted Earnings	**47.6**	**227.6**	**392.8**	**562.2**	**54.4**	**70.1**
Basic Shares Outstanding	0.0	0.0	0.0	0.0	0.0	0.0
Diluted Shares Outstanding	0.0	0.0	0.0	0.0	0.0	0.0
EPS (rep) [KRW]	963.4	4,606.0	7,949.3	11,377.3	1,100	1,418
EPS (adj) [KRW]	963.4	4,606.0	7,949.3	11,377.3	1,100	1,418
Total DPS [KRW]	500.0	500.0	500.0	500.0	0.0	500

Ratio	2025A	2026E	2027E	2028E
Revenue Growth (%)	19.4	49.8	34.2	32.1
EBITDA Growth (%)	16.2	171.1	65.7	42.5
EBIT Growth (%)	336.2	509.8	70.1	43.5
EPS Growth (adj) (%)	100.4	378.1	72.6	43.1
Gross Profit Margin (%)	10.2	26.1	29.8	31.8
EBITDA Margin (%)	14.0	25.4	31.4	33.8
EBIT Margin (%)	4.6	18.7	23.8	25.8
Net Profit Margin (%)	4.5	14.3	18.3	19.9
Payout Ratio (%)	51.9	10.9	6.3	4.4
PE (rep) (x)	93.4	19.5	11.3	7.9
PE (adj) (x)	93.4	19.5	11.3	7.9
EV/EBITDA (x)	23.0	8.5	5.1	3.6
EV/EBIT (x)	70.0	11.5	6.7	4.7
Price/Book (x)	5.0	4.0	3.0	2.2
Total Div Yield (%)	0.6	0.6	0.6	0.6

Balance Sheet	2025A	2026E	2027E	2028E
Cash	33.9	108.3	287.4	437.4
Receivables	196.6	261.0	356.2	486.6
Inventories	148.6	221.1	280.0	381.2
Investments	201.4	149.8	155.6	161.6
Fixed Assets	535.7	726.8	1,017	1,312
Intangibles	12.1	9.6	7.0	5.1
Other Assets	49.8	212.4	212.4	212.4
Total Assets	**1,178**	**1,689**	**2,315**	**2,996**
Payables	65.1	105.0	133.0	181.1
Short Term Debt	41.0	7.8	7.9	7.9
Long Term Debt	0.0	0.0	100.0	100.0
Other Liabilities	174.6	474.9	604.7	700.0
Total Liabilities	280.7	587.7	845.5	988.9
Shareholders' Funds	895.8	1,098	1,466	2,003
Minority Interests	0.0	0.0	0.0	0.0
Other	1.5	3.6	3.6	3.6
Total S/H Equity	**897.3**	**1,101**	**1,469**	**2,007**
Total Liab & S/H Funds	1,178	1,689	2,315	2,996
Net Debt / Equity (%)	0.8	(9.1)	(12.2)	(16.4)
Interest Cover (x)	NM	NM	NM	NM
ROE (%)	5.4	22.8	30.6	32.3
ROA (%)	4.3	20.9	25.4	27.5
ROIC (%)	5.1	25.4	38.7	43.1

Cash Flow Analysis	2025A	2026E	2027E	2028E
EBITDA	**149.6**	**405.5**	**671.9**	**957.5**
Tax Paid	(5.8)	(69.2)	(124.1)	(177.5)
Chgs in Working Cap	(93.6)	(97.0)	(126.1)	(183.6)
Net Interest Paid	6.1	5.3	3.9	5.1
Other	15.3	89.3	4.0	4.0
Operating Cashflow	**71.6**	**333.9**	**429.7**	**605.4**
Acquisitions	0.0	0.0	0.0	0.0
Capex	(64.9)	(278.1)	(450.0)	(520.0)
Other	(14.6)	96.6	124.1	89.3
Investing Cashflow	**(79.5)**	**(181.5)**	**(325.9)**	**(430.7)**
Dividend (Ordinary)	(20.6)	(25.8)	(24.7)	(24.7)
Equity Raised	0.0	0.0	0.0	0.0
Debt Movements	25.3	(33.2)	100.1	0.0
Other	(0.5)	(19.2)	0.0	0.0
Financing Cashflow	**4.2**	**(78.2)**	**75.4**	**(24.7)**
Net Chg in Cash/Debt	**(4.3)**	**74.4**	**179.1**	**150.0**
Free Cashflow	**6.7**	**55.8**	**(20.3)**	**85.4**

Source: Company data, Macquarie Research Nov 2026

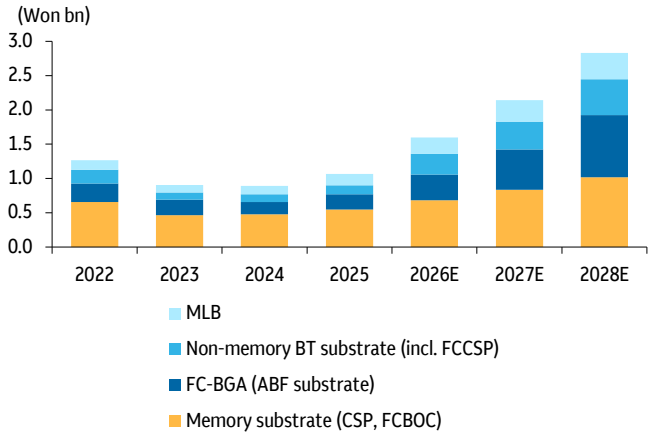
Glossary

- **FCBGA:** flip-chip ball-grid-array substrates
- **BOC**: board-on-chip substrates
- **CSP:** chip-scale-package substrates
- **FCCSP:** flip-chip chip-scale-package substrates
- **MLB:** multi-layer printed circuit boards
- **SoC:** System on Chip
- **ADAS**: advanced driver-assistance system
- **LEO**: low-Earth-orbit; LEO satellites operate close to earth's surface (160km-2,000km)

Executive summary

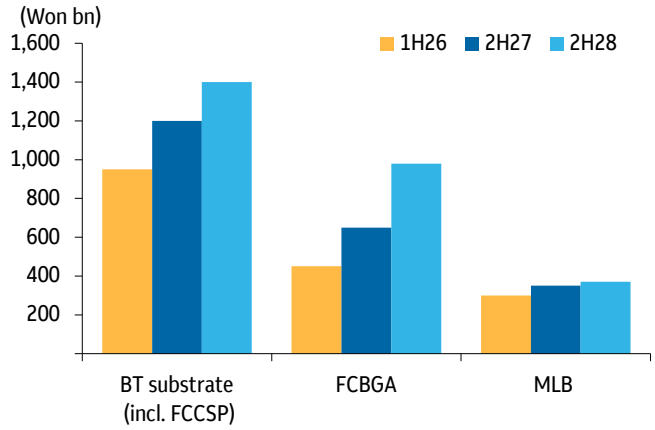
- **Who supplies the rest when tier-one capacity is absorbed by AI chips?** In our view, ABF substrates are a key bottleneck in the technology supply chain. Lead times are extending beyond one year, and we expect the supply shortage to persist beyond 2028E, per our estimate (Fig. 5). GPU, ASIC, and CPU shipments are expected to grow substantially. Substrate sizes are also doubling, while layer counts have risen from the low teens to more than 20 over the past three years. These significant specification upgrades reduce yields and substantially increase capacity requirements, not only for AI server hardware but also for other applications, such as automotive SoCs. Tier-one ABF substrate manufacturers, including **Ibiden (4062 JP; Outperform), Unimicron (3037 TT; Outperform)**, and **Samsung Electro Mechanics (009150 KS; Outperform)** are doubling their capacity for 70+mm FCBGA substrates, by 2028E However, we estimate that this additional supply will meet only **74% of incremental server-related substrate demand in 2026–28E,** including demand for GPUs, ASICs, CPUs, and network switches. As tier-one capacity becomes increasingly concentrated on the largest AI chip packages, we see Daeduck as a market share gainer in non-AI/networking hardware segments. The company is expanding its ABF substrate customer base across markets where customers cannot secure sufficient capacity from tier-one substrate manufacturers. Based on channel checks, we estimate that Daeduck's current **major ABF substrate customers** include **Tesla, Renesas, (6723 JP; Outperform),** and **Marvell**.
- **We forecast Daeduck's FCBGA revenue to more than quadruple by 2028E.** Daeduck is targeting rapidly growing spillover demand from network switches, SSD controllers, ADAS processors, and physical AI applications. Supported by **approximately Won700bn in FCBGA capex**, the company plans to expand its annual FCBGA revenue capacity by **2.2x through 2028E**, outpacing our estimated **1.6x industry supply growth during 2026–28E**. Furthermore, Daeduck is scheduled to begin mass production of 50–60mm substrates for network switches and controllers in 2H26, followed by approximately 70mm products for automotive and physical AI applications in 1H27. New capacity, rising utilization, and a shift toward larger substrates with higher layer counts should support higher volumes and average selling prices (ASPs). We forecast Daeduck's FCBGA revenue to grow to more than **4x its 2025 level by 2028E**, with potential customer additions in AI accelerators, LPUs, and CXL controllers offering further upside.
- **We expect BT substrates and MLB to support a group operating margin in the mid-20% area in 2027E.** Daeduck is also improving its operating margin profile in BT substrates (CSP and FCCSP) and multilayer boards (MLB) through higher production volumes and an improved product mix. BT substrates are currently Daeduck's largest revenue contributor. **The company is a major supplier to the memory value chain,** alongside **Simmtech (222800 KS; Not Rated)** and **Kinsus (3189 TT; Outperform).** Daeduck is shifting its BT substrate mix toward higher-value, non-memory FCCSP products, whose ASPs are approximately **2x those of PC DRAM BOC substrates**. The company plans to invest ~Won700bn in FCCSP capacity for applications such as SSD controllers and automotive systems, expanding revenue capacity by **50% over the next two years.** In the MLB business, we expect demand from LEO applications and network switches to accelerate PCB shipment growth. Daeduck is also targeting mass production of MLB for AI accelerator mainboards, potentially from early next year. We believe these developments support our positive outlook for Daeduck's multi-year OP growth.
- **We see a buying opportunity after a 50% share price decline in one month.** Daeduck shares have fallen more sharply than those of any other PCB or substrate peer in the Asian technology supply chain. We attribute the decline to weak investor confidence in the company's ability to execute its plans and concerns about financing its planned capex of Won1.4tn through 2028E, equivalent to 140% of total equity as of 3Q26. However, the company agrees with our assessment that customer prepayments are increasing rapidly and that internally generated cash inflows are sufficient to fund phase-one capex of Won600–650bn through 2027E. Given its strong net profit growth, we expect limited external capital financing or potential share dilution. We view Daeduck as an emerging key substrate company with higher earnings growth correlation to the ABF substrate upcycle and with ROE forecast above 30% in both 2027E and 2028E. We initiate coverage with an Outperform rating, **target price of Won160,000** based on our **20x 2027E EPS** target multiple.

