Regional Industry Focus

ASEAN Technology

Refer to important disclosures at the end of this report

DBS Group Research . Equity

20 Mar 2023

Positioning ahead of anticipated recovery in 2H23

- 2023 an inflexion point for the industry; expect gradual recovery from 2H23
- High inventory and weak demand remain key concerns now. High inventory to peak in 2Q23
- Automotive and industrial the bright spots; consumer electronics could still be weak, shipment growth expected in 2024
- Our picks are UMS, Grand Venture, Venture, SVI

Macro and industry environment remain weak, but stock market is forward-looking. After a battered 2022, we expect 2023 to be an inflexion point for the technology sector. Companies could still report a weak 1Q23, based on the guidance provided by the global names. However, the stock market is forward-looking. YTD, the SOX outperforms, despite the still-gloomy macro backdrop, in line with the historical trend.

Uneven recovery. Barring any big spike in rate hikes (DBS economists now see two 25bps rate hikes in March and May, with the Fed Funds Rate to peak at 5.25% by 1H23) and external shocks such as the resurgence of the pandemic, the technology sector is expected to be on the path to recovery. The automotive and industrial segments remain the bright spots; consumer electronics could still be weak, as shipments are only expected to recover in 2024. The current high inventory level could start to ease from 2H23 onwards. Companies with broader market focus and with exposure to less cyclical segments such as data centres, life sciences, medical, and new energy are expected to fare better.

Valuation attractive – pick UMS, Grand Venture, Venture, SVI. Valuation for the Singapore technology sector is now at an attractive level. The forward PE of 9.5x is -c.2SD from its five-year average and is also near the previous trough in early 2020 due to the COVID pandemic. Both UMS and Grand Venture are riding on the longer-term growth trend for the semiconductor industry with growing contribution from newly acquired customer. Venture's differentiating capabilities set it apart from its peers. In Thailand, we like SVI. All our picks are beneficiaries of the growing trade diversification trend with the majority of their facilities outside China.

STI : 3,183.28

Analysts

Lee Keng LING +65 6682 3703
leekeng@dbs.com

Singapore Research Team
equityresearch3@dbs.com

Chanpen SIRITHANARATTANAKUL +662 857 7824
chanpens@th.dbs.com

STOCKS

	Price LCY	Mkt Cap US$m	12-mth Target Price LCY	Performance (%) 3 mth	12 mth	Rating
Singapore						
AEM Holdings	2.99	693	2.00	(17.4)	(30.8)	SELL
Aztech Global	0.81	466	1.15	1.9	(9.5)	BUY
Frencken Group	1.03	327	1.09	8.4	(34.4)	HOLD
Grand Venture Technology	0.50	126	0.60	0.0	(47.1)	BUY
Micro-Mechanics Holdings Ltd	2.06	213	2.12	(22.6)	(34.8)	FULLY VALUED
Nanofilm Technologies International	1.56	770	1.33	7.6	(36.6)	HOLD
UMS Holdings	1.06	529	1.53	(13.8)	(7.0)	BUY
Venture Corporation	16.97	3,680	20.10	(0.6)	1.1	BUY
Thailand						
Delta Electronics Thai	996.00	36,700	508.00	45.2	198.2	SELL
Hana Microelectronics	48.00	1,140	45.00	(5.9)	1.1	FULLY VALUED
KCE Electronics	43.25	1,510	41.00	(8.5)	(31.4)	FULLY VALUED
SVI PCL	9.35	595	11.00	(10.1)	14.7	BUY

Source: DBS Bank, DBSVTH, Bloomberg Finance L.P.
Closing price as of 17 Mar 2023

DBS Insights Direct

Watchlist the stock on Insights Direct to receive prompt updates

ed: BM/ sa: PH, PY, CS

Review

YTD performance – SOX outperforms despite still-gloomy macro backdrop

Philadelphia Semiconductor Index (SOX) continues to outperform the broader S&P 500 Index on a YTD basis amidst the ongoing market volatility. The expectation for the Fed to pause/conclude its rate hike cycle provided a conducive environment for semiconductor stocks to perform since late last year. Even the return of higher-for-longer interest rate woes following a series of hotter-than-expected economic readings failed to significantly dampen the outperformance.

