

Singapore Company Update

AEM Holdings Ltd

Bloomberg: AEM SP | Reuters: AEM.SI

Refer to important disclosures at the end of this report

DBS Group Research . Equity

25 Nov 2021

BUY

Last Traded Price (24 Nov 2021): S\$4.95 (STI : 3,227.15)
Price Target 12-mth: S\$6.04 (22% upside) (Prev S\$4.98)

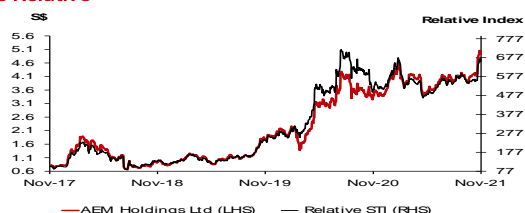
Analyst

Wei Le CHUNG +65 6878 7869 weilechung@dbs.com
Lee Keng LING +65 6682 3703 leekeng@dbs.com

What's New

- Higher PE peg of 15.0x to reflect our belief of a higher re-rating of the stock
- Higher revenues in FY22-23F on the back of significant investments from its key customer
- Next generation of handlers to be a key driver of growth in FY22F
- Maintain BUY with a higher TP of S\$6.04

Price Relative



Forecasts and Valuation

FY Dec (\$m)	2020A	2021F	2022F	2023F
Revenue	519	549	777	855
EBITDA	122	117	161	178
Pre-tax Profit	114	100.0	146	162
Net Profit	97.6	85.0	124	137
Net Pft (Pre Ex.)	97.6	85.0	124	137
Net Pft Gth (Pre-ex) (%)	85.0	(12.9)	45.7	11.0
EPS (S cts)	35.4	27.6	40.2	44.7
EPS Pre Ex. (S cts)	35.4	27.6	40.2	44.7
EPS Gth Pre Ex (%)	81	(22)	46	11
Diluted EPS (S cts)	35.4	27.6	40.2	44.7
Net DPS (S cts)	8.98	6.90	10.1	11.2
BV Per Share (S cts)	76.7	125	155	188
PE (X)	14.0	17.9	12.3	11.1
PE Pre Ex. (X)	14.0	17.9	12.3	11.1
P/Cash Flow (X)	15.8	15.1	10.7	9.9
EV/EBITDA (X)	10.1	11.0	7.3	6.0
Net Div Yield (%)	1.8	1.4	2.0	2.3
P/Book Value (X)	6.5	4.0	3.2	2.6
Net Debt/Equity (X)	CASH	CASH	CASH	CASH
ROAE (%)	56.4	28.6	28.8	26.0
Earnings Rev (%):		0	11	16
Consensus EPS (S cts):		27.7	36.3	41.0
Other Broker Recs:		B: 4	S: 0	H: 0

Source of all data on this page: Company, DBS Bank, Bloomberg Finance L.P.

Poised to re-rate higher

Investment Thesis:

Poised to re-rate higher on strong industry momentum.

AEM's share price has a strong positive correlation with the US semiconductor equipment billings, which is one of the indicators of the industry's strength. Despite 25 consecutive monthly (y-o-y) increases, preliminary estimates for October indicate a 41.3% y-o-y rise. We believe AEM is in a strategic position to benefit from its key customer and industry uptrend, and could re-rate higher.

Key customer's capex indicates a strong outlook for AEM.

Intel, AEM's key customer, believes that the semiconductor industry could double its market size to US\$1tr by 2030. It is ready to commit significant investments to ensure that it is at the forefront and we believe that this will translate into higher revenues for AEM in FY22-23F.

Near-term key catalyst – ramp-up of next generation of handlers to its key customer. In the semiconductor industry, investments in the back-end typically lag the front-end by several quarters. After procuring front-end equipment, AEM's key customer has begun to ramp up its next generation of test handlers and we believe that this will be one of the key drivers of AEM's growth in FY22F.

Valuation:

Maintain BUY with a higher TP of S\$6.04. We are raising our TP as we lift our FY22F PE peg to 15.0x and increase FY22F earnings by 11%. Our higher PE peg is at a c.12% discount to peers.

Where we differ:

We are more optimistic on revenue and earnings growth.

Key Risks to Our View:

Single-customer concentration risk, geopolitical events, protraction of the COVID-19 pandemic, and FX risk.

