



Malaysia Infrastructure

Sector outlook

Peter Kong, CFA

peter.kong@clsa.com +60 3 2056 7877

20 February 2023

Malaysia

Infrastructure

SunCon	SCGB MK
Rec	BUY
Market cap	US\$0.5bn
3M ADV	US\$0.2m
Price	RM1.63
Target	RM1.92
Up/downside	+17.8%

IJM	IJM MK
Rec	O-PF
Market cap	US\$1.3bn
3M ADV	US\$0.6m
Price	RM1.59
Target	RM1.83
Up/downside	+15.1%

Gamuda	GAM MK
Rec	O-PF
Market cap	US\$2.3bn
3M ADV	US\$6.3m
Price	RM3.90
Target	RM3.95
Up/downside	+1.3%

Gone full circle

Funding mode on MRT3 said to be reverting, per news from Edge

Citing sources. The Edge Weekly (20 Feb - 26 Feb print edition) in its article. Government to Fund MRT3, Hybrid Financing Model Scrapped, wrote the MRT3 is reverting full-circle to a government-funded model from hybrid funding. We await more clarity on this during the budget 2023 re-tabling this week. A move to government funding may be a slight loss in edge for contractors with deep balance sheets. The article also says the government is looking to reduce costs. We do not expect significant cost changes given alignment and design has undergone past optimisations.

Reportedly returning to a government-funded model

- □ What changed? Under the MRT3 main civil packages, hybrid funding is built into current tenders, ie. the main contractors are prepared to agree to two-year deferred payment. The Edge cites the government is moving away from this model and reverting to bonds via Danainfra Nasional SPV. As MRT3 was mentioned in previous Budget 2023 tabling, we hope for more clarity in the updates in the re-tabling this week (24 February).
- □ We see a hybrid model a more suitable for the current climate. Absent strong revenue levers (as the government said it would not introduce a consumption tax), this leaves the option of containing debt—this argues for a hybrid funding MRT3 model. The benefit would be to delay saddling an estimated RM3.3bn (in the first year) of the RM1.5tn load of debt (and liabilities), though we recognise there would be interest savings in the 1ppt difference between the government borrowing cost and by AA3-rated firms such as IJM and Gamuda.

Revisiting costs as well, though we do not expecting significant changes

- ☐ Figures unconfirmed, but appear credible. The article also divulged bidder names such as Gamuda, IJM and SunCon, as well non-rated companies, Malaysia Resources Corp Bhd (MRCB), YTL Corp and TRC Synergy, which we understand are keen on MRT3. While the Edge revealed the value of bids (Figure 5), firms unsurprisingly are largely unable to confirm commercial sensitivity. Based on alignment, and on an aggregate basis, the submitted bids reported by the paper are relatively close to our estimates (see Fig.6), going by MRT2 rates.
- □ Not expecting significant changes but alignment tweaks. We do not expect significant construction cost cuts as we believe the project has earlier undergone optimisation. On 7 Feb, the Edge reported that the MRT3 Corp will carry out a detailed and comprehensive study of alignment to reduce the social impact and land acquisition costs of RM8bn, or 17% of costs (excluding financing). Significant changes to alignment are not expected as the circle line has been planned to integrate and improve ridership for the earlier two lines, which will improve operational viability and are positive for the government in preventing ballooning debt. Operator Prasarana (for MRT1) showed an operating loss of RM2.0bn in
- Specifically, the article mentions reducing project management costs. In this area, firms such as HSS Engineers (N-R) has been made project management consultant (PMC) for a value of close to RM1bn. We think the government may be inclined to honour awarded contracts, unless the scope changes tied into the KPIs of PMC are significant.

Implications

- □ Retender not seen. Retender is not our base case as we do not assume material construction changes and we understand contractors submitted construction and financing solutions separately. However, on the potential alignment study, this could impact earnings assumptions if awards are delayed beyond mid-2023. Public display and land acquisitions are also needed before work starts.
- ☐ Impact. Changing the alignment may bring about some uncertainty over the aboveground/ underground mix (see map in Figure 2) which remains to be seen. Reverting to a government funded model appears a lesser concern. Some gloss would be taken away from firms perceived to have an advantage with strong balance sheets (Gamuda and IJM), though our view is unchanged. To this end, The Edge pointed out that MRT Corp will decide on the "best evaluated tender" and not necessarily the lowest price.
- ☐ We remain neutral on sector and our top pick remains laggard SunCon.





www.clsa.com

Gone full circle

We examine some of the implications of the claims made in the The Edge Weekly article *Government to Fund MRT3*, *Hybrid Financing Model Scrapped*, who citing sources, shared information on the MRT3 roll-out as follows:

- Reverting to debt issuances by DanaInfra Nasional Bhd, instead of "hybrid financing" where the main contractors and system works contractors would have to fund the project for the first 2 years.
- The government will continue with the MRT3, but is looking ways to slash the cost. The article points out that the project management cost estimated at RM9bn will be slashed.

Expect more clarity when Budget is being re-tabled

We expect more clarity by the time of the Budget 2023 being re-tabled on 24

February, which may reduce one overhang. However, recently, MRT Corp has said it is also conducting a detailed and comprehensive study of the MRT Circle line. While MRT3 will press ahead, the risks seen primarily in timing.