Global semiconductor companies – YTD price return

Stocks	Sector	YTD price return
NVDA	Consumer	64.7%
AMD	Consumer	35.0%
UMC	Foundries	29.1%
AMAT	Equipment	23.6%
GFS	Foundries	22.2%
TER	Equipment	20.4%
TSM	Foundries	19.9%
SOX	Index	18.9%
LRCX	Equipment	17.5%
ASML	Equipment	14.4%
ADI	Analog	13.7%
AVGO	Enterprise	13.1%
MU	Memory	8.6%
TXN	Analog	6.4%
QCOM	Consumer	6.0%
INTC	Consumer	6.0%
MRVL	Enterprise	4.2%
S&P 500	Index	2.1%
KLAC	Equipment	0.5%

Source: DBS Bank, Bloomberg Finance L.P.

Demand and earnings remained resilient, despite persistent inflation and an economic slowdown. This is evident from the recently concluded earnings season. In-line performances for most semiconductor companies as well as pockets of strong earnings beats allayed concerns of a slowdown amid growing macro headwinds late last year.

Improving investor sentiment also contributed positively to performance. First, the destocking cycle – and an ensuing turnaround – may accelerate on the concerted efforts by companies to reduce production and/or cut capex. Second, the proliferation and mass adoption of ChatGPT may well kickstart an artificial intelligence (AI)-fuelled boom; NVDA and AMD high-performance computing chips/GPUs are featured as key enablers of this. Third, the slowdown may prove to be less severe than previously feared, sending a strong tailwind to the share prices of equipment providers and foundries.

Export controls may have been largely priced in. Export controls have evolved since our last update in 4Q22, and now see the participation of Japan and Netherlands. That said, the muted response – in comparison to the initial reaction in October – suggests that much of these negativities may have already been priced in at this point.

Periods of share price drawdowns

Event	Period	SOX	ASML
US announces export ban	7-14 Oct 22	-13.8%	-16.6%
China initiates WTO dispute	14-20 Dec 22	-8.4%	-10.7%
Netherlands to join export ban	27-30 Jan 23	-3.4%	-2.7%
Netherlands confirms ban	8-13 Mar 23	-3.9%	-3.5%

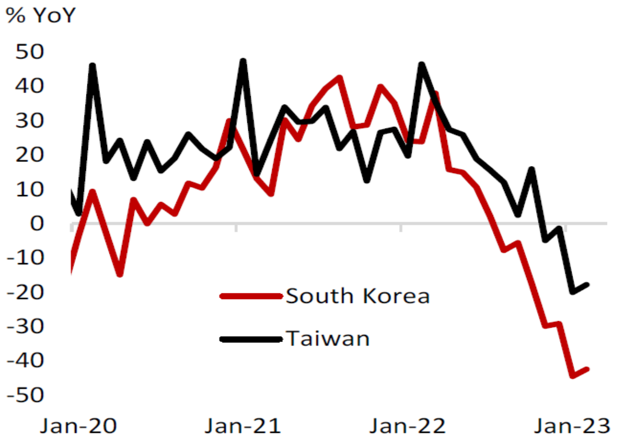
Source: DBS Bank, Bloomberg Finance L.P.

Macro Outlook

Trade data still weak, no turnaround in near sight

Tech exports still soft. The latest trade data from bellwether electronics exporters in South Korea and Taiwan still appears weak, with no turnaround in near sight. DBS economists believe that a destocking cycle is currently underway, and a cyclical rebound will only emerge in the latter part of this year, in end-Q3 at the soonest.

