[Unchanged]

Singapore Semicon Equipment Shaken, not stirred

BUY the dip; milestones intact

Observations since our sector piece "<u>Milestones on track</u>" on 10-Feb support our constructive view on AEM and UMS. AEM's key customer Intel's operations are "relatively normal", while Lam Research, the closest competitor of UMS' key customer Applied Materials (AMAT), sees no basis to change its optimistic view of 2020. UMS is trading on an attractive 6% FY20E yield, and AEM, which we view as a potential M&A play, is trading on 4.7x FY20E EV/EBITDA (Cohu bought Xcerra for 7-8x forward EV/EBITDA).

AEM - Intel 'relatively normal' amid Covid-19

Intel updated on 2-Mar that its operations, both group and in China (including a test and packaging facility in Chengdu) are "relatively normal" notwithstanding Covid-19. Intel's stability in outlook is because it entered 2020 from a position of shortage of its chips relative to customer demand. Intel maintained its plans to expand wafer capacity by 25%. Intel has so far not been able to rebuild both its own and customer inventory, although it still aspires to meet market demand within 2020. This would imply demand-supply dynamics are still in favour of Intel, in turn supportive of our view towards AEM. In late-Feb, AEM updated that it is confident of achieving its raised revenue guidance of SGD360-380m, and that components from China can also be sourced from ex-China suppliers.

UMS - Lam Research maintains FY20 outlook

Lam updated on 3-Mar that it has "heard nothing" from customers that changes its optimistic outlook for FY20. We believe this corroborates AMAT's expectation of "strong double-digit" growth for its semiconductor business in 2020 and favourable 2021 setup. Lam updated that amid the outbreak, it is currently driving alternative options throughout the supply chain. Given UMS' entrenched working relationship with AMAT, we see it as a theoretical beneficiary if AMAT decides to increase sourcing allocations away from China. In late-Feb, UMS updated that current shipment delays, amounting 1-2 weeks, should be cleared by end-1Q20.

Risks to our view

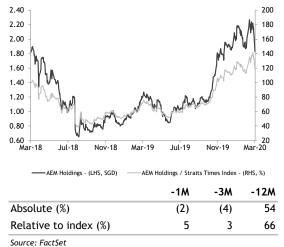
Amid a highly dynamic situation across supply chains, we believe any severe shortage of components is a key risk to our view for both AEM and UMS. Given Intel's aspirations to meet market demand for its chips, we see order cancellations at AEM as a low-probability event. For UMS, we believe a key demand risk is if a weaker economic outlook results in lower investment appetite for semiconductor equipment, and/or delayed recovery in memory investments. That said, we note various observations that server demand remains strong due to the work-from-home economy.

Analyst

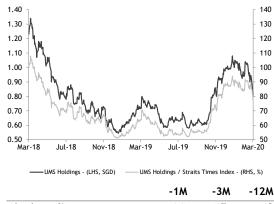
Gene Lih Lai, CFA (65) 6231 5832 laigenelih@maybank-ke.com.sg

POSITIVE

AEM's price performance



UMS' price performance



| | -1M | -3M | -12M |
|-----------------------|------|------|------|
| Absolute (%) | (14) | (17) | 13 |
| Relative to index (%) | (7) | (11) | 22 |
| Source: FactSet | | | |

| Stock | Bloomberg | Mkt cap | Rating | Price | ТР | Upside | P/E | (x) | P/B | (x) | Div yl | ld (%) |
|--------------|-----------|---------|--------|-------|------|--------|-----|-----|-----|-----|--------|--------|
| | code | (USD'm) | | (LC) | (LC) | (%) | 20E | 21E | 20E | 21E | 20E | 21E |
| AEM Holdings | AEM SP | 362 | Buy | 1.83 | 2.82 | 57 | 8.3 | 7.9 | 2.8 | 2.2 | 3.0 | 3.2 |
| UMS Holdings | UMSH SP | 314 | Buy | 0.81 | 1.13 | 44 | 9.5 | 7.6 | 1.6 | 1.5 | 5.6 | 6.2 |

Additional updates

Intel (Morgan Stanley TMT conference, 2 Mar-20)

- Reminded that cloud workloads are increasingly customized. Intel is able to fulfill such requirements from its capabilities ranging from software, AI, architectural elements and memory.
- Intel believes it could achieve technological parity with its 7nm node and regain leadership with 5nm.
- As Intel meets market capacity for its chips in 2020, it aspires to win back some market share, particularly from lower performance PCs.
- Relative to demand picture, Intel observes critical shortages of NAND, which is a tailwind for NAND recovery YoY.