Government was earlier open to funding the project but MRT Corp was pushing a hybrid financing model of MRT Corp at the time was of the view that notwithstanding the government's commitment, MRT Corp would look to pursue a hybrid financing model. The hybrid financing model has flexibility that it could help plug a "shortfall" from the value the government would have been comfortable to fund.

Figure 1

Recent timeline	Recent timeline of events for MRT3 (over the past 12 months)						
March 2022	CEO of MRT Corp explains hybrid financing model will be adopted although the government stands ready on a RM50 bn commitment over 8 years						
March 2022	Then Transport Minister Wee Ka Siong had said project will be opened for tender in May with awards in 4Q22, ie a 7 month process. It also revealed that the circle line will involve 5 packages - 3 packages for civil works, a systems works and a project management consultancy						
April 2022	MRT Corp inviting prospective firms to participate in request for proposal for MRT3 circle line project consultancy services Work Package						
August 2022	MRT Corp extended technical submission for CMC302 and CMC303 from 2 August to 30 September, while maintaining that for CMC301						
Oct 2022	Government committed to MRT3 via the budget, and identifying that the budget for 2023 would amount to RM3.3 bn, with phase 1 completed by 2028 and phase 2 by 2030						
Feb 2023	The Edge reports reverting to funding via Danainfra Nasional Berhad						

Source: CLSA, news

We view the hybrid financing model to be suitable at this time

We see the hybrid financing model being more flexible for the government, as this will avoid adverse effects to national accounts for the initial 2 years. Our view considers the fact that Prime Minister Anwar who is also the Finance Minister has said that it won't reintroduce the Goods and Services Tax (*news*), and absent strong revenue levers, the area that country can best manage is the debt load. Thus we are less enamoured on putting the funding back to government's books for now.

In the previous Budget 2023 tabling (7 Oct 2022) by Tengku Zafrul, the then finance minister, it was unveiled that based on the medium term fiscal framework, that the Malaysia's deficit level from 2023 to 2025 was projected to reduce to an average of 4.4% of GDP, and a medium term target of 3.5%. Echoing such direction, Anwar

Find CLSA research on Bloomberg, Thomson Reuters, FactSet and CapitalIQ - and profit from our evalu@tor proprietary database at clsa.com

Will look to reduce debt without affecting its development programme

On policy choices by the finance minister, debt

management would take

center-stage

20 February 2023



We do not think that the interest cost savings on the construction element will be substantial in the large scheme of things over the first two years

Not entirely surprising that the cost wil be reviewed following news that MRT Corp is conducting a detailed and comprehensive study

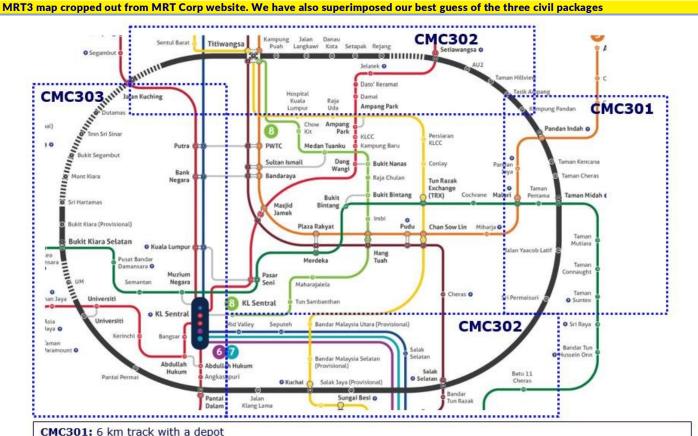
has recently stated that the government is looking to reduce its debts without affecting its development programme (news).

The amount to have been spent in 2023 alone was RM3.3 bn, per Tengku Zafrul, when initially unveiling the Budget 2023 (7 Oct 2022), this would be c0.3% of federal government borrowings. Assuming 2 years at this RM3.3 bn run rate, the interest differential between government or private funding is not large - cRM100 mn, calculated on a 1ppt difference in 3-year funding cost spread between Malaysian Government Securities and AA3-rated firms (such as Gamuda and IJM).

Relooking costs, including alignment and project management costs

The news that the government is revisiting costs, especially in project management, is not entirely surprising. This is because the Edge has about two weeks back reported that the MRT Corp is conducting a detailed and comprehensive study of the MRT Circle line's alignment. This is with the intention of minimizing the social impact of the project on the public especially land acquisition. The Edge reported that landowner and homeowners given notice by Land Department on possible acquisition had been in the dark. In the past, there have also been social media questions on whether the alignment served the "affluent areas".

Figure 2



CMC302: 1.2 km of underground, and 27 km of elevated, with depot

CMC303: 10 km of underground, and 6 km of elevated

Source: MRT Corp, CLSA. According to MRT Corp, the CMC301 is for the design, construction and completion of viaduct guideway, elevated stations, depot and associated works from Pandan to Jalan Cheras. Meanwhile, that for CMC302 is for the section of Jalan Cheras to Pantai Dalam, and Jalan Kuching to Pandan. The alignment for CMC303 is from Pantai Dalam to Jalan Kuching.