At A Glance

Issued Capital (m shrs)	310
Mkt. Cap (S\$m/US\$m)	1,533 / 1,123
Major Shareholders (%)	
Venezio Investments Pte Ltd	8.7
Aberdeen PLC	5.1
Employees Provident Fund	5.0
Free Float (%)	89.9
3m Avg. Daily Val (US\$m)	8.5

GIC Industry: Information Technology / Technology Hardware & Equipment



Watchlist the stock on Insights Direct to receive prompt updates



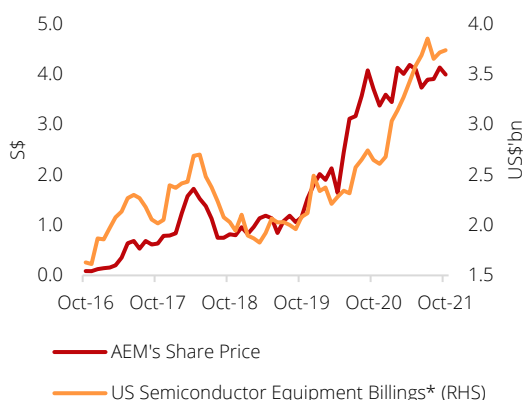
Live more, Bank less

WHAT'S NEW

Onward to new highs

What's New? – SEMI's preliminary estimates show continued strong industry growth in October. Since our last note on 11 November 2021, following its 3Q21 Business Update, AEM's share price has risen quickly and has been consolidating near our TP of S\$4.98 for slightly over a week now. On 22 November, SEMI released its preliminary estimate of the US-based semiconductor equipment manufacturers' billings for October 2021, and it recorded a 41.3% y-o-y increase to US\$3.74bn. The 3-month US semiconductor equipment billings is an indicator of the industry's momentum and has been a strong share price driver (r-square of 0.74).

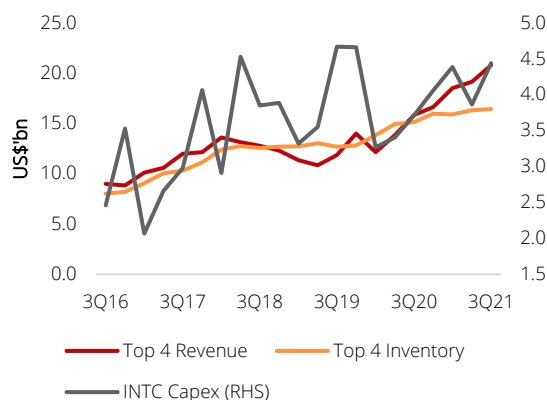
US semiconductor equipment billings is a strong driver of AEM's share price



Source: Bloomberg Finance L.P., SEMI, CEIC, DBS Bank
*US-based semiconductor equipment manufacturers

Front-end semiconductor equipment companies reap the benefits from the significant investments in the industry. COVID-19 has accelerated the world's digitalisation (flexible working arrangements, increased telecommuting, and e-commerce) and the semiconductor shortage has highlighted how much we have underestimated demand and investment. The top three semiconductor manufacturing companies (Intel, Samsung, and TSMC) have increased their capex and plan to significantly increase their production capacity in the next few years. For Intel, AEM's key customer, we are beginning to see its spending flow through to its front-end equipment suppliers. Intel's top four front-end equipment suppliers have seen their aggregated revenue surge by 75% from pre-COVID levels.

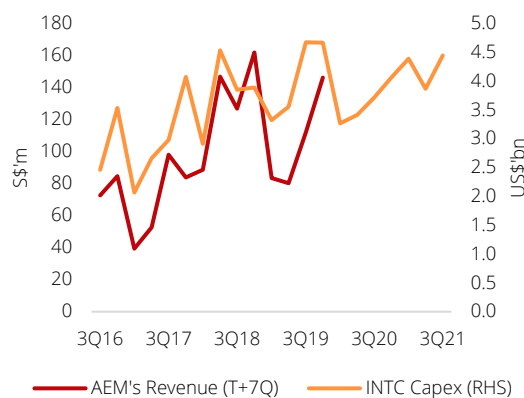
Intel's top 4 suppliers* benefit from its spending



Source: Bloomberg Finance L.P., DBS Bank
*AMAT, Tokyo Electron, ASML, and Lam Research

Spending to flow through to AEM (back-end equipment supplier). In the semiconductor industry, investments in front-end equipment typically lead the back-end by several quarters. Based on our analysis, AEM's revenue has historically lagged Intel's capex by about seven quarters. With its ongoing ramp-up of its next generation of System Level Testing handlers and new highly differentiated tools for the high-performance computing segment, we believe that this will be one of the key drivers of AEM's growth in FY22F.

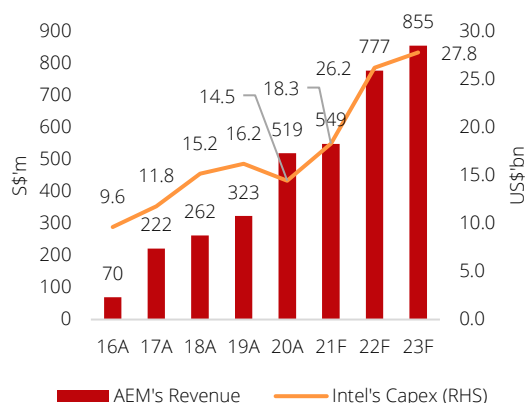
AEM's revenue lags Intel's capex by c.7 quarters



Source: Bloomberg Finance L.P., DBS Bank

Its key customer is expecting significant investment commitments in the next few years. Intel's CEO believes that the semiconductor industry could double its market size to US\$1tr by 2030, driven by AI, pervasive connectivity, cloud-to-edge infrastructure, and ubiquitous computing. It intends to be a part of the growth and is ready to commit significant investments to ensure that it is at the forefront. Intel is forecasting a 2022 capex of US\$25-28bn with potential for further growth in subsequent years. We remain optimistic that this will translate into higher revenues for AEM in FY22-23F.

