China / Hong Kong Industry Focus

Hong Kong Data Centre Sector

Refer to important disclosures at the end of this report

DBS Group Research . Equity 19 Apr 2022

Supply further slowdown amid resilient demand

- **Supply growth to further slow down to 9.1% p.a. in 2021-2024E**
- **Demand will remain resilient after the pandemic; cloud services to predominate**
- **Expect supply shortage in the next few years**
- **Reiterate BUY on SUNeVision (1686 HK) as a key beneficiary of supply shortage**

Supply growth to further slow down to 9.1% in 2021-2024E. The COVID-19 resurgence in Hong Kong has led to longer data centre approval processes from the government, and delays in data centre construction and logistics issues. Based on our research, along with conversations with the Data Centre Facility Unit, we now expect supply growth to further slow down to a CAGR of 9.1% in 2021-2024E (vs. our previous forecast of 12.3%).

Resilient demand post-pandemic. The market is concerned about slower data centre demand due to rationalisation post pandemic and geo-political tension, as well as shrinking spending from internet companies. However, we expect the demand to be resilient for digitalisation after the pandemic. Besides, Hong Kong is still an attractive data centre hub in APAC region despite the geo-political tension. We also expect Hong Kong to catch the demand for overseas expansion from Chinese internet companies and cloud providers amid slower domestic growth due to macro uncertainties. According to Gartner, total end-user spending on public cloud services in Hong Kong is expected to grow at a CAGR of 26% in 2021-2024E. We forecast overall data centre demand to grow by 15%-20% p.a. in 2022-2024.

Expect supply shortage; reiterate BUY on SUNeVision. Looking forward, we expect a supply shortage for data centres in Hong Kong in 2022-2024, given the limited supply and resilient demand growth. SUNeVision will be a key beneficiary as the largest data centre operator in Hong Kong with a market share of 16% in terms of GFA and 100%+ IT capacity expansion with three new projects to be delivered in the near term. Reiterate BUY on SUNeVision with a TP of HK$13.3.

HSI: 21,518

ANALYST
Tsz Wang Tam +852 36684195 tszwangtam@dbs.com
Harry Zhuang +852 3668 4194 harryzhuangy@dbs.com

Recommendation & valuation

Company	Price (HK$)	Target Price (HK$)	Rating	Mkt Cap (HK$m)	FY22 PE (x)
SUNeVision (1686 HK)	6.42	13.3	BUY	15,010	30

Source: Thomson Reuters, DBS Bank (Hong Kong) Limited ("DBS HK")

Live more, Bank less

Introduction

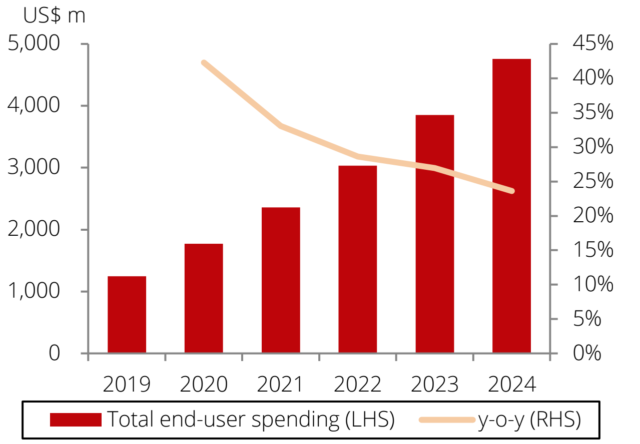
Hong Kong is a key regional connection hub and a gateway for mainland China, with a tight data centre supply in the past few years. The overall utilisation rate of the data centres in Hong Kong was 80% in 2021, according to the Data Centre Facilitation Unit. We have re-evaluated the data centre supply-demand dynamics in Hong Kong given the potential easing of the COVID-19 pandemic and geo-political risk concern, along with slower growth from Chinese internet companies.