Figure 3 - Daeduck Electronics: Annual revenue



Source: Company data, Macquarie Research, November 2026

Figure 4 - Daeduck Electronics: Annual revenue capacity guidance



Source: Company data, Macquarie Research, November 2026

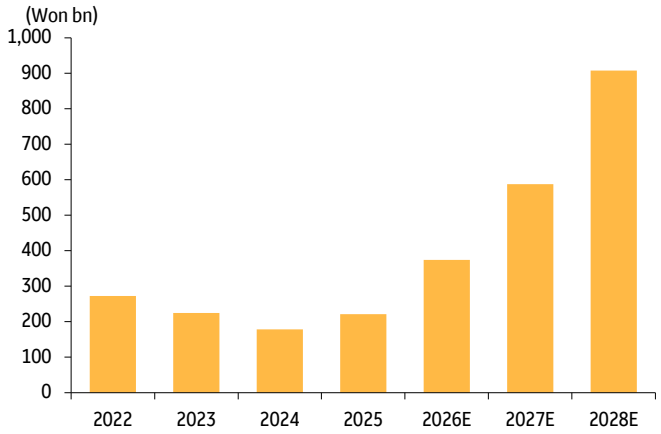
Figure 5 - Global ABF supply-demand gap



Source: Macquarie Research, November 2026

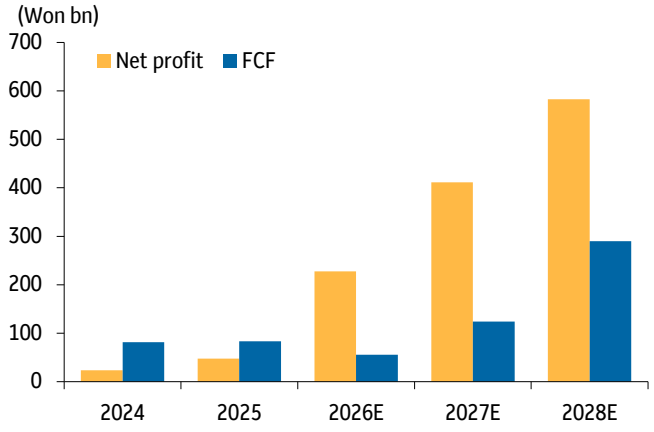
Positive=undersupply

Figure 6 - Daeduck Electronics: FCBGA revenue forecast



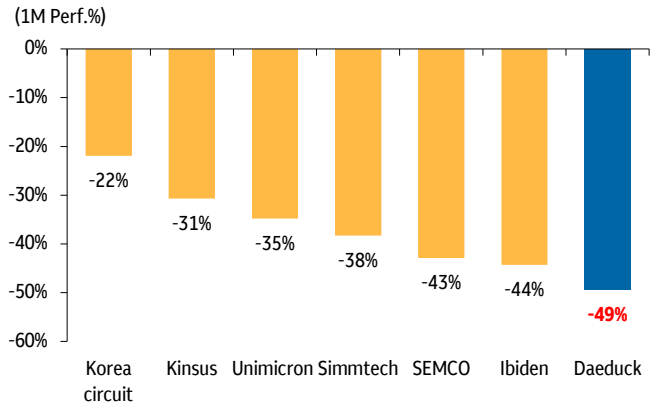
Source: Company data, Macquarie Research, November 2026

Figure 7 - Daeduck Electronics: Strong net profit supports capex goals



Source: Company data, Macquarie Research, November 2026

Figure 8 - One-month share price performance of major substrate companies



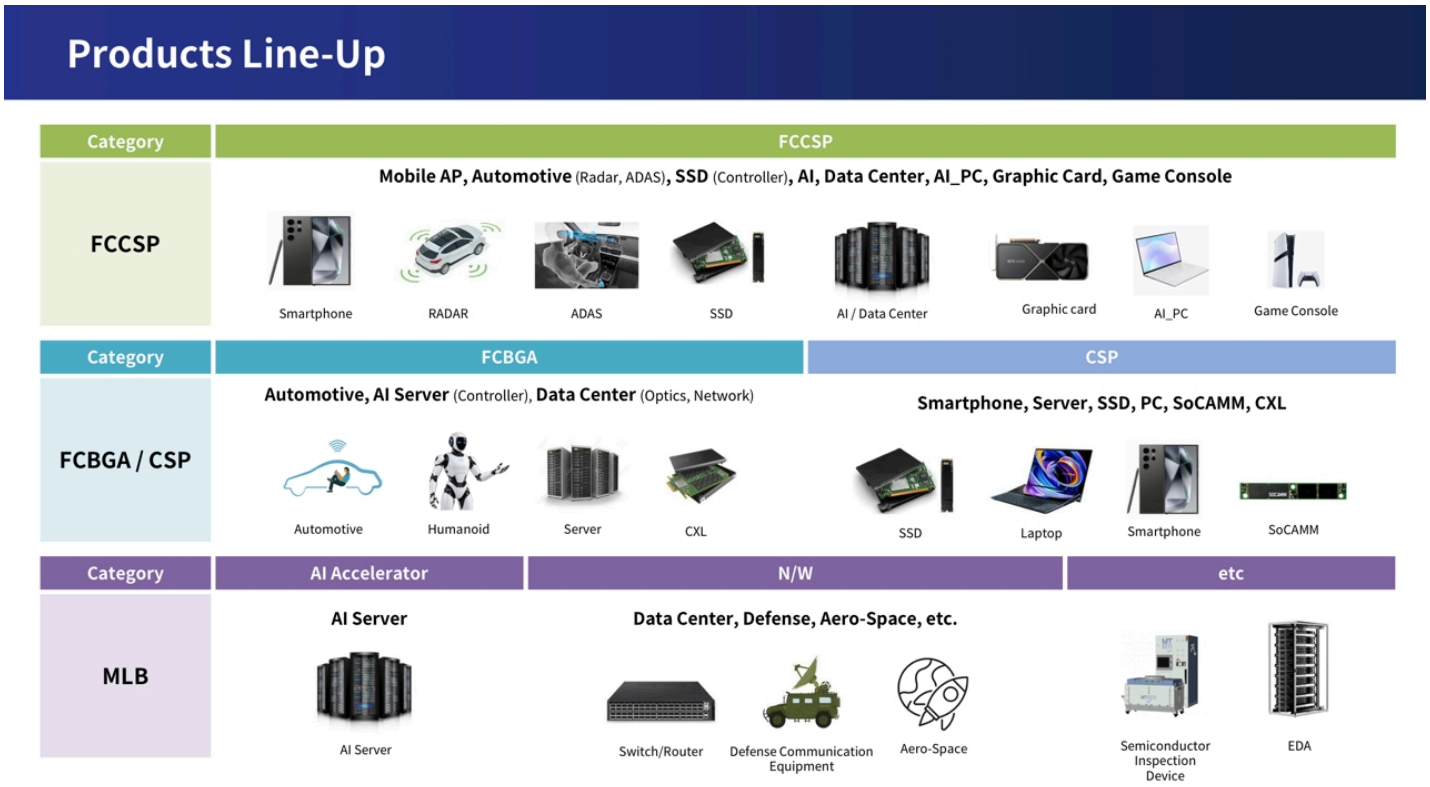
Source: Bloomberg, November 2026

Closing price as of 10 November 2026.

Company overview

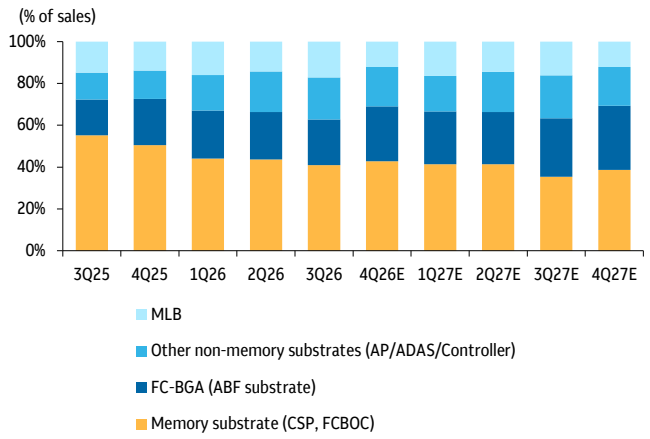
- **Daeduck Electronics** is one of Korea's major PCB and semiconductor-substrate manufacturers. The company was founded in 1972, and was listed on KOSPI in 1989. Following a corporate split in 2020, the business was separated into Daeduck (008060 KS; Not Rated; HoldCo) and Daeduck Electronics (353200 KS, OpCo). Daeduck Electronics is now owned by its HoldCo (29.5%), and the founder holds Daeduck Electronics indirectly through 36.3% of the HoldCo stake. In terms of product application, Daeduck Electronics (Daeduck) exited the HDI/mobile PCB business in early 2020s and pivoted into high-end network applications. The company has since invested aggressively on network/data centre hardware, expanding and upgrading capacity to capture the PCB upcycle across AI and coventional data centres, automotive applications, and low Earth orbit (LEO) satellites.
  - ⇒ **Substrates (85% of total sales in 2025).** Memory BT substrates remain Daeduck's largest end-market exposure, accounting for approximately 40–45% of total revenue in 1H26. However, the company is prioritising expansion into non-memory applications, particularly data centers — including optical modules, server switches, and AI accelerators — as well as advanced driver-assistance systems (ADAS) and low-Earth-orbit (LEO) satellites. Daeduck's major substrate products include ABF-based flip-chip ball-grid-array (FCBGA) substrates for automotive chips, SSD controllers, and network switches, and BT-based flip-chip chip-scale-package and chip-scale-package substrates (FCCSP/CSP) for memory products, including GDDR7 and DDR5, and non-memory applications, such as smartphones and automotive electronics. Among these products, we believe FCCSP was the most profitable in 3Q26, with an operating margin in the mid-20% area. Based on our channel checks, we estimate that key customers in the non-memory substrate business include **Tesla, Renesas,** and **Marvell**. The company does not disclose or confirm the names of its substrate customers.
  - ⇒ **MLB (15% of total sales in 2025)**. Daeduck guided to annual MLB revenue capacity of more than Won300bn, nearly double its 2025 MLB revenue of Won153bn, following Won50bn of capex during 2025-26. The company began ramping the expanded capacity in 3Q26. Strong demand from LEO satellites, optical modules, and network switches is supporting both utilisation and margin improvement. Daeduck also targeted further margin expansion from early 2027, with potential new customer additions in the AI accelerator market. Although the company did not name customers, we believe key MLB customers include **SpaceX (SPCX US; Outperform), Amazon (Constellation)**, defence systems manufacturers, third-party switch ODMs (including Arista and Cisco), and **AMD (AI accelerators)**.

Figure 9 - Daeduck Electronics: Product line-up



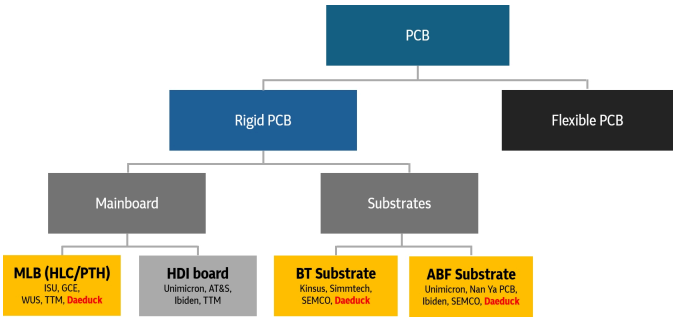
Source: Company presentation, November 2026

Figure 10 - Daeduck Electronics: Quarterly sales mix



Source: Company data, Macquarie Research, November 2026

Figure 11 - Daeduck Electronics: Product portfolio in PCB value chain



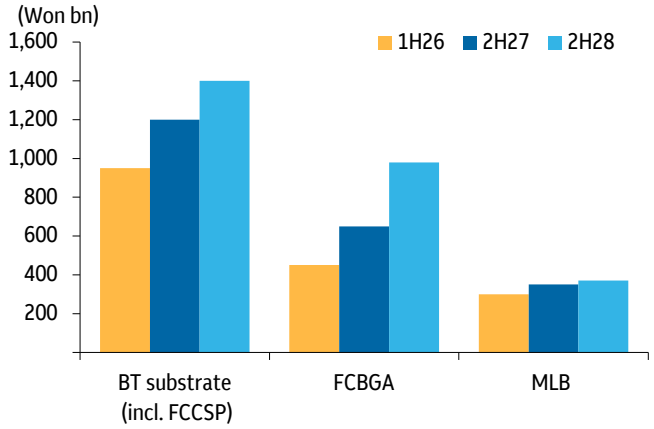
Source: Macquarie Research, November 2026