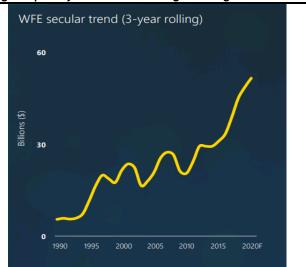
Lam Research (Investor Day, 3 Mar-20)

 Sees wafer fab equipment (WFE) market of USD60b p.a. over the next two years as a reasonable assumption. With strong growth of semiconductors, increasing manufacturing complexity and device scaling challenges, WFE levels have inflected higher from USD30b p.a. 5-6 years ago. These drivers are structural and are expected to drive sustainable growth in WFE across future cycles.

Applied Materials (1QFY20 earnings call, 12 Feb-20)

- For its semiconductor systems business, AMAT sees 1H:2H as roughly similar HoH, although 2H20 dynamics largely hinge on the rate of memory investments recovery. 2021 is seen as "up a fair amount" over 2020.
- No change to full year guidance. While some revenues are deferred in 2QFY20 in light of Covid-19, AMAT expects these to be realized in 2HFY20.
- Near term, AMAT sees recovery thesis unchanged, from robust logic/foundry spending, and memory investment recovery.
- Logic/ foundry demand drivers are from the leading edge, in relation to 5G rollout, and also from IoT, communications, automotive, power and image sensor markets.
- Sees NAND in early stages of recovery. Inventory levels were at 4-5 weeks from 8-10 weeks a year ago.

Fig 1: WFE has trended up amid growth in semiconductors, increasing manufacturing complexity and device scaling challenges.



Source: Lam Research

Fig 2: Investment theses for AEM and UMS

| | Description of | | |
|-----------|-------------------------|--|--|
| Stock | business | Thesis | Evidence that we are seeking |
| AEM | Semiconductor back- | AEM is beneficiary of Intel's capacity expansion in | 2020: Better than expected |
| (AEM SP, | end equipment | 2020 and structurally increasing focus on various | order momentum/ Intel |
| BUY, TP | manufacturer. Owns | packaging and testing technologies. Growth | affirming capex guidance. |
| SGD2.82) | the IPs for its product | initiatives with new customers are also beginning to | |
| | portfolio. | pay off, e.g. with Huawei and new memory customer. | 2020 and beyond: Continued |
| | | | evidence that AEM's solutions |
| | | Recent reports: | are gaining traction, e.g. new |
| | | Continues to outperform (26 Feb'20) | customers and new products |
| | | <u>Milestones on track (10 Feb'20)</u> | sold to Intel |
| | | <u>Better than expected guidance (9 Jan'20)</u> | |
| | | System level test - At an inflection point (18 Jun'20) | |
| UMS | Precision engineering | Beneficiary of global semiconductor capex spending | • 2020: Intel and TSMC |
| (UMSH SP, | and assembly for | which is still in its early innings through key customer | affirming capex guidance; |
| BUY, TP | front-end | Applied Materials. Drivers are sustained spending by | Applied Materials/ peers |
| SGD1.13) | semiconductor | logic/ foundry, and improvement in memory, led first | affirming outlook; improving |
| | equipment | by NAND and followed by DRAM. | dynamics for memory price and |
| | manufacturer | | inventory, leading indicators of |
| | | Recent reports: | memory investments. |
| | | Beneficiary of the upswing (25 Feb'20) | 2024 |
| | | <u>Milestones on track (10 Feb'20)</u> | • 2021: Recovery in memory |
| | | Room for upside (3 Jan '20) | investments in full swing |
| | | Earnings upcycle underway (4 Dec'19) | |