Looking forward, the demand is expected to remain strong in Hong Kong, and cloud service providers are to predominate the market to be the key growth driver of data centre demand. According to Gartner, the public cloud market is projected to grow at a CAGR of 26% in 2021-2024E. However, the supply of data centres in Hong Kong is very limited, for both greenfield projects and industrial building conversion. The prolonged impact of the global pandemic along with several rounds resurgence in Hong Kong will further slowdown the supply growth from a CAGR of 10.8% in 2015-2021 to a CAGR of 9.1% in 2021-2024E (vs. our previously estimated 12.3%), which will bring forth a rising supply shortage and benefit leading players in Hong Kong, like SUNeVision.

Growth drivers after the pandemic

Resilient demand in post-pandemic era. The market might be concerned whether the demand will be sustainable after the pandemic. According to JLL Research, hybrid work will remain durable in a post-COVID-19 environment and flexibility will be essential to workplace programmes. According to Equinix's annual global study, 66% of businesses have rearchitected their IT infrastructure to meet new remote and hybrid working demands, with tech budgets increasing to accelerate digital transformation. Apart from benefiting from the higher flexibility to IT resource usage, enterprises may choose cloud services for capex savings. IDC expected that the split between the global volume of data stored in the cloud and data stored in traditional data servers will be roughly 50/50 by 2025, up from 2018, where only 35% of data was stored in the public cloud. Gartner estimated that total end-user spending on public cloud services in Hong Kong would attain a CAGR of 26% in 2021-2024E. As a result, we expect cloud service providers to predominate the market and account for a major part of the incremental demand. We expect the overall data centre demand in Hong Kong to grow by 15-20% p.a. in 2022-2024.

Hong Kong public cloud market



Source: Gartner, DBS HK

Catching the demand for overseas expansion. Hong Kong, an important gateway to mainland China, will be increasingly used as a jumping-off point out of mainland China. We have already started to see this with the top tier of China-based internet companies and cloud players like Alibaba and Tencent, followed by the leading Chinese telcos. Tencent Cloud launched its third availability zone in Hong Kong in 2021 in SUNeVision's Mega Campus. A leading internet company also fully committed to SUNeVision's data centre site in Fanling in 2021. We expect more demand for overseas expansion from the Chinese internet companies and cloud providers due to the macro uncertainties in China. In addition, further integration of the Hong Kong economy with mainland China, especially the Greater Bay Area (GBA), offers considerable potential with an increasing data flow between Hong Kong and the GBA. There are calls for pilot projects to facilitate open data flow within the Greater Bay area, with Hong Kong as the hub. We can see Hong Kong taking a leading role facilitating data flow within the GBA, and in the long-term, establishing itself as a data hub for data flow from mainland China.

Geo-political risk is overly concerned. The market may worry that large US internet companies (e.g., Amazon, Google, and Microsoft) would diversify their data centre locations out of Hong Kong to other APAC regions due to US-China tension and the introduction of the National Security Law. However, Hong Kong's data centre market has remained strong and has even climbed one place to become the third most attractive data center region in the entire Asia Pacific region in 2021, only after Sydney and Singapore, according to

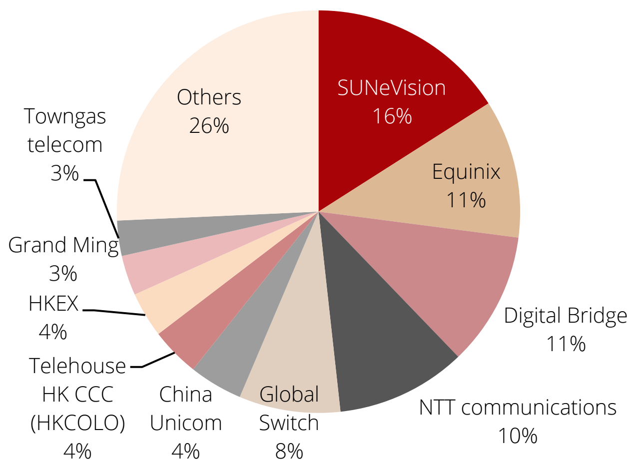
Cushman & Wakefield. Taking away all the political factors, Hong Kong is undeniably a leading connectivity hub with a prime geographical location within 100ms round trip latency across APAC. 11 out of 14 existing intra-Asia subsea cables are connected to Hong Kong. An entire ecosystem of connectivity, traversing key landing points and exchanges, is not going to be easily lifted and shifted and therefore Hong Kong will retain its long-term strategic importance. Microsoft even launched new availability zones in its East Asia Azure cloud region in Hong Kong in 2021.