Semiconductor exports – South Korea and Taiwan

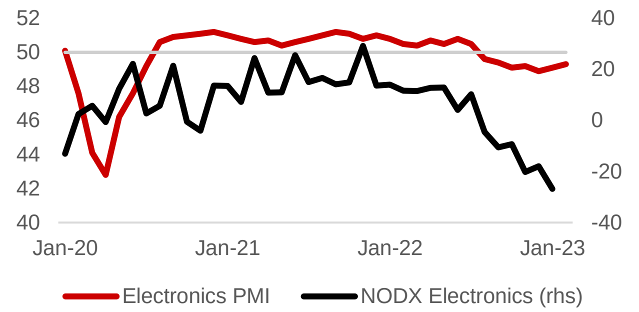


Source: DBS Bank, CEIC

Impact of China's reopening not fully felt yet. While the restoration of the Chinese supply chain nevertheless gives some relief, the hope for China to do more to drive regional trade and growth is yet to be seen. There may be room for an upside if we see a meaningful pickup in China's domestic demand and/or easing tech tensions.

Singapore is no exception. February's electronics manufacturing PMI, at 49.3, marks the seventh consecutive month of contraction, i.e., reading <50, with January's electronics NODX still deep in the negative territory. The latest MAS survey of professional forecasters also painted a sluggish outlook for the sector – economists now see no growth (from 0.3%) in the manufacturing sector, and the NODX is to slip further to -4.0% (from -0.5%).

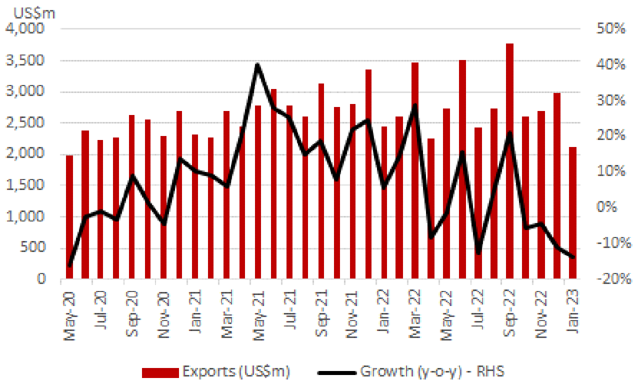
Singapore – NODX electronics and electronics PMI



Source: DBS Bank, Bloomberg Finance L.P.

Thailand's electronics exports tumbled 14% y-o-y in January 2023. This marks the fourth consecutive months of contraction. Prospects are not looking good amidst the global economic slowdown and the weakening demand in end markets. We expect electronics exports to remain weak, at least in 1H23.

Thailand's electronics exports



Source: Ministry of Commerce, DBS Bank

Nearing Fed's rate hike pause. DBS economists now see two 25bps rate hikes in March and May, with the Fed Funds Rate to peak at 5.25% by end-1H23. While acknowledging the current fluidity in rate hike expectations, a lower-than-expected terminal rate (i.e., market expectations of 6% previously), an imminent pause to rate hikes, and even the possibility of rate cuts should be seen as tailwinds for stocks. USD strength could also find near-term support on two fronts: If (i) the Fed resolves to its hiking cycle to combat inflation or (ii) investors seek safe-haven USDs in a risk-off situation.

Semiconductor Outlook

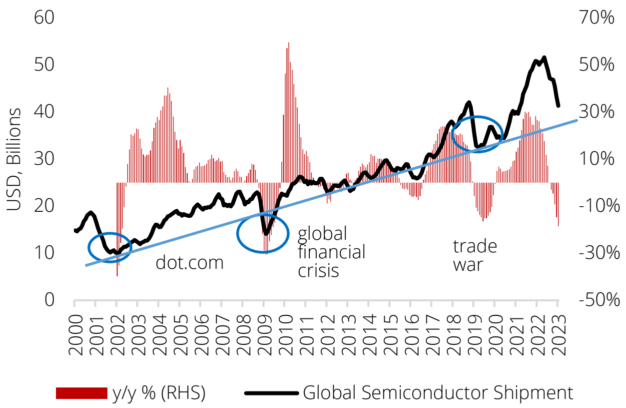
Near-term weakness, longer term uptrend intact

Weakness panning out as per our expectations. The weakness in the semiconductor industry, which started in 2H22, has deepened further. Worldwide semiconductor shipments have eased from the peak of +c.30% y-o-y growth in December 2021 to -18.5% growth in January 2023, according to data compiled by the Semiconductor Industry Association (SIA).