Intel's planned capex indicates a strong outlook for AEM



Source: Bloomberg Finance L.P., DBS Bank

AEM's strategy – Bolting on complementary technology.

AEM aims to be the leading solutions provider in the paradigm shift in the Assembly and Testing space, which it terms "SLT+". To remain at the forefront, management has been and is continuing to focus on acquisitions that will complement its suite of offerings. Since 2017, it has embarked on seven acquisitions and partnerships of various scale. In addition to its existing handler solutions, it now offers a full suite of application-specific test solutions across MEMS, wafer sort, packaged ICs, and RF interconnects with enhanced delivery capabilities.

AEM's acquisitions since 2017

Date	Acquired/ Partnered	Technology Offering
Sep'17	InspiRain	Test solutions such as Vector Network Analyzer and a handheld network cable tester
Mar'18	Afore Oy	Wafer-level MEMS testing and handling solutions
Mar'18	IRIS Solution	R&D and integration of advanced machine vision solutions used in test handlers
Mar'20	Mu-TEST	Application-specific ATE instrumentation and capabilities
Jul'20	DB Design	Expanded AEM's offerings to include the automation fixture and device kit markets
End-20	Lattice Innovation	Complement AEM's extensive knowhow in active thermal controls
Mar'21	CEI Limited	Contribute to AEM's vertical integration with a higher level of control over quality and agility along the entire supply chain

Source: Company, DBS Bank

Endorsement from Temasek. Earlier in August, AEM announced a private placement worth S\$103.1m to Temasek. The infusion of new capital into AEM will drive the company forward to expand its product line and pursue M&A opportunities. More importantly, this signifies the confidence that Temasek has in AEM as a long-term investment.

Other developments to look out for – Securing of new customers could be 5-10% of FY22F revenue. AEM has also made significant progress on its technical engagements with 10 out of the top 20 semiconductor companies. It has started receiving initial orders and expects to report meaningful revenue contribution from these engagements in 2H22 and beyond. In addition, it has also been selected as the SLT solution provider for one of the industry's leading memory integrated device manufacturers. Our conservative guesstimated ballpark figure of these contributions is in the 5-10% range.

Earnings and Recommendation

Raise FY22/23F earnings by 11/16%. We raise our FY22/23F revenue forecasts by 9% each on the back of expected higher spending from its key customer and additional revenue streams from new customers. Our net adjustments to FY22/23F EBIT margins are 0.3/1.2ppts as we factor in an improvement in margins due to economies of scale from the larger revenue base.

Maintain BUY with a higher TP of S\$6.04 (previously S\$4.98). We are raising our FY22F PE peg to 15.0x (c.+2 SD) (previously 13.7x) to reflect the semiconductor industry's strong momentum and positive developments

in the company. Our PE peg of 15.0x represents a c.12% discount to its peer-average of 17.0x. We lift our TP to S\$6.04 on the back of higher FY22F PE peg and earnings.

Company Background

AEM is a solutions provider for the back-end testing of the semiconductor manufacturing process. It works closely with its key customer, Intel, to design, engineer, and manufacture the test handlers. AEM then provides field support and post-sales replacements.

Peer Comparison Table

Bloomberg Ticker	Company Name	Market Data		Financial Data			Valuation					
		Primary Exchange	Market Cap (\$\$'m)	Sales (\$\$'m)	Net Profit	Net Profit	Debt (\$\$'m)	EV/EBITDA FY21F	EV/EBITDA FY22F	TTM	P/E FY21F	P/E FY22F
AEM SP Equity	AEM Holdings	Singapore	1,533	519.0	97.6	18.8%	11.3	11.0x	7.3x	19.1x	17.9x	12.3x
TER US Equity	Teradyne	Nasdaq	33,641	4,305.1	1,081.5	25.1%	624.7	17.5x	16.3x	28.6x	25.6x	23.6x
6857 JP Equity	Advantest	Tokyo	23,890	4,030.1	899.2	22.3%	144.0	15.1x	13.2x	24.6x	23.5x	20.4x
522 HK Equity	ASM Pacific	Hong Kong	5,878	2,614.0	288.3	11.0%	807.7	7.4x	7.8x	22.4x	11.4x	12.4x
COHU US Equity	Cohu	Nasdaq	2,358	877.5	-19.0	-2.2%	466.9	7.6x	7.7x	N/A	11.7x	12.0x
Average			13,460	2,469.1	469.5	15.0%	410.9	11.7x	10.4x	23.7x	18.0x	16.1x
Average (ex-AEM)			16,442	2,956.7	562.5	14.1%	510.8	11.9x	11.2x	25.2x	18.1x	17.1x