Limited new data centre supply

We have analysed data centre supply through market sources and conversations with the government's Data Centre Facility Unit. We estimate that data floor space in Hong Kong in terms of gross floor area (GFA) was 9,274k sq.ft. as at the end of 2021. SUNeVision is the largest data centre operator in Hong Kong, with a market share of 16% in terms of GFA. Data centres are clustered mainly in Tseung Kwan O, Kwai Chung, and Tsuen Wan. On Hong Kong Island, power supply is in great demand by grade A office buildings and thus, it is very difficult to be made available towards data centre projects.

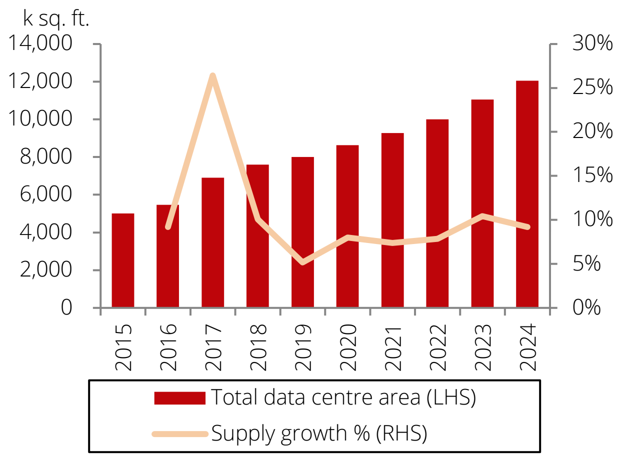
Limited land supply in Hong Kong led to a slow growth in new data centre supply. We expect further slowdown of new data centre supply due to longer government approval processes for new data centre applications and delay in site construction and logistics issues due to the pandemic. Supply CAGR of data centre capacity in terms of GFA is expected to drop from 10.8% in 2015-2021 to 9.1% (vs. our previously estimated 12.3%) in 2021-2024E. In general, the supply of data centres in Hong Kong mainly comes from (1) conversion of industrial buildings (IB), (2) redevelopment of industrial lots through lease modification, and (3) greenfield projects.

Data centre supply in Hong Kong



Source: Companies, DBS HK

Data centre supply in Hong Kong



Source: Companies, DBS HK

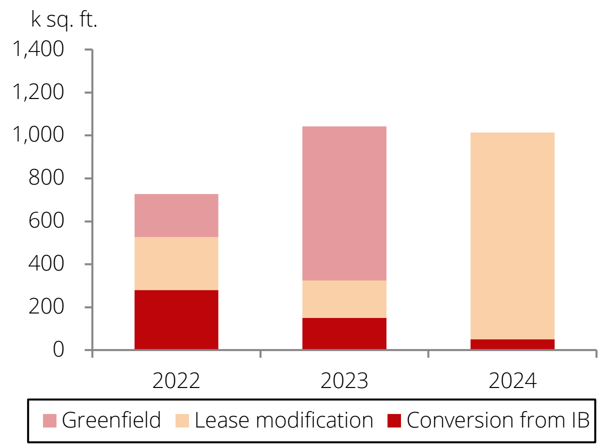
Conversion from IB to data centre is difficult. Since 2012 to June 2020, the government has received a total of 41 applications for converting parts of existing industrial buildings for data centre use. Out of these 41 applications, 31 have been approved (29 executed and two pending execution), six processed, and four withdrawn. The approved and executed applications involve a total internal floor area of 1,517k sq.ft., implying an average of c.190k sq.ft. p.a. It has become more difficult to find suitable IBs to convert them into data centres due to not only the stringent requirements for power supply and building structure, but also the decreasing space from this source. The number of