Do not foresee significant changes to alignment

An alignment for MRT3 has been shared by MRT Corp (*link*), where we have cropped and highlighted our best estimation of where the 3 civil packages are. We think there won't be significant changes over the 50.8 kilometre alignment, including 10 interchanges, as MRT3 has undergone design optimisation, and a compromise in construction cost (RM34bn, Figure 3) at the expense of connectivity is unlikely. Where we think there could be some tweaks may be between the options for underground or elevated routes.

Lowering operational drain would be

The government expects that the MRT2 or Putrajaya line will attain 200,000 users in 2 years, and to also improve ridership in Line 1. Under line 1, the traffic in 3Q22 has only recovered to 86% of the quarterly average for 2019. Overall, we think that stronger connectivity between the various transport modes would be important to lower an operational drain. For example, Prasarana Malaysia Berhad, ie owner and operator of the light rail transit and operator for MRT, showed post-tax losses of RM3.4bn in 2021 (RM4.5bn in 2020). Loss from operations were RM2 bn.

Figure 3

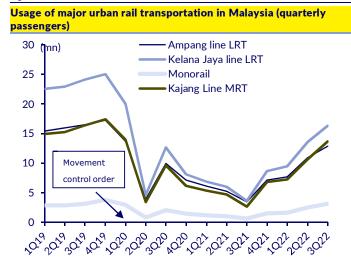
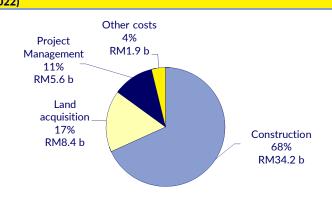


Figure 4

Breakdown of MRT3 cost according to Tengku Zafrul (August



Source: CLSA, Ministry of Transport Malaysia

Source: CLSA, Government of Malaysia

Some projects have already been awarded

The Government to Fund MRT3, Hybrid Financing Model Scrapped article pointed out that there is intention to slash costs on project management. Some awards have been underway here, including the award to a HSS Engineers joint venture as the project management consultant (PMC), for RM997.9m. The consortium beat out four others in a tender. To recap, the PMC has its own KPIs, and the challenges here are in integrating three civil work package contractors and 1 system work package to integrate. We believe that the government could be inclined to honour awarded contracts, unless scope and KPIs change significantly.

On an aggregate basis, the ranges provided by the companies for the three civil packages track close to our estimates

Figures unconfirmed, but appears credible on an aggregate basis

The Edge Government to Fund MRT3, Hybrid Financing Model Scrapped article also shared some details on bid values, as per Figure 3 below. Based on our channel checks, companies by and large cannot comment on sums tendered are as the values quoted in the article from the Edge—this is understandable given a competitive tender.



Figure 5

Details of bi	ds by contractor as reported by the Edge	
Package	Description of package	As reported by the Edge
CMC301	6km track with a depot	Lowest bid of RM2.9 bn by MRCB; and that TRC submitted a bid of RM3.1 bn
CMC302	1.2 km of underground, and 27 km of elevated structures	That YTL submitted a bid for RM10.8 bn and IJM the second lowest at RM11.8 bn. MRCB and SunCon have been named as well although the article did not divulge details
CMC303	10 km of underground works with stations, and 6 km of elevated sections	That IJM submitted a bid of RM13.8 bn and that MMC-Gamuda submitted theirs at RM13.3 bn. The article also points out that IJM is partnering China Railway Group Ltd

Source: CLSA, The Edge (Government to Fund MRT3, Hybrid Financing Model Scrapped).

On an aggregate basis, the ranges provided by the companies for the three civil packages track close to our estimates Just based on the range of values quoted above for the CMC301, CMC302 and CMC303, we believe that in aggregate the range provided is quite similar to CLSA's estimation which is based on MRT2 costing for construction cost (Figure 5). We understand these values are for construction, as the companies submit a separate the value for construction and financing.

Figure 6

Estimation	Estimations of construction contract value versus value quoted by the Edge						
RM bn	CLSA estimated value based on MRT2 costing	MRT2 costing	Range of value quoted by the Edge				
CMC301	2.7	RM350 mn for maintenance depot and RM390 mn per km for elevated	2.9-3.1				
CMC302	11.7	RM390 mn per km for elevated and RM970 mn per km for underground	10.8-11.8				
CMC303	12.0	RM390 mn per km for elevated and RM970 mn per km for underground	13.3-13.8				

Source: CLSA, The Edge (Government to Fund MRT3, Hybrid Financing Model Scrapped).

Interest from the named parties across various packages

Having said that, the interest of the above named firms can be confirmed. For companies that we don't cover, we MRCB has submitted bids for CMC01, CMC02, and even CMC03, the latter helped by their expertise including in tunnelling for LRT3. MRCB would also be keen for the systems package, ie for signalling and train control, among others. According to the Edge (news), this is a four horse race, where the systems package is currently in pre-qualification stage (extended to 15 Feb this year). Likewise, TRC has also been interested in the MRT3, and has been the winner of the depot construction in the past 2 MRT packages. YTL, while not previously involved in the MRT lines, have also experience for elevated tracks given elevated section in its Gemas-Johor Bahru double tracking construction, in sections entering towns.