Source: Bloomberg Finance L.P., DBS Bank

Historical PE and PB Band



Source: Bloomberg Finance L.P., DBS Bank estimates



Source: Bloomberg Finance L.P., DBS Bank estimates

Income Statement (\$m)

FY Dec	2019A	2020A	2021F	2022F	2023F
Revenue	323	519	549	777	855
Cost of Goods Sold	(192)	(315)	(346)	(498)	(541)
Gross Profit	131	203	202	279	315
Other Opng (Exp)/Inc	(67.9)	(90.3)	(101)	(134)	(155)
Operating Profit	62.9	113	101	145	160
Other Non Opng (Exp)/Inc	0.0	0.0	0.0	0.0	0.0
Associates & JV Inc	0.46	0.20	0.0	0.0	0.0
Net Interest (Exp)/Inc	0.36	0.45	(1.3)	1.13	1.75
Exceptional Gain/(Loss)	0.0	0.0	0.0	0.0	0.0
Pre-tax Profit	63.7	114	100.0	146	162
Tax	(11.0)	(16.2)	(15.0)	(21.9)	(24.3)
Minority Interest	0.0	0.0	0.0	0.0	0.0
Preference Dividend	0.0	0.0	0.0	0.0	0.0
Net Profit	52.8	97.6	85.0	124	137
Net Profit before Except.	52.8	97.6	85.0	124	137
EBITDA	69.5	122	117	161	178
Growth					
Revenue Gth (%)	23.2	60.6	5.7	41.6	10.1
EBITDA Gth (%)	67.0	75.3	(3.8)	37.8	10.2
Opg Profit Gth (%)	58.3	79.8	(10.5)	42.7	10.7
Net Profit Gth (Pre-ex) (%)	57.5	85.0	(12.9)	45.7	11.0
Margins & Ratio					
Gross Margins (%)	40.5	39.2	36.8	35.9	36.8
Opg Profit Margin (%)	19.5	21.8	18.5	18.6	18.7
Net Profit Margin (%)	16.3	18.8	15.5	15.9	16.1
ROAE (%)	47.1	56.4	28.6	28.8	26.0
ROA (%)	29.0	34.6	19.4	20.4	18.7
ROCE (%)	46.3	54.4	26.6	27.7	25.4
Div Payout Ratio (%)	26.4	25.4	25.0	25.0	25.0
Net Interest Cover (x)	NM	NM	75.9	NM	NM

Source: Company, DBS Bank

AEM Holdings Ltd

Balance Sheet (\$m)

FY Dec	2019A	2020A	2021F	2022F	2023F
Net Fixed Assets	8.44	17.6	19.4	17.3	14.4
Invts in Associates & JVs	4.57	4.68	6.11	6.11	6.11
Other LT Assets	17.0	46.8	80.7	73.9	66.8
Cash & ST Invts	108	135	245	348	459
Inventory	57.5	79.7	112	140	149
Debtors	28.0	47.6	71.5	83.9	89.7
Other Current Assets	4.86	4.36	5.69	5.69	5.69
Total Assets	228	336	540	675	791
ST Debt	0.0	0.0	4.00	4.00	4.00
Creditor	71.6	83.7	106	143	154
Other Current Liab	19.7	28.0	29.3	34.6	37.1
LT Debt	0.0	0.0	0.0	0.0	0.0
Other LT Liabilities	2.35	12.4	16.5	16.5	16.5
Shareholder's Equity	134	211	384	477	580
Minority Interests	0.0	0.0	0.0	0.0	0.0
Total Cap. & Liab.	228	336	540	675	791
Non-Cash Wkg. Capital	(1.0)	20.0	53.5	51.6	53.8
Net Cash/(Debt)	108	135	241	344	455
Debtors Turn (avg days)	25.9	26.6	39.6	36.5	37.0
Creditors Turn (avg days)	102.5	92.3	104.7	94.6	103.8
Inventory Turn (avg days)	83.2	81.5	105.6	95.5	101.1
Asset Turnover (x)	1.8	1.8	1.3	1.3	1.2
Current Ratio (x)	2.2	2.4	3.1	3.2	3.6
Quick Ratio (x)	1.5	1.6	2.3	2.4	2.8
Net Debt/Equity (X)	CASH	CASH	CASH	CASH	CASH
Net Debt/Equity ex MI (X)	CASH	CASH	CASH	CASH	CASH
Capex to Debt (%)	N/A	N/A	1,966.5	199.9	199.9

Source: Company, DBS Bank

Cash Flow Statement (\$m)