Customer-backed capex supports next leg of growth

- **Customer prepayments reduce funding risk for Won1.4tn in planned capex**. Management's confidence in data centre and server market growth has supported substantial capital spending. Daeduck plans to invest **Won1.4tn** in additional substrate capacity by 2028E, equivalent to 140% of shareholders' equity as of 3Q26. The project has two phases, with completion planned for 1H27 and 2H28, respectively. Daeduck says internally generated cash flow and customer prepayments this year are already sufficient to fund phase one, which we estimate will cost Won600–650bn, and downplays concerns about new equity issuance. The company says **customer prepayments continue to increase**, which we view as an indication of strong demand for its substrates. Based on our cash flow forecasts through 2028E, we assume Daeduck will borrow Won100–200bn externally next year to fund the remaining phase-two capex. The company plans to allocate approximately half of the Won1.4tn investment to FCBGA capacity (approximately Won700bn) and the remainder to FCCSP production lines (approximately Won700bn). Phase one is expected to begin contributing revenue in 3Q27, with additional capacity coming online from 2H28, according to the management.
- **Management expects FCBGA capacity to more than double by 2H28.**
  - ⇒ **Won700bn in FCBGA capex is expected to increase annual revenue capacity to approximately Won1tn.** Daeduck previously committed Won540bn to FCBGA capacity during the 2020–2022 ABF upcycle, equivalent to approximately 85% of its shareholders' equity in 2020. Following the demand slowdown in 2024, Won90bn of this investment was deferred until the end of 2027. The company has now resumed the investment and announced two additional capex programs: Won250bn in July, primarily for phase-one equipment procurement, and a further around Won450bn in October (Total Won500bn including MLB line expansion).
  - ⇒ **Phase one is expected to begin contributing to earnings in 3Q27.** Daeduck's guidance indicates annual FCBGA revenue capacity of Won650bn following the planned completion of phase one by 2Q27. Phase two is expected to increase annual revenue capacity to about Won1tn in 2H28, more than double the current Won450bn. The key earnings driver is therefore the planned increase in revenue capacity from Won450bn currently to Won650bn in 3Q27 and approximately Won1tn in 2H28. The pace of utilisation will determine the extent of revenue and margin upside.
- **FCCSP expansion targets high-margin non-memory demand**. Daeduck remains confident in FCCSP demand from both memory and non-memory applications and is prioritising new capacity for non-memory FCCSP products. The company plans to build a new FCCSP plant in Siheung by 3Q27, investing approximately Won 213bn in the B1 building and Won250bn in equipment, with a further Won200bn planned through 2028E. Daeduck expects annual BT substrate (FCCSP and CSP) revenue capacity to reach Won1.2tn by 3Q27 and **Won1.4tn by the end of 2028E, nearly 50% above the current annual revenue capacity of Won950bn.**

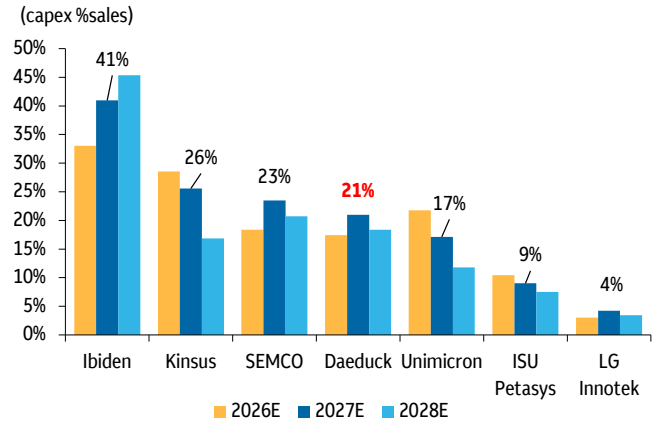
- **The Ansan acquisition provides additional expansion optionality.** Daeduck acquired Newflex's plant building in Ansan for Won54bn in July 2026. Management has not yet determined the size, product allocation, or timing of further investment at the site. We therefore exclude any contribution from the facility from our base-case estimates. However, the acquisition provides brownfield expansion optionality beyond the current Won1.4tn programme, with potential upside dependent on customer commitments and management's final capacity allocation.

Figure 12 - Daeduck Electronics: Annual revenue capacity plans



Source: Company data, Macquarie Research, November 2026

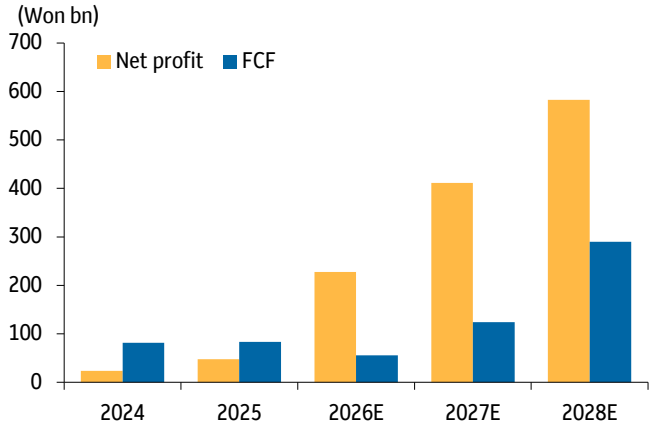
Figure 13 - Daeduck Electronics: Strong drive for expansion



Source: Company data, Macquarie Research, November 2026

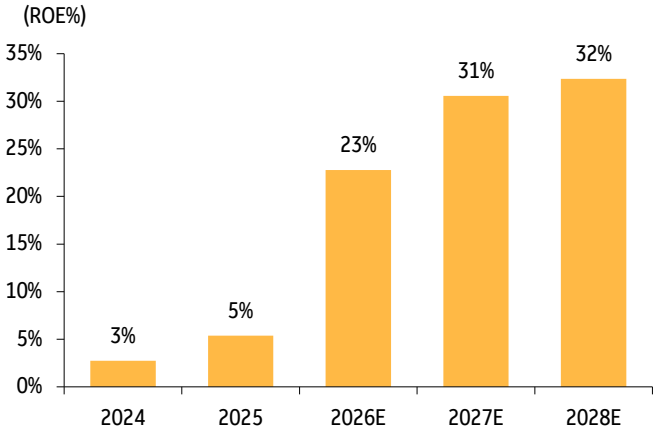
Based on MQe, mentioned PCB names are under MQ coverage.

Figure 14 - Daeduck Electronics: Strong net profit upholds support capex plans



Source: Company data, Macquarie Research, November 2026

Figure 15 - Daeduck Electronics: ROE increase on higher profitability



Source: Company data, Macquarie Research, November 2026

Figure 16 - Peer comparisons

	Ticker	Ratings	CP (LC)	TP (LC)	Upside/ Downside (%)	Mkt cap (US$ bn)	OPM (%)			EPS Growth (%)			P/E (x)			EV/EBITDA (x)		
							2026E	2027E	2028E	2026E	2027E	2028E	2026E	2027E	2028E	2026E	2027E	2028E
Daeduck Electronics	353200 KS	Outperform	80,000	160,000	100.0%	3.3	18.7	23.8	25.8	378.1	72.6	43.1	16.2	9.4	6.6	18.1	10.8	7.4
IC substrates																		
Ibiden	4062 JP	Outperform	6,418	13,400	108.8%	24.3	14.9	19.9	26.0	13.3	66.5	79.7	70.8	41.6	27.2	27.1	19.2	13.5
Unimicron	3037 TT	Outperform	828	1,820	119.8%	42.7	17.8	28.4	32.2	445.0	86.4	64.2	34.6	18.6	11.3	23.7	11.3	7.1
SEMCO	009150 KS	Outperform	882,000	2,400,000	172.1%	50.9	14.6	22.8	28.0	130.5	143.7	74.0	41.9	17.2	9.9	21.4	10.7	6.4
NanYa PCB	8046 TT	Not Rated	1005	N/A	N/A	20.6	23.8	39.3	45.7	512.3	184.1	71.6	56.7	20.0	11.6	31.3	13.2	8.1
Kinsus	3189 TT	Outperform	745	1,380	85.2%	11.6	16.7	26.1	30.9	284.8	154.9	83.0	55.1	21.6	11.8	22.5	12.7	8.5
AT&S	ATS AV	Not Rated	111	N/A	N/A	4.9	3.6	20.2	22.2	-159.1	926.8	46.8	NA	12.4	8.4	14.7	6.3	4.7
Zhen Ding Tech	4958 TT	Not Rated	431	N/A	N/A	15.8	11.2	16.8	21.8	98.3	104.2	53.9	33.4	16.4	10.6	12.8	7.4	4.0
Shennan Circuits	002916 CH	Not Rated	208	N/A	N/A	22.2	19.5	22.0	23.2	72.9	56.8	36.7	25.6	16.3	12.0	18.1	12.4	9.5
LG Innotek	011070 KS	Underperform	278,000	350,000	25.9%	5.1	4.6	5.1	5.3	121.9	10.3	31.7	8.6	7.8	5.9	2.4	1.9	1.4
Simmtech	222800 KS	Not Rated	106,600	N/A	N/A	3.4	13.8	20.3	22.6	196.8	106.2	38.5	24.3	11.8	8.5	13.7	8.4	6.7
Korea Circuit	007810 KS	Not Rated	68,800	N/A	N/A	1.5	5.6	8.9	10.6	110.5	67.9	23.6	23.1	13.7	11.1	13.9	9.3	8.2
MLB																		
WUS	002463 CH	Not Rated	81	N/A	N/A	25.0	30.4	33.6	33.0	89.2	58.4	68.7	23.0	14.5	8.6	16.7	9.9	6.4
Victory Giants	300476 CH	Not Rated	133	N/A	N/A	21.8	28.1	30.9	31.4	52.7	89.2	40.8	17.8	9.4	6.7	14.7	8.0	5.7
Shennan Circuits	002916 CH	Not Rated	208	N/A	N/A	22.2	19.5	22.0	23.2	72.9	56.8	36.7	25.6	16.3	12.0	18.1	12.4	9.5
Gold Circuits	2368 TT	Not Rated	983	N/A	N/A	17.2	28.3	32.6	33.8	112.4	78.9	43.4	25.8	14.4	10.0	17.8	10.2	7.0
TTM Technologies	TTMI US	Not Rated	75	N/A	N/A	7.6	15.9	18.0	17.7	101.7	68.5	20.3	14.6	8.6	7.2	9.9	6.1	5.5
Compeq	2313 TT	Not Rated	183	N/A	N/A	7.2	11.9	17.1	20.0	28.2	95.0	43.9	27.3	14.0	9.7	13.2	8.3	6.1
Kinwoong	603228 CH	Not Rated	59	N/A	N/A	10.4	15.0	20.5	23.4	88.7	107.4	45.4	25.2	12.1	8.3	16.5	8.4	5.8
Fastprint	002436 CH	Not Rated	28	N/A	N/A	7.2	8.2	12.9	15.6	367.5	89.8	45.9	75.7	39.9	27.3	34.0	20.1	14.3
ISU Petasys	007660 KS	Outperform	68,700	215,000	213.0%	4.4	22.3	26.4	26.9	84.9	79.6	19.8	16.2	9.0	7.5	11.4	6.3	4.9
Tripod	3044 TT	Not Rated	474	N/A	N/A	8.3	22.9	24.9	25.9	74.7	30.8	18.2	15.3	11.7	9.9	9.1	7.3	5.6

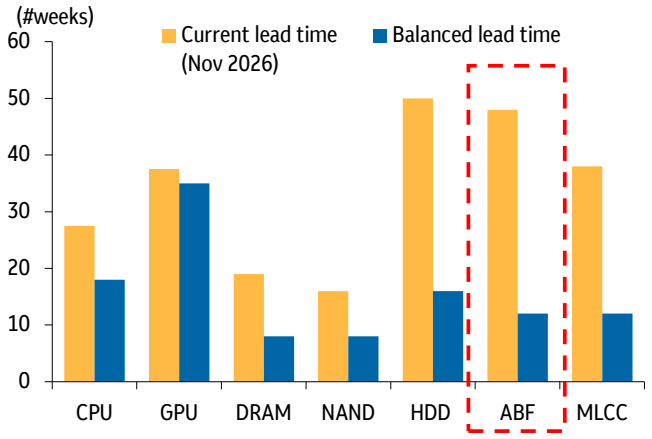
Source: Bloomberg, Macquarie Research, November 2026