IBs has reduced from 1,448 in 2014 to 1,342 in 2020. Only 1-2% of the IBs in Hong Kong are suitable for conversion to data centres, according to Cushman & Wakefield. Conversion work usually takes around one to two years. We estimate the total new data centre supply from conversion to be c.480k sq.ft. in 2022-2024.

Few lease modification applications due to higher investment. Despite measures on relaxing the maximum non-domestic permissible plot ratio by up to 20% as incentive, IB redevelopment is a longer-term strategic decision that requires planning, considerable upfront capital investment, and unified ownership of the building. There has been around 10 successful applications by March 2022, with an expected new contribution of about 1,385k sq.ft. for data centre use in 2022-2024.

Scarce supply of greenfield land. Major sources of greenfield land supply for data centre construction are (1) industrial estates managed by The Hong Kong Science and Technology Parks Corporation (HKSTPC), (2) dedicated data centre sites, and (3) sites/building premises available in the open market. The first two options are not in the pipeline in the near term. The last dedicated data centre site was awarded to SUNeVision in 2018. There were only a few transactions in the open market in the past two years. In July 2020, China Mobile won the tender for an industrial land in Fo Tan at c.HK$5.6bn (c.HK$6,000/sq.sf.). In Sep 2020, Grand Ming bought two lands in Fanling for HK$168m (c.HK$1,900/sq.sf.) and HK$188m (c.HK$2,000/sq.sf.) respectively. Mapletree also won a tender in Fanling at HK$813m (c.HK$3,750/sq.sf.) in Jan 2021. We estimate the total new data centre supply from greenfield projects to be c.920k sq.ft. in 2022-2024.

Source of new data centres



Source: Companies, DBS HK

New data centre supply will mainly be in Tseung Kwan O, Tsuen Wan, Kwai Chung, and Fanling. SUNeVision has three new projects to be delivered in 2022 and 1H23. GDS also has two data centres to become serviceable in Tsuen Wan in 2022 and 2024 respectively.

Major data centre projects in HK (2022-2024)

Data centre operator	Data centre area (GFA, sq.sf.)	Location	Estimated year of completion	Source
GDS	246,800	Kwai Chung	2022	Lease modification
SUNeVision	129,000	Fanling	2022	IB conversion
SUNeVision	201,000	Tsuen Wan	2022	Greenfield
SUNeVision*	1,212,000	Tseung Kwan O	2023	Greenfield
Digital Bridge*	700,000	Tsuen Wan	2023	Lease modification
Mapletree	216,785	Fanling	2023	Greenfield
GDS	234,789	Kwai Chung	2024	Lease modification

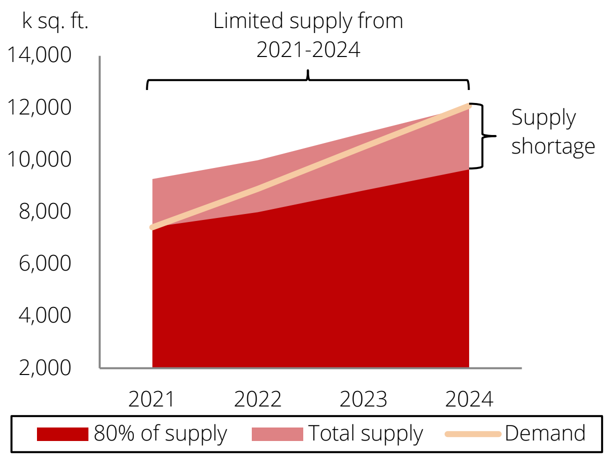
Source: Companies, DBS HK

** Deliver in phases*

Conclusion and recommendation

Expect supply shortage during 2022-2024. The overall utilisation rate of data centres in Hong Kong is c.80%, which is optimal to fully support the average infrastructure demand and give the right buffer to support workload peaks without degrading performance. Looking forward, we expect a supply shortage in 2022-2024, given the limited new data centre supply and resilient demand growth in Hong Kong. Data centre operators with strong existing capacity in service and new projects delivery in the near term will benefit from the supply shortage.