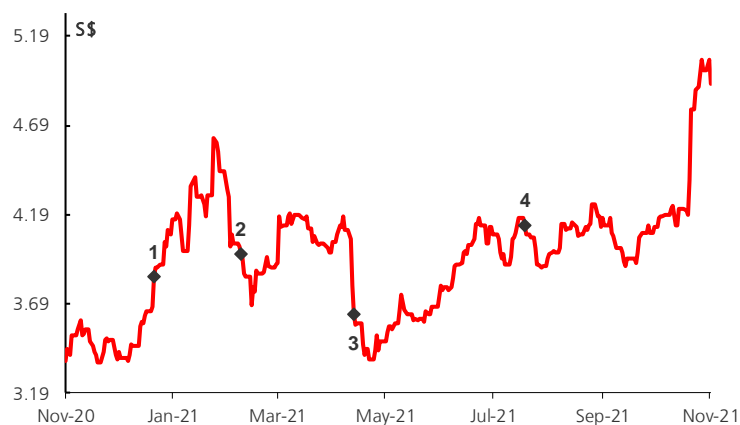
FY Dec	2019A	2020A	2021F	2022F	2023F
Pre-Tax Profit	63.7	114	100.0	146	162
Dep. & Amort.	6.08	8.42	15.8	16.9	17.9
Tax Paid	(6.7)	(9.8)	(17.9)	(16.5)	(21.9)
Assoc. & JV Inc/(loss)	(0.5)	(0.2)	0.0	0.0	0.0
Chg in Wkg.Cap.	(2.2)	(29.2)	3.25	(3.5)	(4.6)
Other Operating CF	7.18	3.33	0.0	0.0	0.0
Net Operating CF	67.7	86.3	101	143	153
Capital Exp.(net)	(3.3)	(30.4)	(78.7)	(8.0)	(8.0)
Other Invs.(net)	0.0	0.0	0.0	0.0	0.0
Invs in Assoc. & JV	0.0	0.0	0.0	0.0	0.0
Div from Assoc & JV	0.0	0.0	0.0	0.0	0.0
Other Investing CF	0.52	0.67	0.0	0.0	0.0
Net Investing CF	(2.8)	(29.8)	(78.7)	(8.0)	(8.0)
Div Paid	(10.5)	(22.2)	(21.3)	(31.0)	(34.4)
Chg in Gross Debt	(0.2)	(0.6)	0.0	0.0	0.0
Capital Issues	0.0	0.0	109	0.0	0.0
Other Financing CF	(4.5)	(3.1)	0.0	0.0	0.0
Net Financing CF	(15.2)	(25.9)	87.3	(31.0)	(34.4)
Currency Adjustments	(0.9)	(3.5)	0.0	0.0	0.0
Chg in Cash	48.8	27.1	110	104	111
Opg CFPS (S cts)	25.9	41.9	31.8	47.5	51.3
Free CFPS (S cts)	23.9	20.3	7.32	43.7	47.2

Acquisition of CEI Limited

Issuance of new shares to acquire CEI Limited and the private placement to Temasek

Source: Company, DBS Bank

Target Price & Ratings History



S.No.	Date of Report	Closing Price	12-mth Target Price	Rating
1:	12 Jan 21	3.84	5.16	BUY
2:	02 Mar 21	3.97	5.36	BUY
3:	05 May 21	3.63	4.73	BUY
4:	10 Aug 21	4.13	4.98	BUY

Note: Share price and Target price are adjusted for corporate actions.

Source: DBS Bank

Analyst: Wei Le CHUNG

Lee Keng LING

DBS Bank recommendations are based on an Absolute Total Return* Rating system, defined as follows:

STRONG BUY (>20% total return over the next 3 months, with identifiable share price catalysts within this time frame)

BUY (>15% total return over the next 12 months for small caps, >10% for large caps)

HOLD (-10% to +15% total return over the next 12 months for small caps, -10% to +10% for large caps)

FULLY VALUED (negative total return, i.e., > -10% over the next 12 months)

SELL (negative total return of > -20% over the next 3 months, with identifiable share price catalysts within this time frame)

*Share price appreciation + dividends

Completed Date: 25 Nov 2021 06:35:58 (SGT)
Dissemination Date: 25 Nov 2021 07:40:31 (SGT)

Sources for all charts and tables are DBS Bank unless otherwise specified.

GENERAL DISCLOSURE/DISCLAIMER

This report is prepared by DBS Bank Ltd. This report is solely intended for the clients of DBS Bank Ltd, DBS Vickers Securities (Singapore) Pte Ltd, its respective connected and associated corporations and affiliates only and no part of this document may be (i) copied, photocopied or duplicated in any form or by any means or (ii) redistributed without the prior written consent of DBS Bank Ltd.