Source: Maybank Kim Eng

Fig 3: AEM peer comparisons

| | | | MKE | | | | | | | | EV /EBI TDA | Div vield | ROE |
|---------------------------------------|--------------|------|------|--------|-----|--------|-------|------|------|------|-------------------|--------------|------|
| Company | BBG | MKE | TP | Price | FYE | Мсар | | P/E | (x) | | (x) | (%) | (%) |
| | Code | Rec | (LC) | (LC) | mm | USDm | Act | FY1 | FY2 | FY3 | FY1 | FY1 | FY1 |
| AEM | AEM SP | Buy | 2.82 | 1.83 | 12 | 363 | 9.3 | 8.3 | 7.9 | 7.4 | 4.7 | 3.0 | 37.8 |
| | | | | | | | | | | | | | |
| Global back-end test handler peers | | | | | | | | | | | | | |
| Cohu | COHU US | NR | | 19.51 | 12 | 805 | 216.8 | 19.3 | 10.9 | 8.5 | 10.9 | 1.2 | 8.8 |
| Tesec | 6337 JP | NR | - | 992 | 03 | 54 | 5.3 | 19.3 | 10.9 | 0.0 | 10.9 | 1.2 | 0.0 |
| Chroma ATE | 2360 TT | NR | - | 140.00 | 12 | 1,958 | 31.6 | 20.4 | 16.9 | 14.5 | 16.0 | 3.0 | 16.2 |
| Pentamaster Corp | PENT MK | NR | - | 4.86 | 12 | 553 | 40.4 | 20.4 | 22.3 | 14.5 | 11.7 | 0.3 | 19.6 |
| | | INIX | - | 4.00 | 12 | 555 | 70.4 | 20.0 | 15.5 | 13.2 | 13.1 | 2.2 | 17.2 |
| Avelage | | | | | | | 70.4 | 20.0 | 15.5 | 13.2 | 13.1 | 2.2 | 17.2 |
| Global back-end equipment peers | | | | | | | | | | | | | |
| Koh Young Technology | 098460 KS | NR | | 96,200 | 12 | 1,108 | 36.6 | 29.5 | 23.5 | 20.3 | 18.9 | 0.9 | 15.8 |
| Advantest | 6857 JP | NR | - | 4,885 | 03 | 9,254 | 16.2 | 20.7 | 18.0 | 15.7 | 11.9 | 1.5 | 20.7 |
| Vitrox | VITRO MK | Sell | 6.50 | 8.27 | 12 | 934 | 36.9 | 48.1 | 31.9 | 26.3 | 39.2 | 0.5 | - |
| Hirata | 6258 JP | NR | - | 4,835 | 03 | 494 | 11.0 | 27.4 | 12.9 | 10.1 | - | 0.9 | 3.9 |
| ASM Pacific | 522 HK | NR | - | 88.25 | 12 | 4,644 | 58.1 | 23.2 | 15.8 | 14.5 | 11.9 | - | 12.3 |
| BE Semiconductor | BESI NA | NR | - | 33.41 | 12 | 3,026 | 31.5 | 25.8 | 18.2 | 14.3 | 16.9 | 3.4 | 31.6 |
| KLA-Tencor | KLAC US | NR | - | 155.68 | 06 | 24,406 | 18.4 | 15.4 | 14.0 | 12.8 | 12.2 | 2.1 | 55.6 |
| Teradyne | TER US | NR | - | 58.92 | 12 | 9,827 | 20.6 | 18.0 | 16.0 | 14.6 | 11.9 | 0.5 | 35.6 |
| Average | | | | | | | 23.2 | 19.0 | 16.0 | 14.3 | 13.0 | 1.7 | 39.3 |