Supply and demand of data centres in Hong Kong



Source: Companies, DBS HK

Reiterate BUY on SUNeVision. SUNeVision is the largest data centre operator in Hong Kong, with a market share of 16% in 2021 in terms of GFA. The IT capacity in service was 70MW as at the end of 2021. SUNeVision has three new projects (MEGA Fanling, MEGA Gateway, and phase 1 of MEGA IDC) to be delivered in 2022 and 1H23, which will expand its IT capacity in service to 150MW. In the long run, the IT capacity in service could potentially reach 280MW when phase 2 of MEGA IDC is delivered. The data centre supply shortage will help maintain the pricing and a high utilisation rate for SUNeVision.

We forecast revenue to grow by 12%, 24% and 18% for FY6/22, FY6/23 and FY6/24 respectively. We forecast net profit to grow by 10%, 19% and 18% for FY6/22, FY6/23 and FY6/24 respectively. Maintain BUY on SUNeVision, as it is a key beneficiary of the rising demand for data centres amid a supply shortage in HK, with a TP of HK$13.3. Our TP is based on the DCF model, assuming a 6.7% WACC and 3% terminal growth rate.

DBS HK 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: 19 Apr 2022 16:32:38 (HKT)
Dissemination Date: 19 Apr 2022 17:44:14 (HKT)

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

GENERAL DISCLOSURE/DISCLAIMER

This report is prepared by DBS Bank (Hong Kong) Limited ("DBS HK"). This report is solely intended for the clients of DBS Bank Ltd., DBS HK, DBS Vickers (Hong Kong) Limited ("DBSV HK"), and DBS Vickers Securities (Singapore) Pte Ltd. ("DBSVS"), 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 HK.

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., DBS HK, DBSV HK, DBSVS, 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.

Please note that the securities and/or derivatives of the Chinese issuer(s) or company(ies) mentioned in this report may be subject to restrictions further to Executive Order 13959 (the "EO") dated 12 November 2020. The EO (which may be updated from time to time) prohibits US persons from investing in the securities (and derivatives thereof) of Chinese entities deemed as "Communist Chinese Military Companies" / "Chinese Military-Industrial Complex Companies", effective Monday, January 11, 2021 (or at a later date when names are added). There may be investment, transaction restrictions and liquidity risks associated with the securities and/or derivatives of the Chinese issuer(s) or company(ies) mentioned in this Research Report as a result.

DBS Vickers Securities (USA) Inc ("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.

Neither DBS Bank Ltd nor DBS HK market makes in equity securities of the issuer(s) or company(ies) mentioned in this Research Report.

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 associate[1] 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 interests[2] 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, DBSVS or their subsidiaries and/or other affiliates do not have a proprietary position in the securities recommended in this report as of 15 Apr 2022.

2. Compensation for investment banking services:
DBS Bank Ltd, DBS HK, DBSVS, their subsidiaries and/or other affiliates of DBSVUSA have received compensation, within the past 12 months for investment banking services from Tencent Holdings Ltd (700 HK) as of 31 Mar 2022.

3. DBS Bank Ltd, DBS HK, DBSVS, their subsidiaries and/or other affiliates of DBSVUSA have managed or co-managed a public offering of securities for Tencent Holdings Ltd (700 HK) in the past 12 months, as of 31 Mar 2022.

   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.