Our covered stocks are based on MQe. Close price as of 10th November 2026

Highly levered to ABF substrate super cycle

- **Daeduck's capacity growth should outpace the ABF substrate industry.** Daeduck entered the FCBGA market in 2020 and has since emerged as Korea's second-largest ABF substrate supplier by revenue after SEMCO, ranking ninth globally as of 2025. The company currently supplies ABF substrates for optical modules, server switches, and automotive ADAS applications, while targeting higher-value opportunities in LPUs, CXL controllers, and AI accelerators. The company has ambitious plan to expand **its volume capacity by 2.2x in 2026-28E, which compares with 1.6x industry supply growth (MQe)** during the corresponding period. We believe this above-industry capacity growth positions Daeduck as one of the largest Korean beneficiaries of the current ABF substrate upcycle.
- **AI server demand should exceed industry supply additions.** Using a top-down approach, we estimate that incremental ABF substrate demand from AI servers alone will exceed total industry supply additions through 2028E (**Fig 19**). Major suppliers, including Ibiden, Unimicron, SEMCO, and Toppan, are doubling their ABF substrate capacity over the next two years (2026–28E). However, cumulative industry supply additions will meet only 74% of incremental server-related substrate demand, including demand from AI accelerators, CPUs, and server switches.
- **Greater substrate complexity further limits effective capacity.** Delays in plant construction or equipment installation could widen the supply deficit. Larger packages and higher substrate layer counts for AI accelerators and server processors also absorb larger capacity loss and lower yields, limiting effective output from nominal capacity additions. ABF substrate lead times are therefore rising sharply, from an average of 12 weeks to 48–56 weeks, longer than those for any other technology components. Despite substantial capacity additions by major substrate manufacturers, we believe the shortage is likely to persist beyond 2028E.
- **Supply constraints are spreading beyond AI servers.** We remain cautious on smartphone and PC shipments in 2027E, primarily due to memory supply crunch. However, we believe substrate availability is emerging as an additional bottleneck across non-AI applications, including automotive electronics, where lead times are also extending. This creates a lucrative revenue growth opportunities for 2nd tier ABF substrate makers, especially Daeduck is smart-positioning as a market share gainer in different applications. Based on such strong customer demand, the company mentions that their Won700bn capex into FCBGA should be partially subsidised by the customers' prepayment, which is in order to book their capacity line in advance amid tight supply situation.

Figure 17 - ABF substrate supply remains extremely tight



Source: TrendForce, November 2026

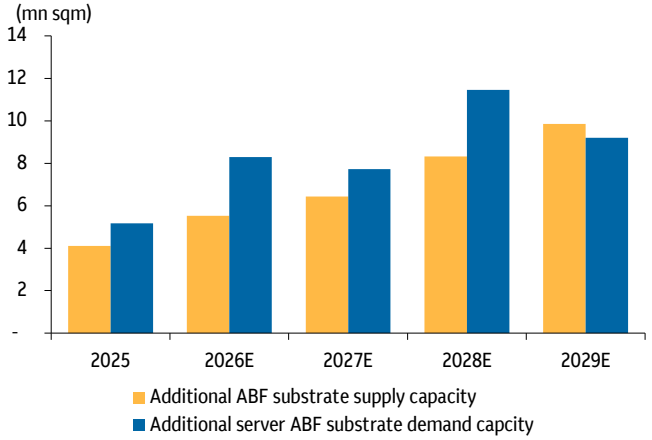
Figure 18 - Global ABF supply-demand gap



Source: Macquarie Research, November 2026

Positive=undersupply

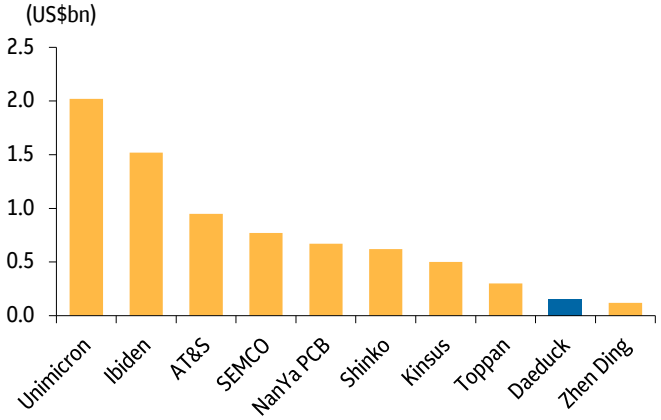
Figure 19 - Additional server demand absorbs solely bigger than the supply growth



Source: Companies data, Macquarie Research, October 2026

Server application includes server CPU, AI accelerators, and switch

Figure 20 - ABF substrate annual revenue as of 2025

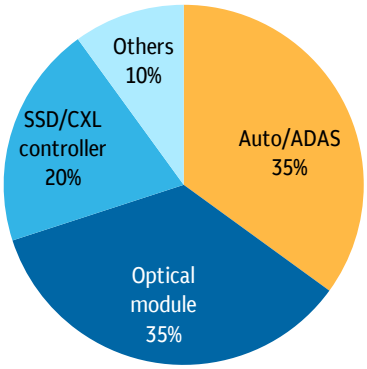


Source: Company data, Macquarie Research, November 2026

Increasing both FCBGA specs and production volume

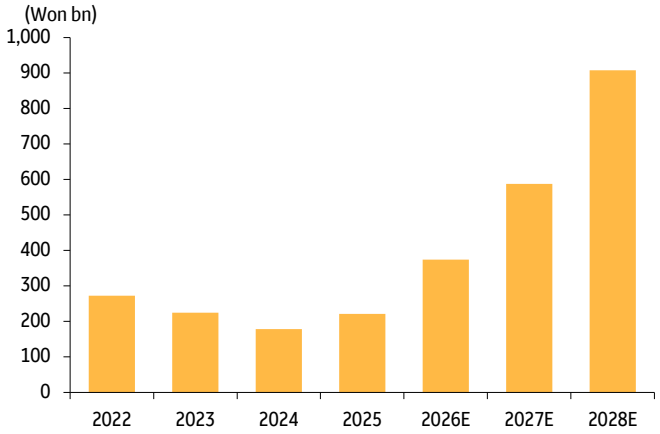
- **Optical module and automotive substrates should accelerate revenue growth.** We remain positive on first-tier ABF substrate manufacturers, including Ibiden, Unimicron, and SEMCO. We also expect spillover demand to help second-tier manufacturers, such as Daeduck Electronics (Daeduck), improve their sales mix through larger substrates with higher layer counts. In addition to server chips requiring larger ABF substrates with more layers, interconnect hardware, including **server switches, controllers, and optical modules,** should require substantial additional substrate capacity. We also expect significant increases in substrate specifications, including larger packages, for hardware outside data centers, supporting demand in the non-AI substrate market. For example, automotive ADAS SoCs, physical AI applications, and PC CPUs are adopting chiplet architectures that interconnect more components, requiring higher-specification ABF substrates to support more I/Os and low data latency. We therefore expect strong growth in Daeduck's ABF substrate revenue across AI and non-AI applications. As the company continues to increase automotive ABF substrate revenue, we are particularly positive on optical module and network switch substrate demand, with substantial shipment growth expected in 2027E–28E (**Fig 24**).
- **Sales mix is shifting toward larger FCBGA substrates.** After several years of losses during the post-COVID downturn (2022–25), Daeduck's ABF-based FCBGA business returned to breakeven in 4Q25. Margins have since expanded sharply as utilisation increased, reaching full capacity in 2Q26. Supported by higher volumes and ASPs, we expect the annual FCBGA operating margin to reach the **mid-to-high teens in 2026** and the **mid-20% area** in 2027E. Growth in sales of large-body substrates (50+ mm) should improve the sales mix. The company is set to begin mass production of 50–60mm **network switch** substrates in 2H26, followed by 60–70mm substrates for **ADAS and physical AI** in 1H27. With the large-body FCBGA shortage extending beyond 2027, we expect Daeduck to expand its customer base in the 50–70mm segment among customers unable to secure supply from first-tier manufacturers. Daeduck indicates that potential customer additions could include AI accelerator, LPU, and CXL controller customers as early as 4Q26. Our base case assumes that 50+mm substrates will increase from **3% of total FCBGA revenue in 2026 to more than 50% by the end of 2027E**.
- **We expect a 60% revenue CAGR for Daeduck's FCBGA business in 2025–2028E.** Daeduck committed **Won540bn** in capex to FCBGA production lines in 2020–2022, equivalent to 85% of its total equity in 2020. Following the demand slowdown in 2024, Won90bn of this investment was deferred until the end of 2027E. The company has resumed the investment and recently announced approximately **Won700bn** in additional FCBGA production-line capex. We expect this investment to support FCBGA revenue growth and forecast a 50% revenue CAGR in 2026E–28E. Potential long-term agreements (LTAs) with data switch and physical AI customers could provide upside to our revenue forecasts.

Figure 21 - Daeduck Electroncis: FCBGA sales mix as of 2Q26



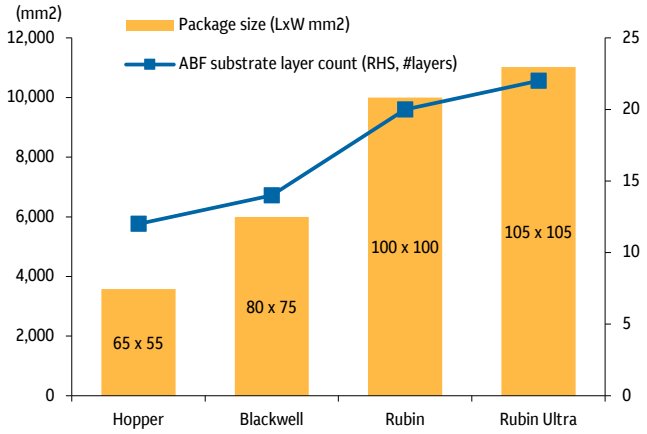
Source: Company data, Macquarie Research, October 2026

Figure 22 - Daeduck Electronics: FCBGA revenue



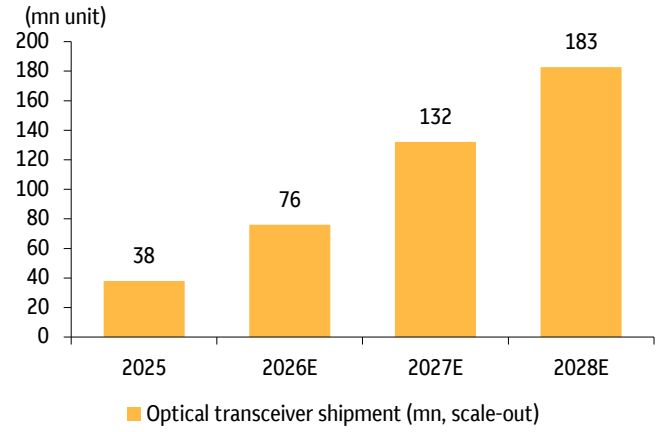
Source: Company data, Macquarie Research, November 2026

Figure 23 - GPU substrate package size and layer count



Source: Company data, Macquarie Research, November 2026

Figure 24 - Optical trasnceiver shipments (including MQe forecasts)



Source: Macquarie Research, November 2026

Figure 25 - Next-gen auto (ADAS) SoC substrates require more than 4x substrate size and 2x layer counts