Source: FactSet, Bloomberg, Maybank Kim Eng

Fig 4: UMS peer and supply chain comparisons

| Company | BBG | MKE | MKE TP | Price | FYE | Мсар | | P/E | (x) | | EV /EBI TDA (x) | PBR (x) | Div yield (%) |
|--|---------|-----|-----------|--------|-----|---------|------|------|------|------|--------------------------|------------|---------------------|
| | Code | Rec | (LC) | (LC) | mm | USDm | Act | FY1 | FY2 | FY3 | FY1 | FY1 | FY1 |
| UMS | UMSH SP | Buy | 1.13 | 0.81 | 12 | 315 | 12.9 | 9.5 | 7.6 | 7.8 | 7.8 | 1.6 | 5.6 |
| Singapore-listed semiconductor equipment makers/ suppliers | | | | | | | | | | | | | |
| AEM | AEM SP | Buy | 2.82 | 1.83 | 12 | 363 | 9.3 | 8.3 | 7.9 | 7.4 | 4.7 | - | 3.0 |
| Micro-Mechanics | MMH SP | NR | - | 1.71 | 06 | 172 | 18.4 | 16.4 | 14.9 | - | - | 4.1 | 6.4 |
| Average | | | | | | | 12.5 | 10.4 | 9.1 | 7.5 | 6.0 | 2.5 | 4.7 |
| Globally listed AMAT suppliers | | | | | | | | | | | | | |
| Ultra Clean Holdings | UCTT US | NR | - | 20.28 | 12 | 807 | 22.3 | 11.8 | 10.4 | 15.0 | - | 1.7 | - |
| MKS Instruments | MKSI US | NR | - | 100.84 | 12 | 5,533 | 22.3 | 16.2 | 12.4 | 10.0 | 7.1 | 2.5 | 0.8 |
| Advanced Energy Industries | AEIS US | NR | - | 61.45 | 12 | 2,360 | 25.2 | 18.4 | 13.7 | 12.0 | - | 3.1 | 0.0 |
| Brooks Automation | BRKS US | NR | - | 33.75 | 09 | 2,485 | 43.8 | 28.1 | 20.7 | 16.4 | - | 1.8 | 1.2 |
| Ichor Holdings | ICHR US | NR | - | 28.69 | 12 | 649 | 23.0 | 10.5 | 8.8 | 8.8 | 5.9 | 2.6 | 0.0 |
| Flex | FLEX US | NR | - | 10.69 | 03 | 5,388 | 9.4 | 8.4 | 7.4 | 6.6 | 3.9 | 1.9 | 0.0 |
| Celestica | CLS US | NR | - | 6.44 | 12 | 707 | 11.9 | 8.4 | 6.8 | 7.4 | - | - | 0.0 |
| Average | | | | | | | 21.4 | 15.1 | 11.8 | 10.2 | 5.6 | 2.2 | 0.9 |
| Globally listed front-end semicon equipment makers | | | | | | | | | | | | | |
| Applied Materials | AMAT US | NR | - | 57.79 | 10 | 53,069 | 19.0 | 14.0 | 12.3 | 11.2 | 9.4 | 5.3 | 1.5 |
| Lam Research | LRCX US | NR | - | 294.41 | 06 | 42,851 | 20.2 | 17.8 | 14.5 | 13.0 | 10.8 | 9.5 | 1.6 |
| ASML | ASML NA | NR | - | 251.30 | 12 | 120,986 | 40.8 | 30.7 | 23.7 | 20.3 | 15.8 | 7.7 | 1.0 |
| KLA Corp | KLAC US | NR | - | 155.68 | 06 | 24,406 | 18.4 | 15.4 | 14.0 | 12.8 | 10.2 | 8.6 | 2.1 |
| Tokyo Electron | 8035 JP | NR | - | 22,435 | 03 | 33,481 | 14.8 | 20.2 | 16.6 | 14.0 | 7.9 | 4.3 | 2.5 |
| | | | | | | | 28.2 | 22.8 | 18.3 | 16.0 | 12.4 | 7.2 | 1.5 |

Source: FactSet, Bloomberg, Maybank Kim Eng

Research Offices

MACRO

Sadiq CURRIMBHOY Head of Regional Macro Research (65) 6231 5836 sadig@mavbank-ke.com.sg

ECONOMICS

Suhaimi ILIAS Chief Economist Malaysia | Philippines | Global (603) 2297 8682 suhaimi ilias@mavbank-ib.com

CHUA Hak Bin Regional Thematic Macroeconomist (65) 6231 5830 chuahb@maybank-ke.com.sg