We bake-in expectations for Gamuda and IJM

In our assumptions

We already bake-in the expectation that MMC-Gamuda will clinch the CMC303, where it has been laser focused on one package; our estimate is for a smaller RM12bn (versus sum quoted by the Edge). Meanwhile, we also see IJM emerging as potential winner for CMC302, which counts on its strong balance sheet position. As there is not much clarity on its consortium make up and percentage share, we have at this juncture only given benefit in its RM3 bn order book guidance. At this juncture, if SunCon were to be successful in clinching one of the 2 civil packages (reportedly CMC01 and CMC02) as the main contractor, this would be a bonus to our expectations.

Prepared for - W: peter.kong@clsa.com



Figure 7

Peer comparison										
Company	Stock code	Price	Mkt cap	ADT	PB		ROE		Yield	
					CY22	CY23	CY22	CY23	CY22	CY23
		(RM)	(US\$m)	(US\$m)	(x)	(x)	(%)	(%)	(%)	(%)
Ekovest	EKO MK	1.6	474.2	0.3	2.7	2.5	18.5	19.3	3.8	4.1
Gamuda	GAM MK	3.9	2306.4	6.2	1.0	1.0	7.5	7.5	6.9	8.7*
SunCon	SCGB MK	1.6	474.2	0.3	2.8	2.5	17.4	19.6	3.6	4.0
GDB	GDB MK	0.2	49.7	0.1	1.3	1.2	9.4	6.1	n.a	n.a
Kim Lun	KICB MK	0.8	61.0	0.0	0.4	0.3	3.4	6.2	2.0	3.3
Econpile	ECON MK	0.2	70.4	0.3	0.7	0.7	(0.6)	3.7	0.0	0.0
IJM	IJM MK	1.6	1260.3	0.6	0.5	0.5	3.2	3.3	5.0	3.5
Muhibbah	MUHI MK	0.7	116.5	0.3	0.4	0.4	0.5	1.8	1.8	2.1
Advancecon	ADVC MK	0.3	27.3	0.0	0.5	0.5	0.3	1.1	n.a	n.a
WCT	WCTHG MK	0.5	148.7	0.2	0.2	0.2	1.5	2.2	1.3	1.5
Gadang	GADG MK	0.3	52.6	0.1	n.a	n.a	3.9	4.8	1.7	0.6
Kerjaya Prospek	KPG MK	1.2	350.0	0.1	1.3	1.2	10.6	12.2	3.7	3.7
AQRS	AQRS MK Equity	0.3	39.2	0.2	0.3	0.3	7.3	8.8	3.1	2.8

Source: CLSA *High yield due to special dividends

Valuation details - Gamuda Bhd GAM MK

We value Gamuda's construction division based on 13.5x sustainable earnings and apply 12x sustainable earnings for its local property project, with a 40% discount. We use DCF to value expressway and water supply operations and maintenance concessions. Our target price for Gamuda is based on an estimated fully diluted RNAV/share.

Investment risks - Gamuda Bhd GAM MK

Execution risk on construction projects could lead to cost overruns while a slowdown of the Vietnam economy could dampen demand for property launches in Hanoi and Ho Chi Minh City. We are concerned about EPS dilution from a potential increase in the employee share option scheme and warrants; we include these concerns in our valuation. Given its job concentration in large projects, Gamuda is exposed to policy risk. The ability to replenish jobs before the MRT2 civil works are complete is also a concern. A prolonged Covid-19 outbreak could reduce work efficiency.

Valuation details - IJM Corp Bhd IJM MK

Our valuation reflects PE-based valuations for IJM's construction and industrial divisions and an RNAV-based valuation for its property segment, with an 8.8% WACC and DCF for its concessionaire stakes as well as a discount of 20%.

Investment risks - IJM Corp Bhd IJM MK

With a near-record-high order book, the key risk is execution of projects to ensure profitability and completion according to schedule. Slower property demand due to weaker consumer sentiment has affected IJM's property sales, and the risks are a sustained slowdown or further margin pressure. Rising labour costs could put pressure on construction profit margins. Regulatory risks related to toll-road and port concessions are not uncommon. Prolonged Covid-19 could also hinder operating efficiency.



Valuation details - Sunway Construction Group Bhd SCGB MK

Our target price is derived from 14.0x 24CL earnings, one standard deviation above the 10-year mean PE for the KL Construction index. We accord an above-sector average PE, given the company's flow of internal jobs and strong balance sheet.

Investment risks - Sunway Construction Group Bhd SCGB MK

The main concern is construction risk. Specific risks include lower-than-expected margins (below 5-8%) or if the amount of projects secured falls below our expectation, either due to an inability to secure projects or project rollout delays. Higher-than-expected steel price increases could cut into margins as SunCon hedges steel needs for a future six-month period. On the precast segment, another risk is margin recovery timing, currently in the doldrums due to competition. Prolonged Covid-19 could also reduce operating efficiency.



Research subscriptions

To change your report distribution requirements, please contact your CLSA sales representative or email us at cib@clsa.com. You can also fine-tune your Research Alert email preferences at https://www.clsa.com/member/tools/email_alert/.