Company	Chip	Type / focus	Process / foundry	AI performance	Pkg size (L x W) FCBGA	Est. layer count	Mass production / SOP	Production status / deployment
Tesla								
	FSD chip (HW3)	In-house FSD computer SoC	14nm / Samsung	72 TOPS (Tesla; 2 NPUs)	37.5 x 37.5 mm	Est. 8-10L (3-2-3 / 4-2-4)	2019	In vehicles since 2019; superseded by HW4 in new cars from 2023
	AI4 (HW4)	In-house FSD computer SoC (dual-SoC computer)	Samsung (reported);0 7nm-class unverified	724 TOPS; 16GB RAM per SoC	45 x 45 mm (MQe)	Est. 10-12L (4-2-4 / 5-2-5)	2023	In all new Teslas since 2023
	AI5	FSD / Optimus & DC inference	2nm Samsung (Taylor) + TSMC (Arizona); dual-sourced	~5x useful compute vs dual-AI4	**70 x 70 mm (MQe)**	**Est. 12-16L (5-2-5 / 7-2-7)**	**2027**	**Samples 2026 (Samsung Taylor) Optimus & AI clusters first, not cars initially**
Renesas								
	R-Car V4M	Entry L2/L2+ ADAS	7nm	Up to 17 TOPS (~5W in 8MP camera)	19.0 x 19.0 mm	Est. 6-8L (2-2-2 / 3-2-3)	Q1 2026 (target)	N/A
	R-Car V4H	L2+/L3 ADAS central	7nm	Up to 34 TOPS	25.0 x 25.0 mm	Est. 8L (3-2-3)	2024 (target)	Denso TSS ECU in new Toyota RAV4 (Dec-25)
	R-Car X5H (Gen 5)	Multi-domain central compute (ADAS + IVI + gateway)	3nm / TSMC; UCIe chiplets	Up to 400 TOPS (sparse); 3-4x more with NPU chiplet	**50 x 50 mm (MQe)**	**Est. 12-16L (chiplet/SiP)**	**2H27**	**Sampling since 1H25**
NVIDIA								
	DRIVE Orin	L2+ to L4 central compute	Samsung 8nm (7/8nm-class)	254 INT8 TOPS; Ampere GPU, 12 CPU cores	N/A	Est. 10-14L (4-2-4 / 6-2-6)	Mar-2022	Production from Mar-22; 25+ automakers (BYD, Lucid, NIO, Li Auto, etc.)
	DRIVE Thor (AGX / Thor-U)	Centralised car computer (Blackwell)	TSMC 4N (press, unverified)	AGX: 1,000 INT8 TOPS / 2,000 FP4 TFLOPS; Thor-U: 700 TOPS	**60 x 60 mm (MQe)**	**Est. 12-16L (5-2-5 / 7-2-7)**	**2025**	**Chip die size 2x larger than FSD AI4 (Tesla)**
Mobileye								
	EyeQ5 High	ADAS / SuperVision	7nm (co-designed w/ STMicro)	16 INT8 TOPS (Mobileye roadmap)	N/A	Est. 6-8L	2021	~10% of EyeQ volume as of 3Q25
	EyeQ6 Lite	Front-camera ADAS (volume)	7nm	5 DL INT8 TOPS	N/A	Est. 4-6L (small body)	2023-24	Main ramp platform for new ADAS launches
	EyeQ6 High	Surround ADAS / eyes-off	7nm	34 DL INT8 TOPS	N/A	Est. 6-8L	2025	In production; Surround ADAS, eyes-off system 2027
	EyeQ7 High	Premium ADAS / AV (Thor-class)	5nm	67 INT8 TOPS, 60W max (per user table)	N/A	Est. 8-10L	2027 (planned)	First silicon received 2025; Not in production

Source: Macquarie Research, November 2026

Figure 26 - Switch ASICs in the market

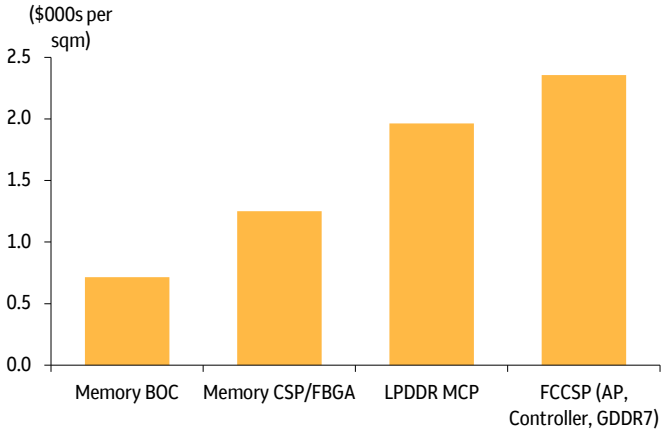
Part	Vendor	Bandwidth	Node	SerDes	Spine / Core Port	Architecture	Production Status (Jul-26)	Package Size
25.6T tier - legacy								
Tomahawk 4 (BCM56990)	Broadcom	25.6T	7nm	256x100G / 512x50G	400G	Monolithic	Legacy, still shipping	~70-80mm sq
Monolithic								
Tomahawk 5 (BCM78900)	Broadcom	51.2T	5nm	512 x 106G PAM4 (64 Peregrine cores x 8)	800G	Monolithic - last single-die Tomahawk	Mature volume	~85-95mm sq
TH5-Bailly (CPO)	Broadcom	51.2T CPO	5nm	100G / lane	800G	Monolithic ASIC + 8 x 6.4T optical engines	2nd-gen CPO, in volume; Meta-validated	75 x 75mm
Tomahawk Ultra (BCM78920)	Broadcom	51.2T @ 64B	n/d	512 x 100G PAM4	800G	Monolithic	Jul-25	~85-95mm sq
Silicon One P200	Cisco	51.2T	n/d	n/d	800G	Monolithic	Shipping	n/d
Teralynx 10 (98TX9180)	Marvell	51.2T	n/d	n/d	800G	Full-duplex switching processor	Deployed at scale	n/d
Spectrum-4	Nvidia	51.2T	n/d	n/d	800G	Monolithic	Volume	n/d
Jericho4	Broadcom	n/v	n/v	n/v	n/v	Scale-across	Shipping (OCP-25 showcase)	n/v
102.4T tier - 2026-2027 line up								
Tomahawk 6-200G (BCM78910)	Broadcom	102.4T	3nm	512 x 200G PAM4	1.6T	Core die + SerDes chiplets	2026	~100-110mm sq
Tomahawk 6-100G (BCM78914)	Broadcom	102.4T	3nm	1,024 x 100G PAM4	800G	Same core die, 100G chiplets	2026	~120-130mm sq
TH6-Davisson (BCM78919)	Broadcom	102.4T CPO	3nm	64 Condor cores x 8 = 512 x 212.5G PAM4	1.6T	ASIC + 16 x 6.4T DR optical engines on TSMC COUPE	2H26	~120 x 120mm
Silicon One G300 (N9364F-SG3)	Cisco	102.4T	n/d	512 x 224G LR (NRZ + PAM4)	1.6T	Standalone switching processor	2H26 100% liquid-cooled systems	~100-110mm sq
Teralynx T100	Marvell	102.4T	3nm	512-port radix	1.6T	Monolithic	Sampling 2Q26	~95-105mm sq
Multi-ASIC systems (not monolithic silicon)								
Spectrum-6 / SN6800	Nvidia	409.6T (system)	n/d	224G	800G (512 ports) / 200G (2,048)	Quad-ASIC chassis + integrated fibre	2H26	n/a (system)
Quantum-X / Q3450	Nvidia	115T (InfiniBand)	n/d	n/d	800G (144 ports)	4 x CPO packages; liquid-cooled	Early-2026 launch	n/a (system)
Roadmap								
Tomahawk 7	Broadcom	204.8T	2nm	400G PAM4/PAM6	3.2T	Chiplet	sampling 2028E, volume 2029-30E	140-160mm sq
Tomahawk 8	Broadcom	409.6T	2nm / A16	400G+	3.2-6.4T	Chiplet	2030E+	~200mm sq
4th-gen CPO	Broadcom	n/d	n/d	400G / channel	-	COUPE-based	2030E+	~200mm sq

Source: Macquarie Research, November 2026

BT substrate: Tight memory supply, margin mix bode well for OP growth

- **Further price increases amid tight supply**. Memory modules are Daeduck's main revenue end market. Memory BT substrates accounted for about 44-45% of total sales in 1H26. We expect Daeduck to increase memory substrate prices by **10% on a like-for-like basis in 4Q26** as BT substrate supply tightens further. This would follow an increase in 1H26 to reflect higher material costs, including glass and CCL. A shift toward higher-ASP products also supports ASP growth, as higher substrate specifications for high-end memory modules increase substrate revenue per GB. Meanwhile, BT substrate supply remains constrained as most large-cap manufacturers prioritize ABF over BT substrate capex. Utilisation of Daeduck's memory substrate production lines had already exceeded 90% by late 2025, and the company is committed to expanding BT substrate capacity for both memory and non-memory applications.
- **A higher non-memory FCCSP mix supports margin upside**. Daeduck is prioritising non-memory BT substrate expansion, which management says offers substantially higher margins and less cyclical demand. Its main products in this business are FCCSP substrates for mobile APs and controllers, with average ASPs approximately 2-3x those of memory BOC substrates for PC DRAM (**Fig 27**). Daeduck aims to increase FCCSP's share of revenue by expanding its customer base. FCCSP accounted for approximately 20% of total sales in 1H26, and we expect this to exceed 30% in 2027E, supported by capacity expansion. According to Daeduck, most of the additional capacity funded by Won700bn in BT substrate capex should be allocated to FCCSP. We believe FCCSP margins exceeded FCBGA margins in 3Q26, supporting Daeduck's profitability outlook.
- With a higher FCCSP mix, we expect **Daeduck's BT substrate business** to achieve an **operating margin in the mid-to-high-20% range** in 2027E-28E, up from the low-20% area in 3Q26. Stabilising yields on new production lines and further price increases amid tighter market supply could provide additional margin upside.

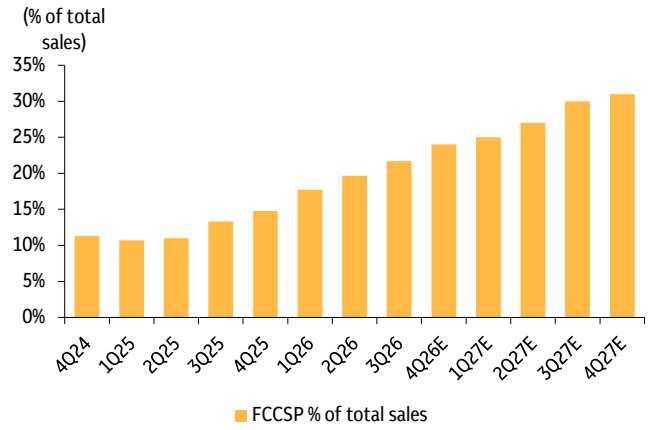
Figure 27 - FCCSP drives multi-year ASP growth



Source: Macquarie Research, November 2026

MQe projection for 1H26.