LEE Ju Ye Singapore | Thailand (65) 6231 5844 leejuye@maybank-ke.com.sg

Linda LIU Singapore | Vietnam (65) 6231 5847 lindaliu@maybank-ke.com.sg

Dr Zamros DZULKAFLI (603) 2082 6818 zamros.d@maybank-ib.com

Ramesh LANKANATHAN (603) 2297 8685 ramesh@maybank-ib.com

William POH (603) 2297 8683 william.poh@maybank-ib.com

FΧ

Saktiandi SUPAAT Head of FX Research (65) 6320 1379 saktiandi@maybank.com.sg

Christopher WONG (65) 6320 1347 wongkl@maybank.com.sg

TAN Yanxi (65) 6320 1378 tanyx@maybank.com.sg

Fiona LIM (65) 6320 1374 fionalim@maybank.com.sg

STRATEGY

Willie CHAN Regional (852) 2268 0631 williechan@kimeng.com.hk

Anand PATHMAKANTHAN ASEAN (603) 2297 8783 anand.pathmakanthan@maybank-ib.com

FIXED INCOME

Winson PHOON, ACA (65) 6812 8807 winsonphoon@maybank-ke.com.sg

SE THO Mun Yi (603) 2074 7606 munvi.st@mavbank-ib.com REGIONAL EQUITIES

Anand PATHMAKANTHAN Head of Regional Equity Research (603) 2297 8783 anand.pathmakanthan@maybank-ib.com

WONG Chew Hann, CA Head of ASEAN Equity Research (603) 2297 8686 wchewh@maybank-ib.com

ONG Seng Yeow Research, Technology & Innovation (65) 6231 5839 ongsengyeow@maybank-ke.com.sg

MALAYSIA

Anand PATHMAKANTHAN, Head of Research (603) 2297 8783 anand.pathmakanthan@maybank-ib.com • Strategy

Desmond CH'NG, BFP, FCA (603) 2297 8680 desmond.chng@maybank-ib.com • Banking & Finance

LIAW Thong Jung (603) 2297 8688 tjliaw@maybank-ib.com • Oil & Gas Services- Regional • Automotive

ONG Chee Ting, CA (603) 2297 8678 ct.ong@maybank-ib.com • Plantations - Regional

YIN Shao Yang, CPA (603) 2297 8916 samuel.y@maybank-ib.com • Gaming - Regional • Media

TAN Chi Wei, CFA (603) 2297 8690 chiwei.t@maybank-ib.com • Power • Telcos

WONG Wei Sum, CFA (603) 2297 8679 weisum@maybank-ib.com • Property

LEE Yen Ling (603) 2297 8691 lee.yl@maybank-ib.com • Glove • Ports • Shipping • Healthcare • Petrochem

Kevin WONG (603) 2082 6824 kevin.wong@maybank-ib.com • REITs • Consumer Discretionary • Technology Jade TAM

(603) 2297 8687 jade.tam@maybank-ib.com • Consumer Staples

TEE Sze Chiah Head of Retail Research (603) 2082 6858 szechiah.t@maybank-ib.com

Nik Ihsan RAJA ABDULLAH, MSTA, CFTe (603) 2297 8694 nikmohdihsan.ra@maybank-ib.com • Chartist

Amirah AZMI (603) 2082 8769 amirah.azmi@maybank-ib.com • Retail Research

SINGAPORE

CHUA Su Tye (65) 6231 5842 chuasutye@maybank-ke.com.sg • REITs

LAI Gene Lih, CFA (65) 6231 5832 laigenelih@maybank-ke.com.sg • Technology • Healthcare Thilan WICKRAMASINGHF

Thilan WICKRAMASINGHE (65) 6231 5840 thilanw@maybank-ke.com.sg • Banks • Consumer

TAN Chin Poh Head of Retail Research (65) 6231 5928 chinpoh@maybank-ke.com.sg

Eric ONG (65) 6231 5924 ericong@maybank-ke.com.sg • Retail Research Matthew SHIM (65) 6231 5929

(65) 6231 5929matthewshim@maybank-ke.com.sgRetail Research

Kareen CHAN (65) 6231 5926 kareenchan@maybank-ke.com.sg • Retail Research

INDIA

Jigar SHAH Head of Research (91) 22 4223 2632 jigar@maybank-ke.co.in • Strategy • Oil & Gas • Automobile • Cement