The research set out in this report is based on information obtained from sources believed to be reliable, but we (which collectively refers to DBS Bank Ltd, its respective connected and associated corporations, affiliates and their respective directors, officers, employees and agents (collectively, the "DBS Group") have not conducted due diligence on any of the companies, verified any information or sources or taken into account any other factors which we may consider to be relevant or appropriate in preparing the research. Accordingly, we do not make any representation or warranty as to the accuracy, completeness or correctness of the research set out in this report. Opinions expressed are subject to change without notice. This research is prepared for general circulation. Any recommendation contained in this document does not have regard to the specific investment objectives, financial situation and the particular needs of any specific addressee. This document is for the information of addressees only and is not to be taken in substitution for the exercise of judgement by addressees, who should obtain separate independent legal or financial advice. The DBS Group accepts no liability whatsoever for any direct, indirect and/or consequential loss (including any claims for loss of profit) arising from any use of and/or reliance upon this document and/or further communication given in relation to this document. This document is not to be construed as an offer or a solicitation of an offer to buy or sell any securities. The DBS Group, along with its affiliates and/or persons associated with any of them may from time to time have interests in the securities mentioned in this document. The DBS Group, may have positions in, and may effect transactions in securities mentioned herein and may also perform or seek to perform broking, investment banking and other banking services for these companies.

Any valuations, opinions, estimates, forecasts, ratings or risk assessments herein constitutes a judgment as of the date of this report, and there can be no assurance that future results or events will be consistent with any such valuations, opinions, estimates, forecasts, ratings or risk assessments. The information in this document is subject to change without notice, its accuracy is not guaranteed, it may be incomplete or condensed, it may not contain all material information concerning the company (or companies) referred to in this report and the DBS Group is under no obligation to update the information in this report.

This publication has not been reviewed or authorized by any regulatory authority in Singapore, Hong Kong or elsewhere. There is no planned schedule or frequency for updating research publication relating to any issuer.

The valuations, opinions, estimates, forecasts, ratings or risk assessments described in this report were based upon a number of estimates and assumptions and are inherently subject to significant uncertainties and contingencies. It can be expected that one or more of the estimates on which the valuations, opinions, estimates, forecasts, ratings or risk assessments were based will not materialize or will vary significantly from actual results. Therefore, the inclusion of the valuations, opinions, estimates, forecasts, ratings or risk assessments described herein IS NOT TO BE RELIED UPON as a representation and/or warranty by the DBS Group (and/or any persons associated with the aforesaid entities), that:

- (a) such valuations, opinions, estimates, forecasts, ratings or risk assessments or their underlying assumptions will be achieved, and
- (b) there is any assurance that future results or events will be consistent with any such valuations, opinions, estimates, forecasts, ratings or risk assessments stated therein.

Please contact the primary analyst for valuation methodologies and assumptions associated with the covered companies or price targets.

Any assumptions made in this report that refers to commodities, are for the purposes of making forecasts for the company (or companies) mentioned herein. They are not to be construed as recommendations to trade in the physical commodity or in the futures contract relating to the commodity referred to in this report.

DBSVUSA, a US-registered broker-dealer, does not have its own investment banking or research department, has not participated in any public offering of securities as a manager or co-manager or in any other investment banking transaction in the past twelve months and does not engage in market-making.

ANALYST CERTIFICATION

The research analyst(s) primarily responsible for the content of this research report, in part or in whole, certifies that the views about the companies and their securities expressed in this report accurately reflect his/her personal views. The analyst(s) also certifies that no part of his/her compensation was, is, or will be, directly or indirectly, related to specific recommendations or views expressed in the report. The research analyst (s) primarily responsible for the content of this research report, in part or in whole, certifies that he or his associate¹ does not serve as an officer of the issuer or the new listing applicant (which includes in the case of a real estate investment trust, an officer of the management company of the real estate investment trust; and in the case of any other entity, an officer or its equivalent counterparty of the entity who is responsible for the management of the issuer or the new listing applicant) and the research analyst(s) primarily responsible for the content of this research report or his associate does not have financial interests² in relation to an issuer or a new listing applicant that the analyst reviews. DBS Group has procedures in place to eliminate, avoid and manage any potential conflicts of interests that may arise in connection with the production of research reports. The research analyst(s) responsible for this report operates as part of a separate and independent team to the investment banking function of the DBS Group and procedures are in place to ensure that confidential information held by either the research or investment banking function is handled appropriately. There is no direct link of DBS Group's compensation to any specific investment banking function of the DBS Group.

COMPANY-SPECIFIC / REGULATORY DISCLOSURES

1. DBS Bank Ltd, DBS HK, DBS Vickers Securities (Singapore) Pte Ltd ("DBSVS") or their subsidiaries and/or other affiliates have a proprietary position in AEM Holdings Ltd, ASM Pacific recommended in this report as of 31 Oct 2021.
2. Neither DBS Bank Ltd nor DBS HK market makes in equity securities of the issuer(s) or company(ies) mentioned in this Research Report.

Compensation for investment banking services:

3. DBSVUSA does not have its own investment banking or research department, nor has it participated in any public offering of securities as a manager or co-manager or in any other investment banking transaction in the past twelve months. Any US persons wishing to obtain further information, including any clarification on disclosures in this disclaimer, or to effect a transaction in any security discussed in this document should contact DBSVUSA exclusively.