Figure 28 - We expect FCCSP revenue to reach 30+ % of Daeduck's total sales next year

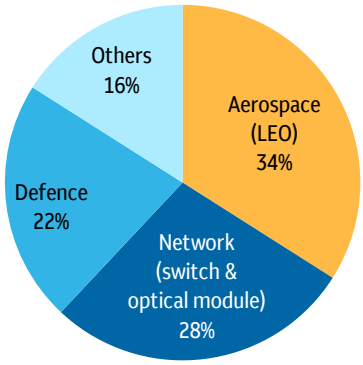


Source: Company data, Macquarie Research, November 2026

MLB: Collecting larger order tickets in niche markets

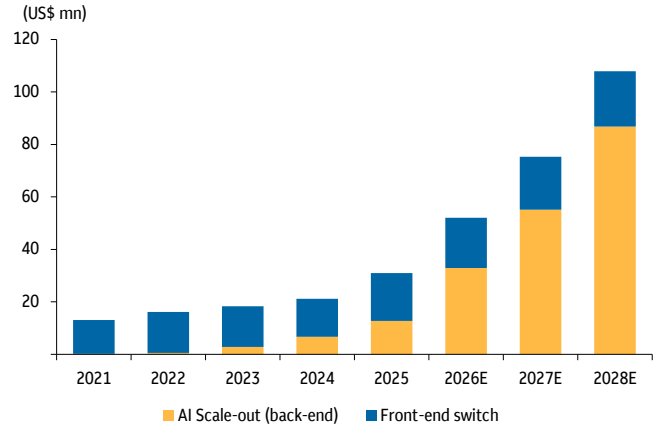
- **LEO and server MLB drive growth**. Daeduck has been a qualified LEO MLB supplier to leading global satellite manufacturers since late 2024. Its MLB sales have increased 22% annually over the past three years, mainly driven by strong demand from LEO and server hardware, including switches and optical modules. MLB accounted for approximately **17% of total revenue** in 3Q26, with revenue scale and market share remaining modest relative to peers **TTM Technologies** (TTMI US; Not Rated), **Compeq** (2313 TW; Not Rated), and **Meiko** (6787 JP; Not Rated). However, we see significant revenue growth opportunities in niche markets, primarily for 20-layer MLB products, as major MLB manufacturers allocate most new capacity to products with more than 30 layers. We expect server switch and LEO satellite PCB demand to grow further over 2027-30E, expanding the addressable market as SpaceX, Amazon, and other hyperscalers pursue global AI and non-AI networking plans. Daeduck added capacity in 2Q26 following Won50bn in capex since in 2025. Management expects this expansion to increase revenue capacity by more than 30% and is targeting annual revenue capacity above Won350bn by 2028E. Daeduck's MLB operating margin reached the 20% range in 3Q26, up from the low teens in 2Q26, supporting continued operating profit growth.
- **AI accelerator MLB offers potential upside**. Daeduck says it can already produce MLB with 30-40+ layers for AI accelerators and plans to ramp up volume shipments late this year or early next year. Limited CCL supply has slightly delayed the original 3Q26-4Q26 schedule. Details, including potential order size, remain limited, but further information from Daeduck on orders and revenue potential would be a key catalyst for a more positive view of its MLB business.

Figure 29 - Daeduck Electronics: MLB sales breakdown by applications (3Q26)



Source: Company data, Macquarie Research, November 2026

Figure 30 - AI scale-out switch demand more than triples the TAM

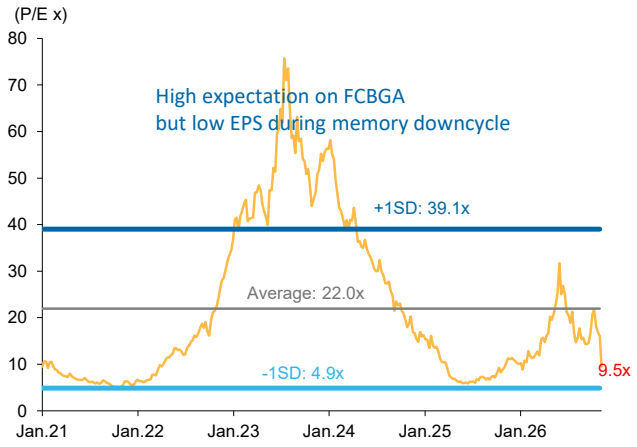


Source: Macquarie Research, November 2026

Valuation and recommendation

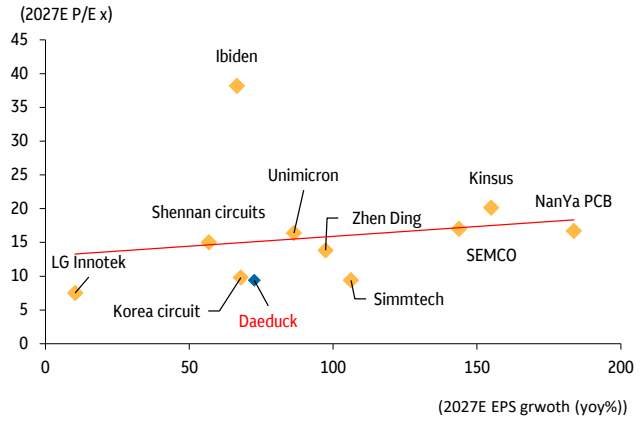
- **Target price: Won160,000 based on 20x 2027E EPS**. We initiate coverage of Daeduck Electronics at Outperform with a target price of Won160,000, based on a target multiple of 20x our 2027E EPS estimate. This multiple is in line with the global ABF substrate peer average and the five-year average forward P/E. We see potential for substantially greater upside as peer sentiment recovers. The target multiple compares with Daeduck's forecast EPS CAGR of 56% over 2026E–28E.
- **We view the sell-off as an overreaction and an attractive buying opportunity.** Daeduck has been one of the weakest-performing stocks in the regional substrate/PCB supply chain over the past month. We attribute this to weak investor confidence in execution and concerns about dilution from Won1.4tn in planned capex through 2028E, equivalent to 140% of total equity as of 3Q26. However, management shares our view that rapidly rising customer prepayments and higher operating cash inflows from margin expansion should limit external borrowing and dilution. We expect renewed investor interest and a strong share price recovery as Daeduck demonstrates sustainable margins and internal cash generation in 2027E, alongside higher customer prepayments in 4Q26.
- **Key risks.** Our baseline expectation is that the substrate supply chain remains tight in both ABF/BT substrate market. Especially, we think Daeduck has high earnings sensitivity to ABF substrate demand-supply situation. If the market suddenly unwinds the supply shortage, we see downside risks to Daeduck's substrate ASP and its pricing power. Other risks include its slower-than-expected ramp up speed and larger capex spending. We think this would deteriorate the company's ROIC and cause unexpected financing risks (share dilutions, external borrowings).

Figure 31 - Daeduck Electronics: 5-year forward P/E bands



Source: Company data, Macquarie Research, November 2026

Figure 32 - EPS growth vs. P/E multiple (2027E) of major substrate companies



Source: Bloomberg, Macquarie Research, November 2026

Our covered names (Daeduck, LG Innotek, Unimicron, SEMCO, Kinsus, and Nanya PCB) are MQe while others are based on Bloomberg consensus.

Figure 33 - Daeduck Electronics: Earnings outlook

(Won bn)	1Q26	2Q26	3Q26	4Q26E	1Q27E	2Q27E	3Q27E	4Q27E	2023	2024	2025	2026E	2027E	2028E
INCOME STATEMENT														
Sales	346	401	418	431	440	525	590	588	910	892	1,065	1,596	2,143	2,831
OP	51	70	88	90	85	121	149	153	24	11	49	299	509	731
NP	46	58	54	70	67	93	115	118	25	24	48	228	393	562
EPS (adj.) (Won)	921	1,167	1,100	1,418	1,349	1,892	2,319	2,389	514	481	963	4,606	7,949	11,377
EBITDA	75	93	117	121	119	159	193	201	139	129	150	406	672	957
GROWTH (%QoQ/%YoY)														
Sales	9%	16%	4%	3%	2%	19%	12%	0%	-31%	-2%	19%	50%	34%	32%
OP	77%	37%	25%	2%	-5%	42%	23%	3%	-90%	-53%	336%	510%	70%	44%
NP	78%	27%	-6%	29%	-5%	40%	23%	3%	-86%	-6%	100%	378%	73%	43%
EBITDA	42%	25%	25%	4%	-2%	33%	22%	4%	-59%	-7%	16%	171%	66%	42%
PROFITABILITY														
OPM	15%	18%	21%	21%	19%	23%	25%	26%	3%	1%	5%	19%	24%	26%
NPM	13%	14%	13%	16%	15%	18%	19%	20%	3%	3%	4%	14%	18%	20%
SALES BREAKDOWN														
PKG substrate	291	344	346	379	368	450	495	516	797	769	902	1,359	1,828	2,448
MLB	55	57	72	52	72	75	95	71	110	123	163	237	314	383
SALES MIX														
PKG substrate	84%	86%	83%	88%	84%	86%	84%	88%	88%	86%	85%	85%	85%	86%
MLB	16%	14%	17%	12%	16%	14%	16%	12%	12%	14%	15%	15%	15%	14%
KEY VALUES														
Inventory	159	203	203	221	230	261	285	280	91	101	149	221	280	381
Cash & equivalent	216	225	233	250	378	322	336	435	203	221	228	250	435	591
Net debt	-207	-217	-226	-242	-270	-214	-228	-327	-183	-205	-187	-242	-327	-483
Equity	919	977	1,028	1,101	1,168	1,237	1,351	1,469	868	876	897	1,101	1,469	2,007
Net DE ratio	-23%	-22%	-22%	-22%	-23%	-17%	-17%	-22%	-21%	-23%	-21%	-22%	-22%	-24%
Capex	35	73	60	110	110	120	120	100	117	60	65	278	450	520

Source: Company data, Macquarie Research, November 2026

Risks for covered companies mentioned

Ibiden (4062 JP; ¥6,418; Outperform; TP: ¥13,400):

- Delays in capex for AI servers and data centres.
- Slower price increases relative to global peers.
- Technological catch-up by peers in high-end FC-BGA.
- Delays in adoption of new technologies (glass-core substrates and CPO substrates).
- Lower automotive production volumes and weaker demand in the ceramics business.
- A stronger yen, which would be negative.

ISU Petasys (007660 KS; Won68,700; Outperform; TP: Won215,000):

- Limited customer expansion due to limited MultiLam capacity.
- Slower than expected AI server switch upgrades.
- Unwise cash allocation by the management.

Kinsus Interconnect (3189 TT; NT$745; Outperform; TP: NT$1,380):

- Slower margin expansion due to steeper material price hikes.
- Delayed shipments for new projects (eg, Rubin) or new ASIC customers.
- T-glass shortages that constrain shipment growth.
- Potential share dilution from the private placement (up to 20%), which we do not factor into our forecasts.

LG Innotek (011070 KS; Won278,000; Underperform; TP: Won350,000):

- Upside risks are that iPhone demand is not elastic to price. Also, iPhone 18 camera spec upgrade to lead to higher margin.
- Better execution in FC-BGA for AI chip.
- Growing exposure to robotics camera and sensor business.

Renesas Electronics (6723 JP; ¥2,743; Outperform; TP: ¥6,800):

- Lower automotive volumes and ASPs.
- Larger-than-expected cost increase (e.g., foundry, R&D).
- Limited sales growth for new areas (data centres, robotics, and other edge AI).
- Slower transition speed to next-gen automotive (e.g., ADAS, xEV).
- Limited synergies from the Altium acquisition.

Samsung Electro Mechanics (009150 KS; Won882,000; Outperform; TP Won2,400,000):

- MLCC content growth rates in auto, server, IT products.
- Upstream components (T-glass) bottlenecks in FC-BGA.
- Forex rate such as KRW/USD and JPY/KRW cross-rate.
- Pace of commercialisation for new products such as silicon capacitors, glass substrate, and solid state batteries.

SpaceX (SPCX US; US$143.09; Outperform; TP: US$265):

- Inability to execute and scale as planned, with the outlook for the business hinging on next-generation systems such as Starship and satellite compute units.
- Reliance on fixed-price contracts, particularly within the Space segment, exposes SpaceX to inflation, supply chain, and execution risks that can result in cost overruns, pressure margins and cash flow, and limit reinvestment capacity. Customer concentration remains relatively elevated, although it has favourably trended lower over time. Moreover, despite the diversification benefits of recent AI customer wins, there is still near-term concentration and contract termination risk within the AI segment.
- Leverage and interest rate exposure over time, alongside regulatory and policy risks, including any potential inability to secure or retain required spectrum rights.
- Despite its high degree of vertical integration, SpaceX remains dependent on certain third-party suppliers and counterparties, while its terrestrial AI operations face broader industry constraints related to power availability, grid connectivity, and supporting infrastructure.
- Intensifying competition, technological disruption, and the risk of delays, cost overruns, or execution missteps in scaling new products, services, and infrastructure.

Unimicron Technology (3037 TT; NT$828; Outperform; TP: NT$1,820):

- T-glass supply constraints limiting ABF substrate growth.
- Slower-than-expected capacity expansion due to execution challenges or longer equipment lead times.
- Increased competition from tier-two substrate makers in the AI server market.