Neerav DALAL (91) 22 4223 2606 neerav@maybank-ke.co.in • Software Technology • Telcos

Kshitiz PRASAD (91) 22 4223 2607 kshitiz@maybank-ke.co.in • Banks

INDONESIA

Isnaputra ISKANDAR Head of Research (62) 21 8066 8680 isnaputra.iskandar@maybank-ke.co.id Strategy • Metals & Mining • Cement • Autos • Consumer • Utility

Rahmi MARINA (62) 21 8066 8689 rahmi.marina@maybank-ke.co.id • Banking & Finance

Aurellia SETIABUDI (62) 21 8066 8691 aurellia.setiabudi@maybank-ke.co.id • Property

Arnanto JANURI (62) 21 8066 8683 arnanto.januri @maybank-ke.co.id • Construction

PHILIPPINES

Katherine TAN (63) 2 8849 8843 kat_tan@maybank-atrke.com • Banks • Conglomerates • Ports

Romel LIBO-ON (63) 2 8849 8844 romel_libo-on@maybank-atrke.com • Property

Kayzer LLANDA (63) 2 8849 8839 Kayzer_llanda@maybank-atrke.com • Utilities

Fredrick De GUZMAN (63) 2 8849 8847 fredrickdaniel.deguzman@maybank.com • Consumer

THAILAND

Maria LAPIZ Head of Institutional Research Dir (66) 2257 0250 | (66) 2658 6300 ext 1399 Maria.L@maybank-ke.co.th • Strategy • Consumer • Materials • Services

Teerapol UDOMVEJ, CFA (66) 2658 6300 ext 1394 teerapol.U@maybank-ke.co.th • Healthcare

Jesada TECHAHUSDIN, CFA (66) 2658 6300 ext 1395 jesada.t@maybank-ke.co.th • Banking & Finance

Kaushal LADHA, CFA (66) 2658 6300 ext 1392 Kaushal.l@maybank-ke.co.th • Oil & Gas

Ekachai TARAPORNTIP Head of Retail Research (66) 2658 5000 ext 1530 Ekachai.t@maybank-ke.co.th Surachai PRAMUALCHAROENKIT (66) 2658 5000 ext 1470 Surachai.p@maybank-ke.co.th - Auto - Conmat - Contractor - Steel Suttatip PEERASUB (66) 2658 5000 ext 1430 suttatip.p@maybank-ke.co.th - Media - Commerce

Jaroonpan WATTANAWONG (66) 2658 5000 ext 1404 jaroonpan.w@maybank-ke.co.th • Transportation • Small cap

Thanatphat SUKSRICHAVALIT (66) 2658 5000 ext 1401 thanaphat.s@maybank-ke.co.th • Media • Electronics

 Media • Electronics
 Wijit ARAYAPISIT (66) 2658 5000 ext 1450
 wijit.a@maybank-ke.co.th

wijit.a@maybank-ke.co.th • Strategist Kritsapong PATAN (66) 2658 5000 ext 1310 kritsapong.p@maybank-ke.co.th • Chartist

VIETNAM

LE Hong Lien, ACCA Head of Institutional Research (84 28) 44 555 888 ext 8181 lien.le@maybank-kimeng.com.vn • Strategy • Consumer • Diversified

LE Nguyen Nhat Chuyen (84 28) 44 555 888 ext 8082 chuyen.le@maybank-kimeng.com.vn • Oil & Gas

QUAN Trong Thanh (84 28) 44 555 888 ext 8184 thanh.quan@maybank-kimeng.com.vn • Banks

NGUYEN Thi Sony Tra Mi (84 28) 44 555 888 ext 8084 mi.nguyen@maybank-kimeng.com.vn • Consumer

Tyler Manh Dung Nguyen (84 28) 44 555 888 ext 8180 dung.nguyen@maybank-kimeng.com.vn • Utilities

NGUYEN Thi Ngan Tuyen Head of Retail Research (84 28) 44 555 888 ext 8081 tuyen.nguyen@maybank-kimeng.com.vn • Food & Beverage • Oil & Gas • Banking