4. Disclosure of previous investment recommendation produced:
DBS Bank Ltd, DBSVS, DBS HK, their subsidiaries and/or other affiliates of DBSVUSA 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 HK, DBSVS, their subsidiaries and/or other affiliates of DBSVUSA 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	This report is being distributed in Australia by DBS Bank Ltd, DBSVS or DBSV HK. DBS Bank Ltd holds Australian Financial Services Licence no. 475946. 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 Bank Ltd 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. Distribution of this report is intended only for "wholesale investors" within the meaning of the CA.
Hong Kong	This report is being distributed in Hong Kong by DBS Bank Ltd, DBS Bank (Hong Kong) Limited and DBS Vickers (Hong Kong) Limited, all of which are registered with or licensed by the Hong Kong Securities and Futures Commission to carry out the regulated activity of advising on securities. DBS Bank Ltd., Hong Kong Branch is a limited liability company incorporated in Singapore.
Indonesia	This report is being distributed in Indonesia by PT DBS Vickers Sekuritas Indonesia.
Malaysia	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. Wong Ming Tek, Executive Director, ADBSR
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 6878 8888 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. For any query regarding the materials herein, please contact [Chanpen Sirithanarattanakul] at [research@th.dbs.com]
United Kingdom	This report is produced by DBS HK which is regulated by the Hong Kong Monetary Authority 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. 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.

Dubai International Financial Centre	This communication is provided to you as a Professional Client or Market Counterparty as defined in the DFSA Rulebook Conduct of Business Module (the "COB Module"), and should not be relied upon or acted on by any person which does not meet the criteria to be classified as a Professional Client or Market Counterparty under the DFSA rules. This communication is from the branch of DBS Bank Ltd operating in the Dubai International Financial Centre (the "DIFC") under the trading name "DBS Bank Ltd. (DIFC Branch)" ("DBS DIFC"), registered with the DIFC Registrar of Companies under number 156 and having its registered office at units 608 - 610, 6th Floor, Gate Precinct Building 5, PO Box 506538, DIFC, Dubai, United Arab Emirates. DBS DIFC is regulated by the Dubai Financial Services Authority (the "DFSA") with a DFSA reference number F000164. For more information on DBS DIFC and its affiliates, please see http://www.dbs.com/ae/our--network/default.page. Where this communication contains a research report, this research report is prepared by the entity referred to therein, which may be DBS Bank Ltd or a third party, and is provided to you by DBS DIFC. The research report has not been reviewed or authorised by the DFSA. Such research report is distributed on the express understanding that, whilst the information contained within is believed to be reliable, the information has not been independently verified by DBS DIFC. Unless otherwise indicated, this communication does not constitute an "Offer of Securities to the Public" as defined under Article 12 of the Markets Law (DIFC Law No.1 of 2012) or an "Offer of a Unit of a Fund" as defined under Article 19(2) of the Collective Investment Law (DIFC Law No.2 of 2010). The DFSA has no responsibility for reviewing or verifying this communication or any associated documents in connection with this investment and it is not subject to any form of regulation or approval by the DFSA. Accordingly, the DFSA has not approved this communication or any other associated documents in connection with this investment nor taken any steps to verify the information set out in this communication or any associated documents, and has no responsibility for them. The DFSA has not assessed the suitability of any investments to which the communication relates and, in respect of any Islamic investments (or other investments identified to be Shari'a compliant), neither we nor the DFSA has determined whether they are Shari'a compliant in any way. Any investments which this communication relates to may be illiquid and/or subject to restrictions on their resale. Prospective purchasers should conduct their own due diligence on any investments. If you do not understand the contents of this document you should consult an authorised financial adviser.
United States	This report was prepared by DBS HK. 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.
Other jurisdictions	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.

DBS Bank (Hong Kong) Limited

13 th Floor One Island East, 18 Westlands Road, Quarry Bay, Hong Kong

Tel: (852) 3668-4181, Fax: (852) 2521-1812

DBS Regional Research Offices

HONG KONG
DBS Bank (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

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: indonesiaresearch@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, Thailanc