Key Quant Findings
The quant model currently holds a neutral view on Daeduck Electronics. The strongest style exposure is Price Momentum, indicating this stock has had strong medium to long term returns which often persist into the future. The weakest style exposure is Profitability, indicating this stock is not efficiently converting investments to earnings; proxied by ratios like ROE or ROA.

Macquarie Alpha Model: Key rankings

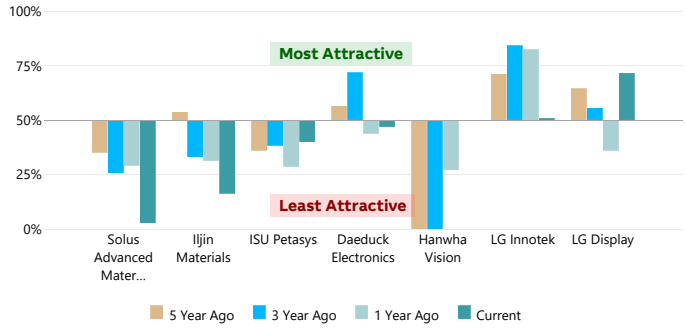
The Macquarie Quant's flagship Alpha model is a dynamic multi-factor model based on a staple of quant factors such as value, momentum, revisions, quality, and risk.

	Global	Market (Country)	Sector
	Whole Universe	Korea	Technology Hardware & Equipment
Macquarie Alpha Model	**10296/18792**	**396/745**	**690/1335**
Fundamental (Consensus) *	**2061/18792**	**125/745**	**150/1335**

** based on Total Shareholder Return = Consensus Price target / Current Price*

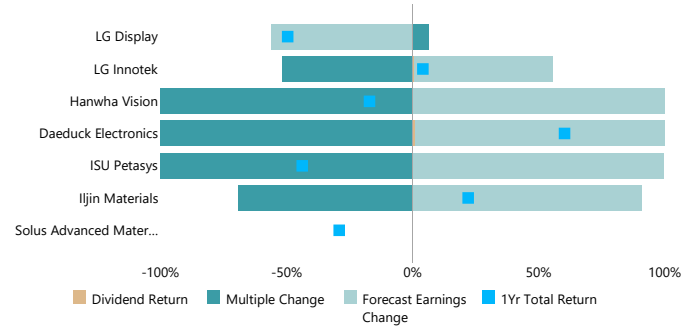
Current and Historical Alpha Model Rank

The chart shows the Macquarie Alpha model market ranking against the company's peers and over recent history.



Drivers of Stock Return

Breakdown of 1-year total return (local currency) into returns from dividends, changes in forward earnings estimates and the resulting change in earnings multiple.



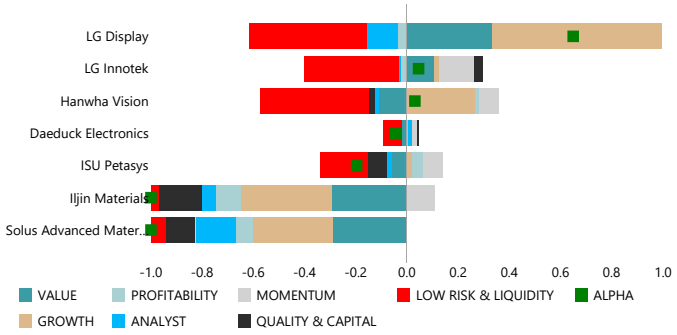
Alpha Model Decomposition

The Macquarie Alpha is decomposed into its sector and market relative factor & styles exposures (a higher/better percentile is coded in green, whilst lower in red).

Factors / Styles	Percentile relative to sectors (/1335)	Percentile relative to market (/745)	Core factors in definition
ALPHA	48%	47%	Built from the styles below
VALUE	56%	43%	Book, CF, Yield, Earnings Multiples
ANALYST	83%	96%	Revisions (Earnings, Recommendations)
MOMENTUM	78%	74%	Price Momentum
GROWTH	23%	65%	EPS, Sales (Forecast, Historic)
PROFITABILITY	34%	43%	ROE, Margin, Asset Turnover
QUALITY	67%	77%	Accruals, Earn Stability, Cash Conversion
CAPITAL	51%	43%	Investment/Capex, Net share issuance
LIQUIDITY	40%	56%	Size, Turnover, Analyst Coverage
LOW RISK	38%	23%	Beta, Volatility, Earn.Cert, Leverage
TECHNICAL	58%	94%	MACD, RSI, Bollinger, Williams R, etc

Factors driving the Alpha Model vs peers

For the comparable firms this chart shows the key underlying styles and their contribution to the current overall raw Alpha score.



Macquarie Style Returns over last year

Recent performance to Macquarie style factors

	Monthly Factor Long-Short Returns for												Last 5 Years (ann)	Last 10 Years (ann)
Asia Ex JP	Oct - 26	Sep - 26	Aug - 26	Jul - 26	Jun - 26	May - 26	Apr - 26	Mar - 26	Feb - 26	Jan - 26	Dec - 25	Nov - 25		
ALPHA	6%	5%	6%	10%	1%	3%	3%	4%	0%	0%	3%	3%	12%	7%
VALUE	5%	2%	1%	19%	-5%	1%	-7%	6%	0%	-2%	3%	5%	15%	5%
ANALYST	-13%	1%	14%	-12%	7%	4%	12%	-2%	0%	6%	5%	-2%	12%	12%
MOMENTUM	8%	1%	14%	-35%	15%	17%	19%	-4%	5%	8%	6%	-1%	0%	5%
GROWTH	-16%	-3%	8%	-19%	9%	7%	7%	-4%	-1%	4%	2%	-2%	0%	0%
PROFITABILITY	3%	1%	1%	3%	6%	1%	-4%	3%	0%	-4%	1%	3%	-1%	-1%
QUALITY	7%	2%	0%	7%	-3%	-2%	-4%	2%	-1%	-4%	-1%	1%	-3%	-2%
CAPITAL	11%	1%	-7%	14%	-7%	-1%	-12%	2%	-2%	2%	-1%	3%	4%	-3%
LIQUIDITY	5%	2%	-1%	-11%	8%	10%	7%	-1%	3%	1%	2%	-1%	-1%	3%
LOW RISK	23%	5%	-13%	29%	-6%	-8%	-13%	6%	-2%	-8%	-2%	5%	-3%	-5%

Source (all charts): FactSet, Refinitiv, and Macquarie Quant. For more details on the Macquarie Alpha model or for more customised analysis and screens, please contact the Macquarie Global Quantitative Team: maccapequitiesresearchquantglobal@macquarie.com. Explanation for items on this page can be found at https://www.macquarieinsights.com/rp/d/r/p/OTUyMzg1

Analysts

Jacob Kim
+822 3705 8668
jacob.kim@macquarie.com
Macquarie Securities Korea Limited

Important Disclosures

Recommendation definitions	Volatility index definition	Financial definitions
Macquarie – Asia and USA Outperform – expected return >10% Neutral – expected return from -10% to +10% Underperform – expected return <-10% **Macquarie – Australia/New Zealand** Outperform – expected return >10% Neutral – expected return from 0% to 10% Underperform – expected return <0% During periods of share price volatility, recommendations and target prices may occasionally and temporarily be inconsistent with the above definitions. **Recommendations** – 12 months **12-month target** – Expected share price in 12 months **Valuation** – The company's estimated fair value share price based on the disclosed valuation methodology **Note**: Quant recommendations may differ from Fundamental Analyst recommendations	This is calculated from the volatility of historical price movements. **Very high** – highest risk – Stock should be expected to move up or down 60–100% in a year – investors should be aware this stock is highly speculative. **High** – stock should be expected to move up or down at least 40–60% in a year – investors should be aware this stock could be speculative. **Medium** – stock should be expected to move up or down at least 25–40% in a year. **Low** – stock should be expected to move up or down at least 15–25% in a year. * Applicable to select stocks in Asia/Australia/NZ **Note:** expected return is reflective of a Medium Volatility stock and should be assumed to adjust proportionately with volatility risk	All "Adjusted" data items have had the following adjustments made: **Added back:** goodwill amortisation, provision for catastrophe reserves, IFRS derivatives & hedging, IFRS impairments & IFRS interest expense Excluded: non recurring items, asset revals, property revals, appraisal value uplift, preference dividends & minority interests **EPS** = adjusted net profit / efpowa* **ROA** = adjusted ebit / average total assets **ROA Banks/Insurance** = adjusted net profit /average total assets **ROE** = adjusted net profit / average shareholders funds **Gross cashflow** = adjusted net profit + depreciation *equivalent fully paid ordinary weighted average number of shares All Reported numbers for Australian/NZ listed stocks are modelled under IFRS (International Financial Reporting Standards).

Recommendation proportions for quarter ending 30 Sept 2026

	AU/NZ	Asia	USA	
Outperform	62.24%	73.44%	63.24%	(for global coverage by Macquarie, 1.61% of stocks followed are investment banking clients)
Neutral	30.77%	14.98%	36.76%	(for global coverage by Macquarie, 0.41% of stocks followed are investment banking clients)
Underperform	6.99%	11.58%	0.00%	(for global coverage by Macquarie, 0.82% of stocks followed are investment banking clients)

Company-Specific Disclosures

Company Name	Disclosure
Daeduck Electronics (353200 KS) **Outperform** 12-month target: KRW160,000 - PER Valuation: KRW 160,000 - PER Price: KRW90,000	None

A reference to "Macquarie" is a reference to the entity within the Macquarie Group of companies (comprising Macquarie Group Limited and its worldwide affiliates and subsidiaries) that is relevant to this disclosure. Important disclosure information regarding the subject companies covered in this report is available publicly at www.macquarie.com/research/disclosures. Clients receiving this report can additionally access previous recommendations (from the year prior to publication of this report) issued by this report's author at https://www.macquarieinsights.com.

TO THE EXTENT THAT ANY COMPANY MENTIONED IN THIS COMMUNICATION IS A COMPANY LISTED IN THE ANNEX TO EXECUTIVE ORDER 14032 OF JUNE 3, 2021 FROM THE PRESIDENT OF THE UNITED STATES OF AMERICA ("EO14032") OR IN THE OFAC NON-SDN CHINESE MILITARY-INDUSTRIAL COMPLEX COMPANIES LIST AS UPDATED FROM TIME TO TIME AND YOU ARE A "UNITED STATES PERSON" AS DEFINED UNDER EO14032, YOU ARE REMINDED THAT YOU MAY BE PREVENTED BY EO14032 FROM TRADING THE SECURITIES OF SUCH A COMPANY.

Sensitivity analysis:
Clients receiving this report can request access to a model which allows for further in-depth analysis of the assumptions used, and recommendations made, by the author relating to the subject companies covered. Contact https://www.macquarieinsights.com/contacts for access requests.

Analyst Certification
We hereby certify that all the views expressed in this report accurately reflect our personal views about the subject company or companies and its or their securities. The views were reached independently, without any attempt of influence from anyone outside of Macquarie's Research business. Any and all opinions expressed have a reasonable basis, which are the result of the exercise of due care and skill. We confirm we (the authors), our team, and our associates do not hold securities in our sector of coverage, except for holdings disclosed to Research Compliance where we have received approval to hold temporarily until we are able to dispose of the holdings, and confirm the presence of disclosure language on this research which relates to this personal holding. To the best of our knowledge, we are not in receipt of, nor have included in this report, information considered to be inside information at the time of publication. We also certify that no part of our compensation was, is or will be, directly or indirectly, related to the specific recommendations or views expressed in this report. With respect to the covered companies in this report and aside from current disclosure set, we certify that we are not aware of any non-investment banking client relationships or fees received by Macquarie within the past 12 months. We acknowledge that the Analysts responsible for preparing this report receive compensation from Macquarie that is based upon various factors including Macquarie Group Ltd.'s overall revenues, a portion of which are generated by Macquarie Group's Investment Banking activities.