Expect weakness to prolong further. With the ongoing macro headwinds, we expect worldwide semiconductor shipments to dip further in the coming months. Based on the last few years, the decline from the peak to trough during past crises went up to 46%, though the drop, over time, was not as steep as the previous crisis. The upcycle (positive y-o-y gain) lasted about two to three years, followed by about one year of weakness (negative y-o-y growth). As of January 2023, shipment data had eased 20% from the peak in May 2022. Hence, we may see another 10% to 30% drop in the months ahead.

Longer term uptrend intact; new high after every major crisis. Despite the near-term weakness, we remain positive on the semiconductor industry in the longer term. Drivers include the growing semiconductor applications and demand in almost all industry verticals such as AI, industrial automation, and electric vehicles. From the chart below, we expect the uptrend line (blue line as shown in the chart) to remain intact.

More downside to global semiconductor shipments

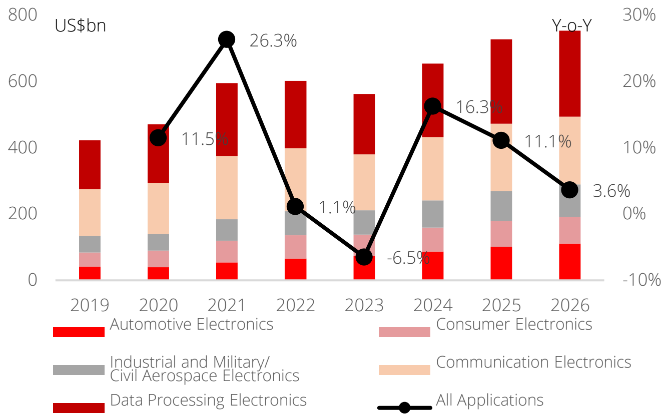


Source: SIA, CEIC; DBS Bank

Which industry is to register the strongest growth?

Lower semiconductor shipments would also lead to lower revenue. With macro headwinds not likely to dissipate soon, revenue for the semiconductor industry is expected to ease 6.5% y-o-y in 2023 after two strong years of growth during the pandemic period.

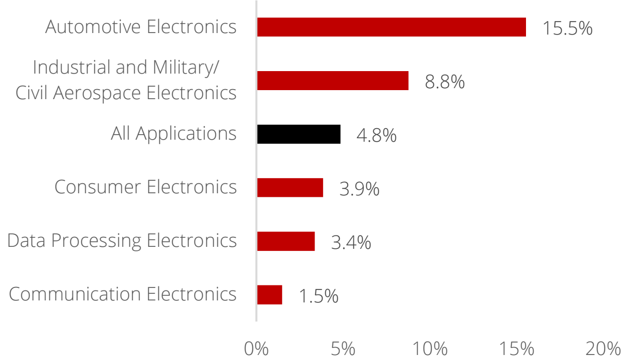
Semiconductor revenue by end-use industry



Charts/graphics created by DBS Bank based on Gartner® research. Sources: Gartner, Inc., Semiconductors and Electronics Forecast Database, Worldwide, 4Q22 Update Update, Ben Lee, et al., 19 Dec 2022

Automotive and industrial leading growth. Among the various industries, the automotive and industrial segments are expected to register the strongest CAGR for the 2022-2026 period, though they are also not totally immune to the macroeconomic conditions.

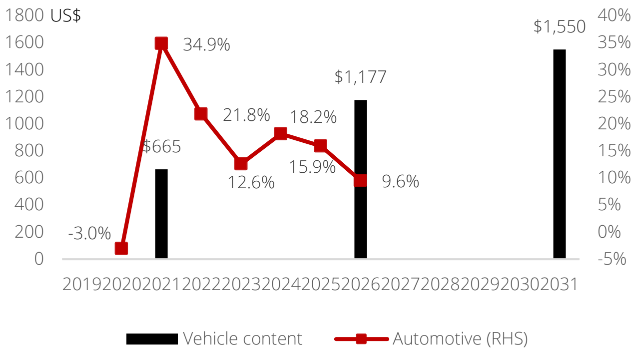
2022-2026 CAGR (%) for end industry



Charts/graphics created by DBS Bank based on Gartner® research. Sources: Gartner, Inc., Semiconductors and Electronics Forecast Database, Worldwide, 4Q22 Update Update, Ben Lee, et al., 19 Dec 2022

Automotive growth driven by higher semiconductor content. The expected outperformance for the automotive market is the increased semiconductor content per vehicle, rather than unit shipments. Evolving vehicle autonomy, more EVs/HEVs, and the migration to centralised computing will result in increased chip content in cars.