Companies mentioned

Advancecon (N-R)

AQRS (AQRS MK - RM0.32 - O-PF)

Danainfra Nasional (N-R)

Danainfra Nasional Berhad (N-R)

Econpile (N-R)

Ekovest (N-R)

Gadang (N-R)

Gamuda (GAM MK - RM3.90 - O-PF)

GDB MK (N-R)

HSS (N-R)

IJM (IJM MK - RM1.59 - O-PF)

Kerjaya Propspek (N-R)

Kim Lun (N-R)

MRCB (N-R)

MRT Corp (N-R)

Muhibbah (N-R)

Prasarana Malaysia Berhad (N-R)

SunCon (SCGB MK - RM1.63 - BUY)

TRC Synergy (N-R)

WTC MK (N-R)

YTL (N-R)

Analyst certification

The analyst(s) of this report hereby certify that the views expressed in this research report accurately reflect my/our own personal views about the securities and/or the issuers and that no part of my/our compensation was, is, or will be directly or indirectly related to the specific recommendation or views contained in this research report.











Important disclosures



Date	Rec	Target	Date	Rec	Target
19 Dec 2022	O-PF	3.95	25 Jun 2021	BUY	3.61*
30 Sep 2022	O-PF	3.79*	31 Mar 2021	BUY	3.83*
20 Jun 2022	O-PF	3.65*	04 Jan 2021	O-PF	3.92*
24 Mar 2022	BUY	3.56*	09 Nov 2020	O-PF	3.70*
02 Mar 2022	BUY	3.38*	28 Sep 2020	O-PF	3.42*
23 Feb 2022	BUY	3.23*	15 Jun 2020	O-PF	3.52*
30 Sep 2021	BUY	3.20*	26 Mar 2020	BUY	3.15*
10 Sep 2021	BUY	3.33*	02 Mar 2020	O-PF	3.29*
30 Jul 2021	BUY	3.42*			

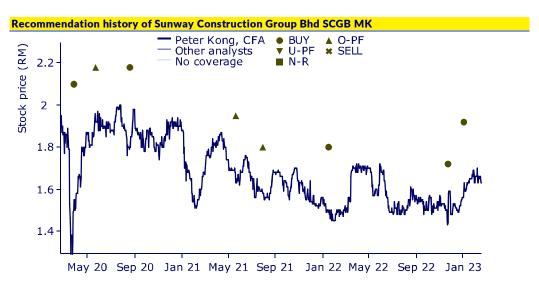
Source: CLSA; * Adjusted for corporate action



Date	Rec	Target	Date	Rec	Target
29 Nov 2022	O-PF	1.83	04 Jan 2021	U-PF	1.65*
28 Sep 2022	O-PF	1.86	09 Nov 2020	BUY	1.65*
30 May 2022	U-PF	1.86	27 Aug 2020	BUY	1.55*
30 Jul 2021	U-PF	1.60*	29 Jun 2020	U-PF	1.71*
24 Jun 2021	U-PF	1.65*	02 Mar 2020	U-PF	1.78*
10 Jun 2021	SELL	1.60*	26 Feb 2020	U-PF	2.10*
26 Feb 2021	U-PF	1.60*			

Source: CLSA; * Adjusted for corporate action





Date	Rec	Target	Date	Rec	Target
03 Jan 2023	BUY	1.92	21 May 2021	O-PF	1.95
23 Nov 2022	BUY	1.72	19 Aug 2020	BUY	2.18
17 Jan 2022	BUY	1.80	22 May 2020	O-PF	2.18
30 Jul 2021	O-PF	1.80	27 Mar 2020	BUY	2.10

Source: CLSA



Date	Rec	Target	Date	Rec	Target
05 Jan 2023	O-PF	0.30	17 Mar 2021	O-PF	0.75
26 May 2022	O-PF	0.39	29 Jun 2020	O-PF	0.98
02 Dec 2021	BUY	0.60			

Source: CLSA

CLSA ("CLSA") in this report refers to CLSA Limited, CLSA Americas, LLC, CLSA Australia Pty Ltd, CLSA India Private Limited, PT CLSA Sekuritas Indonesia, CLSA Securities Japan Co., Ltd., CLSA Securities Korea Ltd., CLSA Securities Malaysia Sdn. Bhd., CLSA Philippines, Inc, CLSA Singapore Pte Ltd, CLSA Securities (Thailand) Limited, CLSA (UK), CLSA Europe B.V. and/or their respective affiliates. CLST ("CLST") in this report refers to CL Securities Taiwan Co., Ltd.

The policies of CLSA and CLST are to only publish research that is impartial, independent, clear, fair, and not misleading. Regulations or market practice of some jurisdictions/markets prescribe certain disclosures to be made for certain actual, potential or perceived conflicts of interests relating to a research report as below. This research disclosure should be read in conjunction with the research

disclaimer as set out hereof and at www.clsa.com/disclaimer.html, the Terms and Conditions of Use as set out at https://www.clsa.com/terms-and-conditions-of-use/ and the applicable regulation of the concerned market where the analyst is stationed and hence subject to. Investors are strongly encouraged to review this disclaimer before investing.

Neither analysts nor their household members or associates may have a financial interest in, or be an officer, director or advisory board member of companies covered by the analyst unless disclosed herein. In circumstances where an analyst has a pre-existing holding in any securities under coverage, those holdings are grandfathered and the analyst is prohibited from trading such securities.