Disclosure of previous investment recommendation produced:

4. DBS Bank Ltd, DBS Vickers Securities (Singapore) Pte Ltd ("DBSVS"), their subsidiaries and/or other affiliates may have published other investment recommendations in respect of the same securities / instruments recommended in this research report during the preceding 12 months. Please contact the primary analyst listed on page 1 of this report to view previous investment recommendations published by DBS Bank Ltd, DBS Vickers Securities (Singapore) Pte Ltd ("DBSVS"), their subsidiaries and/or other affiliates in the preceding 12 months.

¹ An associate is defined as (i) the spouse, or any minor child (natural or adopted) or minor step-child, of the analyst; (ii) the trustee of a trust of which the analyst, his spouse, minor child (natural or adopted) or minor step-child, is a beneficiary or discretionary object; or (iii) another person accustomed or obliged to act in accordance with the directions or instructions of the analyst.

² Financial interest is defined as interests that are commonly known financial interest, such as investment in the securities in respect of an issuer or a new listing applicant, or financial accommodation arrangement between the issuer or the new listing applicant and the firm or analysis. This term does not include commercial lending conducted at arm's length, or investments in any collective investment scheme other than an issuer or new listing applicant notwithstanding the fact that the scheme has investments in securities in respect of an issuer or a new listing applicant.

RESTRICTIONS ON DISTRIBUTION

General	This report is not directed to, or intended for distribution to or use by, any person or entity who is a citizen or resident of or located in any locality, state, country or other jurisdiction where such distribution, publication, availability or use would be contrary to law or regulation.
Australia	<p>This report is being distributed in Australia by DBS Bank Ltd, DBS Vickers Securities (Singapore) Pte Ltd ("DBSVS") or DBSV HK. DBS Bank Ltd holds Australian Financial Services Licence no. 475946.</p> <p>DBS Bank Ltd, DBSVS and DBSV HK are exempted from the requirement to hold an Australian Financial Services Licence under the Corporation Act 2001 ("CA") in respect of financial services provided to the recipients. Both DBS and DBSVS are regulated by the Monetary Authority of Singapore under the laws of Singapore, and DBSV HK is regulated by the Hong Kong Securities and Futures Commission under the laws of Hong Kong, which differ from Australian laws.</p> <p>Distribution of this report is intended only for "wholesale investors" within the meaning of the CA.</p>
Hong Kong	<p>This report has been prepared by a person(s) who is not licensed by the Hong Kong Securities and Futures Commission to carry on the regulated activity of advising on securities in Hong Kong pursuant to the Securities and Futures Ordinance (Chapter 571 of the Laws of Hong Kong). This report is being distributed in Hong Kong and is attributable to DBS Bank (Hong Kong) Limited ("DBS HK"), a registered institution registered with the Hong Kong Securities and Futures Commission to carry on the regulated activity of advising on securities pursuant to the Securities and Futures Ordinance (Chapter 571 of the Laws of Hong Kong). DBS Bank Ltd., Hong Kong Branch is a limited liability company incorporated in Singapore.</p> <p>For any query regarding the materials herein, please contact Carol Wu (Reg No. AH8283) at dbsvhk@dbs.com</p>
Indonesia	This report is being distributed in Indonesia by PT DBS Vickers Sekuritas Indonesia.
Malaysia	<p>This report is distributed in Malaysia by AllianceDBS Research Sdn Bhd ("ADBSR"). Recipients of this report, received from ADBSR are to contact the undersigned at 603-2604 3333 in respect of any matters arising from or in connection with this report. In addition to the General Disclosure/Disclaimer found at the preceding page, recipients of this report are advised that ADBSR (the preparer of this report), its holding company Alliance Investment Bank Berhad, their respective connected and associated corporations, affiliates, their directors, officers, employees, agents and parties related or associated with any of them may have positions in, and may effect transactions in the securities mentioned herein and may also perform or seek to perform broking, investment banking/corporate advisory and other services for the subject companies. They may also have received compensation and/or seek to obtain compensation for broking, investment banking/corporate advisory and other services from the subject companies.</p> <p style="text-align: right;">  Wong Ming Tek, Executive Director, ADBSR </p>
Singapore	This report is distributed in Singapore by DBS Bank Ltd (Company Regn. No. 196800306E) or DBSVS (Company Regn No. 198600294G), both of which are Exempt Financial Advisers as defined in the Financial Advisers Act and regulated by the Monetary Authority of Singapore. DBS Bank Ltd and/or DBSVS, may distribute reports produced by its respective foreign entities, affiliates or other foreign research houses pursuant to an arrangement under Regulation 32C of the Financial Advisers Regulations. Where the report is distributed in Singapore to a person who is not an Accredited Investor, Expert Investor or an Institutional Investor, DBS Bank Ltd accepts legal responsibility for the contents of the report to such persons only to the extent required by law. Singapore recipients should contact DBS Bank Ltd at 6327 2288 for matters arising from, or in connection with the report.
Thailand	This report is being distributed in Thailand by DBS Vickers Securities (Thailand) Co Ltd.