Automotive growth and vehicle content

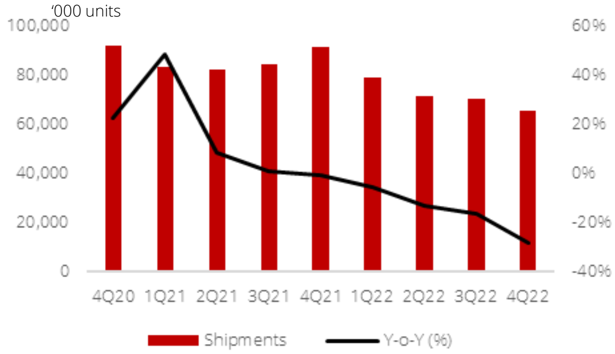


Charts/graphics created by DBS Bank based on Gartner® research. Sources: Gartner, Inc., Invest Implications: Forecast Analysis: Automotive Semiconductors, Worldwide, 2021-2031, Tim Mahon, et al., 2 Feb 2023; Semiconductors and Electronics Forecast Database, Worldwide, 4Q22 Update (gartner.com)

Industrial and military demand generally fall under the essential category and are hence less volatile. The CAGR of 8.8% for the 2022-2026 period is above the average of 4.8% for the whole industry.

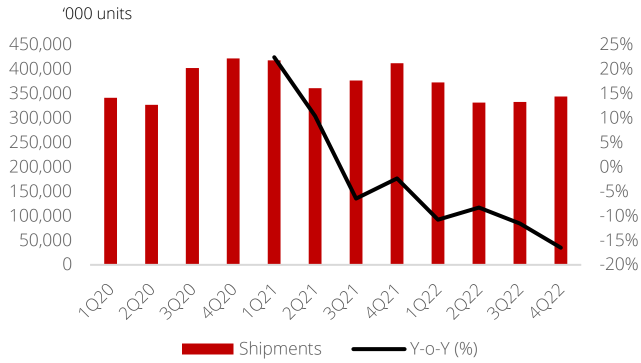
Consumer/communication electronics the weakest group. The macro headwinds have led to demand weakness, especially for the consumer/communication segment. There is also the lack of an immediate need to replace or purchase new PCs/mobile devices. PC shipments saw one of the steepest declines in 4Q22, plunging 28.5% y-o-y, resulting in three consecutive quarters of double-digit decline. The phone replacement cycle is now estimated at about 4.1 years in 2023, according to Gartner's projection, after reaching 3.8 years in 2022.

Quarterly PC shipments



Charts/graphics created by DBS Bank based on Gartner research. Source: Gartner, Inc., Market Share Alert: Preliminary, PCs, Worldwide, 4Q22, Mikako Kitagawa, et al., 11 January 2023

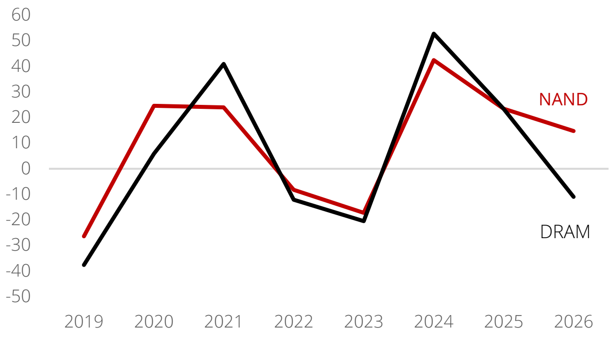
Quarterly mobile shipments



Charts/graphics created by DBS Bank based on Gartner research. Source: Gartner, Inc., Market Share: PCs, Tablets and Mobile Phones, All Countries, 4Q22 Update, Mikako Kitagawa, et al., 27 February 2023

Memory to underperform non-memory. The weakness in the memory market is expected to extend due to weak end-equipment demand, leading to a significant oversupply for most of 2023. Both the DRAM and NAND markets are projected to see a rebound in 2024, after two years of negative growth.