The analysts included herein hereby confirm that they have not



been placed under any undue influence, intervention or pressure by any person/s in compiling this research report. In addition, the analysts attest that they were not in possession of any material, non-public information regarding the subject company that has securities listed in the relevant jurisdiction(s) at the time of publication of this report. (For full disclosure of interest for all companies covered by CLSA in this report, please refer to http://www.clsa.com/member/research_disclosures/ for details.)

As analyst(s) of this report, I/we hereby certify that the views expressed in this research report accurately reflect my/our own personal views about the securities and/or the issuers and that no part of my/our compensation was, is, or will be directly or indirectly related to the specific recommendation or views contained in this report or to any investment banking relationship with the subject company covered in this report (for the past one year) or otherwise any other relationship with such company which leads to receipt of fees from the company except in ordinary course of business of the company. The analyst/s also state/s and confirm/s that he/she/they has/have not been placed under any undue influence, intervention or pressure by any person/s in compiling this research report. In addition, the analysts included herein attest that they were not in possession of any material, non-public information regarding the subject company that has securities listed in the relevant jurisdiction(s) at the time of publication of this report. The analysts further confirm that none of the information used in this report was received from CLSA's Corporate Finance department or CLSA's and/or CLST's Sales and Trading business. Save from the disclosure below (if any), the analyst(s) is/are not aware of any material conflict of interest.

Key to CLSA/CLST investment rankings: BUY: Total stock return (including dividends) expected to exceed 20%; O-PF (aka ACCUMULATE): Total expected return below 20% but exceeding market return; U-PF (aka REDUCE): Total expected return positive but below market return; SELL: Total return expected to be negative. For relative performance, we benchmark the 12-month total forecast return (including dividends) for the stock against the 12-month forecast return (including dividends) for the market on which the stock trades.

"High Conviction" Ideas are not necessarily stocks with the most upside/downside, but those where the Research Head/Strategist believes there is the highest likelihood of positive/negative returns. The list for each market is monitored weekly.

Overall rating distribution for CLSA (exclude CLST) only Universe: Overall rating distribution: BUY / Outperform - CLSA: 75.00%, Underperform / SELL - CLSA: 25.00%, Restricted - CLSA: 0.08%; Data as of 1 Jan 2023. Investment banking clients as a % of rating category: BUY / Outperform - CLSA: 21.92%, Underperform / SELL - CLSA: 5.08%; Restricted - CLSA: 0.08%. Data for 12-month period ending 1 Jan 2023.

Overall rating distribution for CLST only Universe: Overall rating distribution: BUY / Outperform - CLST: 59.65%, Underperform / SELL - CLST: 40.35%, Restricted - CLST: 0.00%. Data as of 1 Jan 2023. Investment banking clients as a % of rating category: BUY / Outperform - CLST: 0.00%, Underperform / SELL - CLST: 0.00%, Restricted - CLST: 0.00%. Data for 12-month period ending 1 Jan 2023.

There are no numbers for Hold/Neutral as CLSA/CLST do not have such investment rankings. For a history of the recommendation, price targets and disclosure information for companies mentioned in this report please write to: CLSA Group Compliance, 18/F, One Pacific Place, 88 Queensway, Hong Kong and/or; CLST Compliance (27/F, 95, Section 2 Dun Hua South Road, Taipei 10682, Taiwan, telephone (886) 2 2326 8188). EVA® is a registered trademark of Stern, Stewart & Co. "CL" in charts and tables stands for CLSA estimates, "CT" stands for CLST estimates, "CRR" stands for CRR Research estimates and "CS" for Citic Securities estimates unless otherwise noted in the

Charts and tables sourced to CLSA in this report may include data extracted from CLSA's automated databases, which derive their original data from a range of sources. These can include: companies; analyst estimates/calculations; local exchanges and/or third-party data or market pricing providers such as Bloomberg, FactSet or IBES. Additional information on data sources for specific charts or tables can be obtained by contacting the publishing analysts.

This report is subject to and incorporates the terms and conditions website set out on the www.clsa.com (https://www.clsa.com/disclaimer.html and https://www.clsa.com/terms -and-conditions-of use/) and the references to "publication/communication" or "Publications" thereof shall include this report. Neither this report nor any portion hereof may be reprinted, sold, resold, copied, reproduced, distributed, redistributed, published, republished, displayed, posted transmitted in any form or media or by any means without the written consent of CLSA and/or CLST. CLSA and/or CLST has/have produced this report for private circulation to professional, institutional and/or wholesale clients only, and may not be distributed to retail investors. The information, opinions and estimates herein are not directed at, or intended for distribution to or use by, any person or entity in any jurisdiction where doing so would be contrary to law or regulation or which would subject CLSA and/or CLST to any additional registration or licensing requirement within such jurisdiction. The information and statistical data (for private or public companies) herein have been obtained from sources we believe to be reliable. Such information has not been independently verified and CLSA and/or CLST makes no representation or warranty as to its fairness, adequacy, accuracy, completeness or correctness. The replication of any third party views in this report should not be treated necessarily as an indication that CLSA and/or CLST agrees with or concurs with such views. None of CLSA and/or CLST, its affiliates and their respective directors, officers, employees, advisers and representatives makes any representation or warranty, express or implied, as to and no reliance should be placed on, the fairness, accuracy, completeness or correctness of such data or information contained herein or any statement made in this report. Any opinions or estimates herein reflect the judgment of CLSA and/or CLST at the date of this report and are subject to change at any time without notice. Where any part of the information, opinions or estimates contained herein reflects the views and opinions of a sales person or a non-analyst, such views and opinions may not correspond to the published view of CLSA and/or CLST. Any price target given in the report may be projected from one or more valuation models and hence any price target may be subject to the inherent risk of the selected model as well as other external risk factors. Where the publication does not contain ratings, the material should not be construed as research but is offered as factual commentary. It is not intended to, nor should it be used to form an investment opinion about the non-rated companies.