NGUYEN Thanh Lam (84 28) 44 555 888 ext 8086 thanhlam.nguyen@maybank-kimeng.com.vn • Technical Analvsis

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🌏 Malaysia

Maybank Investment Bank Berhad (A Participating Organisation of Bursa Malaysia Securities Berhad) 33rd Floor, Menara Maybank, 100 Jalan Tun Perak, 50050 Kuala Lumpur Tel: (603) 2059 1888; Fax: (603) 2078 4194

Stockbroking Business: Level 8, Tower C, Dataran Maybank, No.1, Jalan Maarof 59000 Kuala Lumpur Tel: (603) 2297 8888 Fax: (603) 2282 5136

📀 Philippines

Maybank ATR Kim Eng Securities Inc. 17/F, Tower One & Exchange Plaza Ayala Triangle, Ayala Avenue Makati City, Philippines 1200

Tel: (63) 2 8849 8888 Fax: (63) 2 8848 5738

🕤 South Asia Sales Trading

Kevin Foy Regional Head Sales Trading kevinfoy@maybank-ke.com.sg Tel: (65) 6636-3620 US Toll Free: 1-866-406-7447

Indonesia Iwan Atmadjaja iatmadjaja2@bloomberg.net (62) 21 8066 8555

New York James Lynch jlynch@maybank-keusa.com Tel: (212) 688 8886

Philippines Keith Roy keith_roy@maybank-atrke.com Tel: (63) 2 848-5288

📀 Singapore

Maybank Kim Eng Securities Pte Ltd Maybank Kim Eng Research Pte Ltd 50 North Canal Road Singapore 059304

Tel: (65) 6336 9090

Hong Kong

Kim Eng Securities (HK) Ltd 28/F, Lee Garden Three, 1 Sunning Road, Causeway Bay, Hong Kong

Tel: (852) 2268 0800 Fax: (852) 2877 0104

👩 Thailand

Maybank Kim Eng Securities (Thailand) Public Company Limited 999/9 The Offices at Central World, 20th - 21st Floor, Rama 1 Road Pathumwan, Bangkok 10330, Thailand

Tel: (66) 2 658 6817 (sales) Tel: (66) 2 658 6801 (research)

🔊 North Asia Sales Trading

Andrew Lee andrewlee@kimeng.com.hk Tel: (852) 2268 0283 US Toll Free: 1 877 837 7635

London Greg Smith gsmith@maybank-ke.co.uk Tel: (44) 207-332-0221

India Sanjay Makhija sanjaymakhija@maybank-ke.co.in Tel: (91)-22-6623-2629

👩 London

Maybank Kim Eng Securities (London) Ltd PNB House 77 Queen Victoria Street London EC4V 4AY, UK

Tel: (44) 20 7332 0221 Fax: (44) 20 7332 0302

🌏 Indonesia

PT Maybank Kim Eng Securities Sentral Senayan III, 22nd Floor Jl. Asia Afrika No. 8 Gelora Bung Karno, Senayan Jakarta 10270, Indonesia

Tel: (62) 21 2557 1188 Fax: (62) 21 2557 1189

🌏 Vietnam

Maybank Kim Eng Securities Limited 4A-15+16 Floor Vincom Center Dong Khoi, 72 Le Thanh Ton St. District 1 Ho Chi Minh City, Vietnam

Tel : (84) 844 555 888 Fax : (84) 8 38 271 030

🔊 New York

Maybank Kim Eng Securities USA Inc 400 Park Avenue, 11th Floor New York, New York 10022, U.S.A.

Tel: (212) 688 8886 Fax: (212) 688 3500

🌏 India

Kim Eng Securities India Pvt Ltd 1101, 11th floor, A Wing, Kanakia Wall Street, Chakala, Andheri -Kurla Road, Andheri East, Mumbai City - 400 093, India

Tel: (91) 22 6623 2600 Fax: (91) 22 6623 2604

👩 Saudi Arabia

In association with Anfaal Capital Ground Floor, KANOO Building No.1 - Al-Faisaliyah,Madina Road, P.O.Box 126575 Jeddah 21352 Kingdom of Saudi Arabia

Tel: (966) 920023423

www.maybank-ke.com | www.maybank-keresearch.com