Revenue growth for NAND vs. DRAM



Charts/graphics created by DBS Bank based on Gartner research. Source: Gartner, Inc., Forecast: NAND Flash Market Statistics, Supply and Demand, Worldwide, 2019-2026, 4Q22 Update, Joseph Unsworth; et al, 26 December 2022

Non-memory chips such as sensors and power management, logic, and application-specific chips account for about 70% of total global semiconductor sales. Non-memory chips have more diverse uses and are hence less volatile as compared to memory chips.

Earnings review and outlook for global semiconductor companies

Inflexion point this year, but not just yet. Executives of global semiconductor companies unanimously see 2023 as an inflexion point for the industry, which could come in 2H23. Until then, things may continue to look bleak over the coming months, as more companies have guided below expectations for 1Q23. This suggests that the correction (i) seen over the last quarter still has legs to go and (ii) that it may trickle to the different players within the industry and/or value chain.

Clear divide between leaders and laggards. The stark distinction between leaders and laggards can be further distilled to sector and/or company-specific factors. An example of the former would be Micron, where it lagged, given the headwinds in the memory segment. Conversely, companies involved in chips used for industrials, automotive, and data centres generally fared better, and guided for a more optimistic outlook.

Market leaders to extend outperformance. Market leaders have delivered, and are expected to outperform in 1Q23, with above-consensus guidance. It is worth bearing that they expect growth to come from the sub-sectors of industrials and automotive (ADI, AMAT, ASML) and data centres (NVDA, AVGO).

Global semiconductor companies earnings review and outlook

Company	CY4Q22 Earnings*	CY1Q23 Outlook	Outlook/Comment (in USD terms)
Analog			
ADI	Above	Above	2Q guidance – revenue $3.2bn (est. $3.03bn), EPS $2.75 (est. $2.41) Industrials and automotive to offset weakness in consumer/communications
TXN	In line	In line	Weaker-than-seasonal decline in 1Q with the exception of automotive Additional strategic emphasis on industrial and automotive (65% of FY22 revenue)
Consumer			
AMD	In line	In line	Embedded and data centre segments to offset PC weakness Overall demand to remain mixed with 2H stronger than 1H in 2023
INTC	Below	Below	Macro weakness to persist through 1H23 with possibility of improvements in 2H23 See continuing PC weakness and inventory correction
NVDA	Above	Above	1Q revenue guidance at $6.5bn (est. $6.35bn) End demand for GPUs and AI infrastructure remains strong
QCOM	In line	Below	Handset and IOT segments see weak demand and elevated inventory levels Automotive and handset revenue sequentially flat, reduction in IoT revenue
Enterprise			
AVGO	In line	Above	Currently booked for FY23 with lead times at ~50 weeks Growth prospects for generative AI to drive networking/hyperscale business
MRVL	Below	Below	Inventory correction to subside later this year 30% revenue growth for automotive in 1Q, even as overall top line shrinks
Equipment			
AMAT	In line	Above	Consumer weak; high-performance computing, AI, automotive, industrial resilient DRAM to pick up ahead of NAND in wafer fab equipment investments
ASML	Above	Above	Sees 25% revenue growth in FY23, as its customers expect a rebound in 2H23 Weak consumer, softening data centre, but strong industrial and automotive
LRCX	Above	Below	Memory customers reducing new capacity addition and lowering fab utilisation Wafer fab equipment (WFE) to fall from ~$90bn in 2022 to ~$70bn in 2023
KLAC	Above	Below	WFE demand to fall by 20% from $95bn in 2022 Sharper decline in WFE demand for memory, smaller for foundry/logic
TER	Above	Below	Step down in demand in semiconductor and storage test markets through 1H23 Lower utilisation in the smartphone, computer, and networking end markets
Foundries			
GFS	Above	In line	See automotive and industrial IoT as critical growth segments Low point for smart mobile device demand in 1Q, with sequential growth in 2H23
TSM	In line	Below	Forecast semiconductor cycle to bottom in 1H23, with healthy recovery in 2H23 End-market demand for smartphone and PC lower than expectations
UMC	Below	Below	Shipment and capacity utilisation to fall in 1Q23 See automotive segment as a key growth catalyst in FY23 and beyond
Memory			
MU	Below	Below	Expect most customers to reduce inventory to healthy levels by mid-23 Inventory days to peak in current quarter