This report is for information purposes only and it does not constitute or contain, and should not be considered as an offer or invitation to sell, or any solicitation or invitation of any offer to subscribe for or purchase any securities in any jurisdiction and recipient of this report must make its own independent decisions regarding any securities or financial instruments mentioned herein. This is not intended to provide professional, investment or any other type of advice or recommendation and does not take into account the particular investment objectives, financial situation or needs of individual recipients. Before acting on any information in this report, you should consider whether it is suitable for your particular circumstances and, if appropriate, seek professional advice, including legal or tax advice. Investments involve risks, and investors should exercise prudence and their own judgment in making their investment decisions. The value of any investment or income may go down as well as up, and investors may not get back the full (or any) amount invested. Investments that are denominated in foreign currencies may fluctuate in value as a result of exposure to movements of exchange rate. Past performance is not necessarily a guide to future performance or liquidity. CLSA and/or CLST do/does not accept any responsibility and cannot be held liable for any person's use of or reliance on the information and opinions contained herein. To the extent permitted by applicable securities laws and regulations, CLSA and/or CLST accept(s) no liability whatsoever for any direct or consequential loss arising from the use of this report or its contents.

To maintain the independence and integrity of our research, our Corporate Finance, Sales Trading, Asset Management and Research business lines are distinct from one another. This means that CLSA's Research department is not part of and does not report to CLSA's Corporate Finance department or CLSA's Sales and Trading business. Accordingly, neither the Corporate Finance department nor the Sales and Trading department supervises or controls the activities of CLSA's



research analysts. CLSA's research analysts report to the management of the Research department, who in turn report to CLSA's senior management. CLSA has put in place a number of internal controls designed to manage conflicts of interest that may arise as a result of CLSA engaging in Corporate Finance, Sales and Trading, Asset Management and Research activities. Some examples of these controls include: the use of information barriers and other controls designed to ensure that confidential information is only shared on a "need to know" basis and in compliance with CLSA's Chinese Wall policies and procedures; measures designed to ensure that interactions that may occur among CLSA's Research personnel, Corporate Finance, Asset Management, and Sales and Trading personnel, CLSA's financial product issuers and CLSA's research analysts do not compromise the integrity and independence of CLSA's research

Subject to any applicable laws and regulations at any given time, CLSA, CLST, their respective affiliates, officers, directors or employees may have used the information contained herein before publication and may have positions in, or may from time to time purchase or sell or have a material interest in any of the securities mentioned or related securities, or may currently or in future have or have had a business or financial relationship with, or may provide or have provided corporate finance/capital markets and/or other services to, the entities referred to herein, their advisors and/or any other connected parties. As a result, you should be aware that CLSA and/or CLST and/or their respective affiliates, officers, directors or employees may have one or more conflicts of interest. Regulations or market practice of some jurisdictions/markets prescribe certain disclosures to be made for certain actual, potential or perceived conflicts of interests relating to research reports. Details of the disclosable interest can be found in certain reports as required by the relevant rules and regulation and the full details of conflict of interest with companies under coverage are available http://www.clsa.com/member/research_disclosures/. Disclosures therein include the position of CLSA and CLST only. Unless specified otherwise, CLSA did not receive any compensation or other benefits from the subject company, covered in this report, or from any third party. If investors have any difficulty accessing this website, please contact webadmin@clsa.com. If you require disclosure information on previous dates, please contact compliance_hk@clsa.com.

Any disputes related to this report shall be governed by the laws of Hong Kong and to the non-exclusive jurisdiction of the courts of Hong Kong in connection with any suite, action or proceeding arising out of or in connection with this material. In the event any of the provisions in these Terms of Use shall be held to be unenforceable, that provision shall be enforced to the maximum extent permissible to reflect the intention underlying the unenforceable term, and the remainder of these General Disclaimer shall be unimpaired.

This report is distributed for and on behalf of CLSA (for research compiled by non-US and non-Taiwan analyst(s)), CLSA Americas, LLC (for research compiled by US analyst(s)) and/or CLST (for research compiled by Taiwan analyst(s)) in Australia by CLSA Australia Pty Ltd (ABN 53 139 992 331/AFSL License No: 350159); in Hong Kong by CLSA Limited (Incorporated in Hong Kong with limited liability); in India by CLSA India Private Limited, (Address: 8/F, Dalamal House, Nariman Point, Mumbai 400021. Tel No: +91-22-66505050. Fax No: U67120MH1994PLC083118; +91-22-22840271; CIN: Registration No: INZ000001735 as Stock Broker, INM000010619 as Merchant Banker and INH000001113 as Research Analyst; in Indonesia by PT CLSA Sekuritas Indonesia; in Japan by CLSA Securities Japan Co., Ltd.; in Korea by CLSA Securities Korea Ltd.; in Malaysia by CLSA Securities Malaysia Sdn. Bhd.; in the Philippines by CLSA Philippines Inc (a member of Philippine Stock Exchange and Securities Investors Protection Fund); in Singapore by CLSA Singapore Pte Ltd and solely to persons who qualify as an "Institutional Investor", "Accredited Investor" or "Expert Investor" MCI (P) 042/11/2022; in Thailand by CLSA Securities (Thailand) Limited; in Taiwan by CLST (for reports compiled by Taiwan analyst(s) or CLSA (for non Taiwan stock reports to CLSA clients) and in the European Economic Area ('EEA") by CLSA Europe BV and in the United Kingdom by CLSA (UK).