General disclaimers:
Other than Macquarie Bank Limited ABN 46 008 583 542 ("MBL"), any Macquarie Group entity noted is not an authorized deposit-taking institution for the purposes of the Banking Act 1959 (Commonwealth of Australia), and that entity's obligations do not represent deposits or other liabilities of MBL. Any investments are subject to investment risk including possible delays in repayment and loss of income and principal invested. MBL does not guarantee or otherwise provide assurance in respect of the obligations of that entity. This research has been prepared for the general use of the wholesale clients of the Macquarie Group and must not be copied, either in whole or in part, or distributed to any other person. You are permitted to store, display, analyze, modify, reformat, and print the information made available to you in the research only for your own use. You may not resell or reverse engineer this information to calculate or develop any index for disclosure and/or marketing or create any other derivative works or commercial product(s), data or offering(s) without the express written consent of the Macquarie Group. You are not permitted to publish, transmit, or otherwise reproduce this information, in whole or in part, in any format to any third party without the express written consent of the Macquarie Group. This foregoing restriction includes, without limitation, using, extracting, downloading or retrieving this information, in whole or in part, to train or finetune a machine learning or artificial intelligence system, or to provide or reproduce this information, in whole or in part, as a data source, prompt or input to any such system. If you are not the intended recipient you must not use or disclose the information in this research in any way. If you received it in error, please tell us immediately by return e-mail and delete the document. We do not guarantee the integrity of any e-mails or attached files and are not responsible for any changes made to them by any other person. MGL has established and implemented a conflicts policy at group level (which may be revised and updated from time to time) (the "Conflicts Policy") pursuant to regulatory requirements which sets out how we must seek to identify and manage all material conflicts of interest. Nothing in this research shall be construed as a solicitation to buy or sell any security or product, or to engage in or refrain from engaging in any transaction. In preparing this research, we did not take into account your investment objectives, financial situation or particular needs. Macquarie salespeople, traders and other professionals may provide oral or written market commentary or trading strategies to our clients that reflect opinions which are contrary to the opinions expressed in this research. Macquarie Research produces a variety of research products including, but not limited to, fundamental analysis, macro-economic analysis, quantitative analysis, and trade ideas. Recommendations contained in one type of research product may differ from recommendations contained in other types of research, whether as a result of differing time horizons, methodologies, or otherwise. Before making an investment decision on the basis of this research, you need to consider, with or without the assistance of an adviser, whether the advice is appropriate in light of your particular investment needs, objectives and financial circumstances. There are risks involved in securities trading. The price of securities can and does fluctuate, and an individual security may even become valueless. International investors are reminded of the additional risks inherent in international investments, such as currency fluctuations and international stock market or economic conditions, which may adversely affect the value of the investment. This research is based on information obtained from sources believed to be reliable but we do not make any representation or warranty that it is accurate, complete or up to date. We accept no obligation to correct or update the information or opinions in it. Opinions expressed are subject to change without notice. No member of the Macquarie Group accepts any liability whatsoever for any direct, indirect, consequential or other loss arising from any use of this research and/or further communication in relation to this research. Clients should contact analysts at, and execute transactions through, a Macquarie Group entity in their home jurisdiction unless governing law permits otherwise. The date and timestamp for above share price and market cap is the closed price of the price date. #CLOSE is the final price at which the security is traded in the relevant exchange on the date indicated. Members of the Macro Strategy team are Sales & Trading personnel who provide desk commentary that is not a product of the Macquarie Research department or subject to FINRA Rule 2241 or any other regulation regarding independence in the provision of equity research.

MSCI disclaimers:
Where this report contains any MSCI sourced information, such information is the exclusive property of MSCI Inc. (MSCI). Without the prior written permission of MSCI, this information and any other MSCI intellectual property may not be reproduced, redisseminated or used to create any financial products, including any indices. This information is provided on an "as is" basis. The user assumes the entire risk of any use made of this information. MSCI, its affiliates and any third party involved in, or related to, computing or compiling the information hereby expressly disclaim all warranties of originality, accuracy, completeness, merchantability or fitness for a particular purpose with respect to any of this information. Without limiting any of the foregoing, in no event shall MSCI, any of its affiliates or any third party involved in, or related to, computing or compiling the information have any liability for any damages of any kind. MSCI and the MSCI indexes are services marks of MSCI and its affiliates.

Disclosure of use of artificial intelligence:
Macquarie may utilize various AI tools and/or sources to assist in providing research services, including but not limited to use in fact-finding, data analysis and drafting of research content. However, duly qualified research analysts are ultimately responsible for all content and recommendations contained in Macquarie's research reports.

Country-specific disclaimers:
Australia: In Australia, research is issued and distributed by Macquarie Securities (Australia) Ltd (AFSL No. 238947), a participating organization of the Australian Securities Exchange. Macquarie Securities (Australia) Limited staff involved with the preparation of research have regular interaction with companies they cover. Additionally, Macquarie Group Limited does and seeks to do business with companies covered by Macquarie Research. There are robust information barriers in place to protect the independence of Macquarie Research's product. However, recipients of Macquarie Research should be aware of this potential conflict of interest. **New Zealand**: In New Zealand, research is issued and distributed by Macquarie Securities (NZ) Ltd, a NZX Firm. **United Kingdom and the EEA**: In the United Kingdom and the European Economic Area, research is distributed by Macquarie Capital (Europe) Ltd, which is authorised and regulated by the Financial Conduct Authority (No. 193905). Hong Kong & **Mainland China**: In Hong Kong, research is issued and distributed by Macquarie Capital Limited, which is licensed and regulated by the Securities and Futures Commission. Only non-A share research is distributed into Mainland China by Macquarie Capital Limited. **Japan:** In Japan, research is issued and distributed by Macquarie Capital Securities (Japan) Limited (Tokyo Branch), the Financial Instruments Business Operator, registered with the Financial Services Agency (Registration number: Kanto Financial Bureau (FIBO) No. 231), the member of the Tokyo Stock Exchange, Inc., and the member of Japan Securities Dealers Association. Its Designated Dispute Resolution Institution is Financial Instruments Mediation Assistance Center ("FINMAC"). **Indonesia:** In Indonesia, research is issued and distributed by PT Macquarie Sekuritas Indonesia, a licensed securities company and regulated by Financial Services Authority (Otoritas Jasa Keuangan) and is a member of the Indonesia Stock Exchange. The securities discussed in this report may not be suitable for all investors. **Malaysia**: In Malaysia, research is issued and distributed by Macquarie Capital Securities (Malaysia) Sdn. Bhd. (Company registration number: 199801007342 (463469-W)) which is a Participating Organisation of Bursa Malaysia Berhad and a holder of Capital Markets Services License issued by the Securities Commission. Macquarie may be an Issuer of Structured Warrants on securities mentioned in this report. **Taiwan**: In Taiwan, research is issued and distributed by Macquarie Capital Limited, Taiwan Securities Branch, which is licensed and regulated by the Financial Supervisory Commission. No portion of the report may be reproduced or quoted by the press or any other person without authorisation from Macquarie. Nothing in this research shall be construed as a solicitation to buy or sell any security or product. The recipient of this report shall not engage in any activities which may give rise to potential conflicts of interest to the report. Research Associate(s) in this report who are registered as Clerks only assist in the preparation of research and are not engaged in writing the research. Macquarie may be in past one year or now being an Issuer of Structured Warrants on securities mentioned in this report. **Thailand**: In Thailand, research is produced, issued and distributed by Macquarie Securities (Thailand) Ltd. Macquarie Securities (Thailand) Ltd. is a licensed securities company that is authorized by the Ministry of Finance, regulated by the Securities and Exchange Commission of Thailand and is an exchange member of the Stock Exchange of Thailand. The Thai Institute of Directors Association has disclosed the Corporate Governance Report of Thai Listed Companies made pursuant to the policy of the Securities and Exchange Commission of Thailand. Macquarie Securities (Thailand) Ltd does not endorse the result of the Corporate Governance Report of Thai Listed Companies but this Report can be accessed at: http://www.thai-iod.com/en/publications.asp?type=4. Macquarie Securities (Thailand) Limited may be an issuer of derivative warrants on the securities mentioned in this report. **South Korea**: In South Korea, unless otherwise stated, research is prepared, issued and distributed by Macquarie Securities Korea Limited, which is regulated by the Financial Supervisory Services. Information on analysts in MSKL is disclosed at http://dis.kofia.or.kr/websquare/index.jsp?w2xPath=/wq/fundMgr/DISFundMgrAnalystStut.xml&divisionId=MDIS03002001000000&serviceId=SDIS03002001000. **Singapore**: In Singapore, research is issued and distributed by Macquarie Capital Securities (Singapore) Pte Ltd (Company Registration Number: 198702912C), a Capital Markets Services license holder under the Securities and Futures Act to deal in securities and provide custodial services in Singapore. Pursuant to the Financial Advisers (Amendment) Regulations 2005, Macquarie Capital Securities (Singapore) Pte Ltd is exempt from complying with sections 34, 36 and 45 of the Financial Advisers Act. All Singapore-based recipients of research produced by Macquarie Capital (USA) Inc. represent and warrant that they are institutional investors as defined in the Securities and Futures Act. Singapore recipients should contact Macquarie Capital Securities (Singapore) Pte Ltd at +65 6601 0888 for matters arising from, or in connection with, this report. **United States**: In the United States, research is issued and distributed by

Macquarie Capital (USA) Inc., which is a registered broker-dealer and member of FINRA. Macquarie Capital (USA) Inc, accepts responsibility for the content of each research report prepared by one of its non-US affiliates when the research report is distributed in the United States by Macquarie Capital (USA) Inc. Macquarie Capital (USA) Inc.'s affiliate's analysts are not registered as research analysts with FINRA, may not be associated persons of Macquarie Capital (USA) Inc., and therefore may not be subject to FINRA rule restrictions on communications with a subject company, public appearances, and trading securities held by a research analyst account. Information regarding futures is provided for reference purposes only and is not a solicitation for purchases or sales of futures. Any persons receiving this report directly from Macquarie Capital (USA) Inc. and wishing to effect a transaction in any security described herein should do so with Macquarie Capital (USA) Inc. Important disclosure information regarding the subject companies covered in this report is available at www.macquarie.com/research/disclosures, or contact your registered representative at 1-888-MAC-STOCK, or write to the Supervisory Analysts, Research Department, Macquarie Capital (USA) Inc, 660 Fifth Ave, 13th Floor, New York, NY 10103. **Canada**: In Canada, research is distributed by Macquarie Capital Markets Canada Ltd., a (i) member of the Investment Industry Regulatory Organization of Canada (IIROC) and the Canadian Investor Protection Fund, and (ii) participating organisation of the Toronto Stock Exchange, TSX Venture Exchange & Montréal Exchange. Important disclosure information regarding the subject companies covered in this report is available at www.macquarie.com/research/disclosures. IIROC Rule 3400 Disclosures can be obtained by writing to Macquarie Capital Markets Canada Ltd., 181 Bay St. Suite 3100, Toronto, ON M5J2T3. **India**: In India, research is issued and distributed by Macquarie Capital Securities (India) Pvt. Ltd. (CIN: U65920MH1995PTC090696), 92, Level 9, 2 North Avenue, Maker Maxity, Bandra Kurla Complex, Bandra (East), Mumbai – 400 051, India, which is a SEBI registered Research Analyst having registration no. INH000000545. Registration granted by SEBI and certification from NISM in no way guarantee performance of the intermediary or provide any assurance of returns to investors. Any reference to the securities quoted in example in the report are only for illustration and are not recommendatory. During the past 12 months, Macquarie Group Limited or one of its affiliates may have provided securities services to companies mentioned in this report for which it received compensation for Broking services. Macquarie Group Limited together with its affiliates may have a beneficial interest in the debt securities of the companies mentioned in this report.

Investments in securities market are subject to market risks. Read all the related documents carefully before investing.

© **Macquarie Group**

This publication was disseminated on 11 November 2026 at 05:56 UTC