United Kingdom	<p>This report is produced by DBS Bank Ltd which is regulated by the Monetary Authority of Singapore.</p> <p>This report is disseminated in the United Kingdom by DBS Vickers Securities (UK) Ltd, ("DBSVUK"). DBSVUK is authorised and regulated by the Financial Conduct Authority in the United Kingdom.</p> <p>In respect of the United Kingdom, this report is solely intended for the clients of DBSVUK, its respective connected and associated corporations and affiliates only and no part of this document may be (i) copied, photocopied or duplicated in any form or by any means or (ii) redistributed without the prior written consent of DBSVUK. This communication is directed at persons having professional experience in matters relating to investments. Any investment activity following from this communication will only be engaged in with such persons. Persons who do not have professional experience in matters relating to investments should not rely on this communication.</p>
Dubai International Financial Centre	<p>This research report is being distributed by DBS Bank Ltd., (DIFC Branch) having its office at units 608 - 610, 6th Floor, Gate Precinct Building 5, PO Box 506538, DIFC, Dubai, United Arab Emirates. DBS Bank Ltd., (DIFC Branch) is regulated by The Dubai Financial Services Authority. This research report is intended only for professional clients (as defined in the DFSA rulebook) and no other person may act upon it.</p>
United Arab Emirates	<p>This report is provided by DBS Bank Ltd (Company Regn. No. 196800306E) which is an Exempt Financial Adviser as defined in the Financial Advisers Act and regulated by the Monetary Authority of Singapore. This report is for information purposes only and should not be relied upon or acted on by the recipient or considered as a solicitation or inducement to buy or sell any financial product. It does not constitute a personal recommendation or take into account the particular investment objectives, financial situation, or needs of individual clients. You should contact your relationship manager or investment adviser if you need advice on the merits of buying, selling or holding a particular investment. You should note that the information in this report may be out of date and it is not represented or warranted to be accurate, timely or complete. This report or any portion thereof may not be reprinted, sold or redistributed without our written consent.</p>
United States	<p>This report was prepared by DBS Bank Ltd. DBSVUSA did not participate in its preparation. The research analyst(s) named on this report are not registered as research analysts with FINRA and are not associated persons of DBSVUSA. The research analyst(s) are not subject to FINRA Rule 2241 restrictions on analyst compensation, communications with a subject company, public appearances and trading securities held by a research analyst. This report is being distributed in the United States by DBSVUSA, which accepts responsibility for its contents. This report may only be distributed to Major U.S. Institutional Investors (as defined in SEC Rule 15a-6) and to such other institutional investors and qualified persons as DBSVUSA may authorize. Any U.S. person receiving this report who wishes to effect transactions in any securities referred to herein should contact DBSVUSA directly and not its affiliate.</p>
Other jurisdictions	<p>In any other jurisdictions, except if otherwise restricted by laws or regulations, this report is intended only for qualified, professional, institutional or sophisticated investors as defined in the laws and regulations of such jurisdictions.</p>

DBS Regional Research Offices

HONG KONG

DBS (Hong Kong) Ltd

Contact: Carol Wu
13th Floor One Island East,
18 Westlands Road,
Quarry Bay, Hong Kong
Tel: 852 3668 4181
Fax: 852 2521 1812
e-mail: dbsvhk@dbs.com

MALAYSIA

AllianceDBS Research Sdn Bhd

Contact: Wong Ming Tek
19th Floor, Menara Multi-Purpose,
Capital Square,
8 Jalan Munshi Abdullah 50100
Kuala Lumpur, Malaysia.
Tel.: 603 2604 3333
Fax: 603 2604 3921
e-mail: general@alliancedbs.com
Co. Regn No. 198401015984 (128540-U)

SINGAPORE

DBS Bank Ltd

Contact: Janice Chua
12 Marina Boulevard,
Marina Bay Financial Centre Tower 3
Singapore 018982
Tel: 65 6878 8888
e-mail: groupresearch@dbs.com
Company Regn. No. 196800306E

INDONESIA

PT DBS Vickers Sekuritas (Indonesia)

Contact: Maynard Priajaya Arif
DBS Bank Tower
Ciputra World 1, 32/F
Jl. Prof. Dr. Satrio Kav. 3-5
Jakarta 12940, Indonesia
Tel: 62 21 3003 4900
Fax: 6221 3003 4943
e-mail: indonesiaesearch@dbs.com

THAILAND

DBS Vickers Securities (Thailand) Co Ltd

Contact: Chanpen Sirithanarattanakul
989 Siam Piwat Tower Building,
9th, 14th-15th Floor
Rama 1 Road, Pathumwan,
Bangkok Thailand 10330
Tel. 66 2 857 7831
Fax: 66 2 658 1269
e-mail: research@th.dbs.com
Company Regn. No 0105539127012
Securities and Exchange Commission, Thailand