Hong Kong: This research report is distributed by CLSA Limited. This research report is distributed in Hong Kong only to professional investors (as defined in the Securities and Futures Ordinance (Chapter

571 of the Laws of Hong Kong) and any rules promulgated thereunder) and may not be distributed to retail investors. Recipients should contact CLSA Limited, Tel: +852 2600 8888 in respect of any matters arising from, or in connection with, the analysis or report.

Australia: CLSA Australia Pty Ltd ("CAPL") (ABN 53 139 992 331/AFS License No: 350159) is regulated by the Australian Securities and Investments Commission ("ASIC") and is a Market Participant of ASX Limited and Choe Australia Pty Ltd. . This material is issued and distributed by CAPL in Australia to "wholesale clients" only. This material does not take into account the specific investment objectives, financial situation or particular needs of the recipient. The recipient of this material must not distribute it to any third party without the prior written consent of CAPL. For the purposes of this paragraph the term "wholesale client" has the meaning given in section 761G of the Corporations Act 2001. CAPL's research coverage universe spans listed securities across the ASX All Ordinaries index, securities listed on offshore markets, unlisted issuers and investment products which Research management deem to be relevant to the investor base from time to time. CAPL seeks to cover companies of relevance to its domestic and international investor base across a variety of sectors.

India: CLSA India Private Limited, incorporated in November 1994 (SEBI provides equity brokerage services Registration INZ000001735), research services (SEBI Registration INH000001113) and merchant banking services (SEBI Registration No.INM000010619) to global institutional investors, pension funds and corporates. CLSA and its associates may have debt holdings in the subject company. Further, CLSA and its associates, in the past 12 months, may have received compensation for non-investment banking services and/or non-securities related services from the subject company. For further details of "associates" of CLSA India please contact Compliance-India@clsa.com.

Singapore: This report is distributed in Singapore by CLSA Singapore Pte Ltd to institutional investors, accredited investors or expert investors (each as defined under the Financial Advisers Regulations) only. Singapore recipients should contact CLSA Singapore Pte Ltd, 80 Raffles Place, #18-01, UOB Plaza 1, Singapore 048624, Tel: +65 6416 7888, in respect of any matters arising from, or in connection with, the analysis or report. By virtue of your status as an institutional investor, accredited investor or expert investor, CLSA Singapore Pte Ltd is exempted from complying with certain requirements under the Financial Advisers Act 2001, the Financial Advisers Regulations and the relevant Notices and Guidelines issued thereunder (as disclosed in Part C of the Securities Dealing Services Singapore Annex of the CLSA terms of business), in respect of any financial advisory services that CLSA Singapore Pte Ltd may provide to you. MCI (P) 042/11/2022.

United States of America: Where any section of the research is compiled by US analyst(s), it is distributed by CLSA Americas, LLC. Where any section is compiled by non-US analyst(s), it is distributed into the United States by CLSA (except CLSA Americas, LLC) solely to persons who qualify as "Major US Institutional Investors" as defined in Rule 15a-6 under the Securities and Exchange Act of 1934 and who deal with CLSA Americas, LLC. However, the delivery of this research report to any person in the United States shall not be deemed a recommendation to effect any transactions in the securities discussed herein or an endorsement of any opinion expressed herein. Any recipient of this research in the United States wishing to effect a transaction in any security mentioned herein should do so by contacting CLSA Americas, LLC.

The United Kingdom: This document is a marketing communication. It has not been prepared in accordance with the legal requirements designed to promote the independence of investment research, and is not subject to any prohibition on dealing ahead of the dissemination of investment research. The document is disseminated in the UK by CLSA (UK) and directed at persons having professional experience in matters relating to investments, as defined in the relevant applicable local regulations. Any investment activity to which it relates is only available to such persons. If you do not have professional experience in matters relating to investments you should not rely on this document. Where research material is compiled by UK analyst(s), it is produced and disseminated by CLSA (UK). For the purposes of the Financial Conduct Rules in the UK such material is prepared and intended as substantive research material. CLSA (UK) is



authorised and regulated by the Financial Conduct Authority.

The European Economic Area ('EEA"): research is distributed by CLSA Europe BV, authorised and regulated by the Netherlands Authority for Financial Markets.

For all other jurisdiction-specific disclaimers please refer to

https://www.clsa.com/disclaimer.html. The analysts/contributors to this report may be employed by any relevant CLSA entity or CLST, which is different from the entity that distributes the report in the respective jurisdictions.© 2023 CLSA and/or CL Securities Taiwan Co., Ltd. ("CLST").