Source: DBS Bank, Bloomberg Finance L.P.
CY4Q22 earnings based on actual adjusted EPS versus consensus. >5% = above, 0-5% = inline, <0% = below
**Revenue coming below estimates – INTC, QCOM, MU, TSM*
Outlook based on companies' guidance versus consensus

Key Drag to Technology Weakness

High inventory and weak demand the main culprits

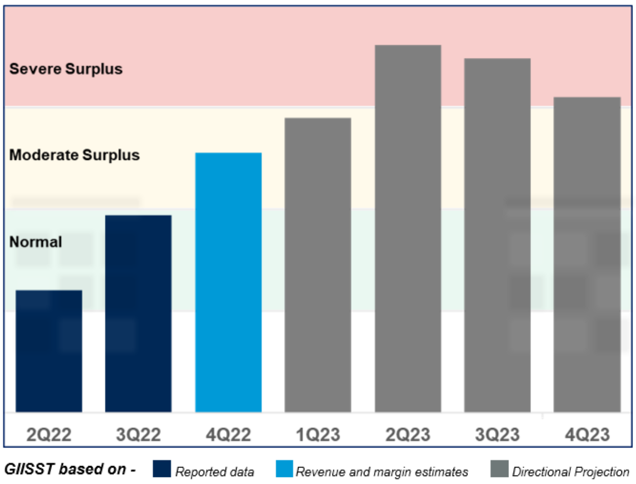
Besides the macro headwinds (higher interest rates, high inflation, and uncertain economic conditions), other key factors affecting the technology sector's performance include the high inventory level and the persistently weak demand, especially for consumer electronics.

1) High inventory

The pandemic has led to companies piling up their inventories in order to ensure they have the required supply of materials and parts to deliver their orders. On the back of the demand weakness and recovery in the supply chain conditions, companies are now adopting a cautious stance, preferring to clear inventories to a normalised level before looking to stock up again. This has led to a weakening of demand for chips.

Inventory improvement in 2H23. The Gartner's Inventory Index is projected to reach a peak in its oversupply situation in 2Q23. Thereafter, the inventory imbalance is likely to ease in 2H23 as manufacturers continue to actively manage inventories, with a significant reduction in inventory stock and increased cautiousness in forward orders.

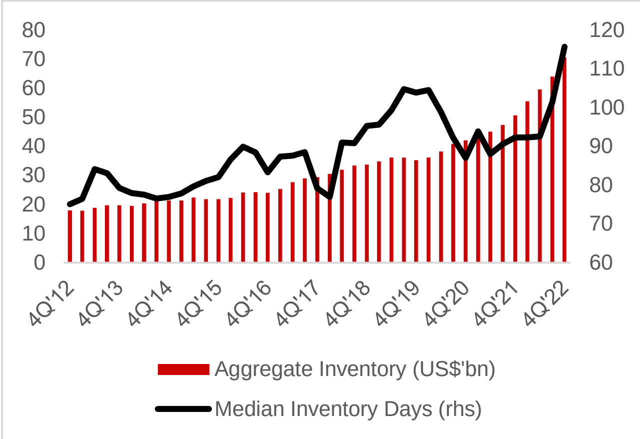
Inventory index quarterly projections, 2Q22-4Q23



Source: Gartner, Inc., Semiconductor Inventory Analysis, Worldwide, 4Q22 Update, Kanishka Chauhan, 23 January 2023

Rising inventory balances and inventory days. The median inventory days of 115 in 4Q22 is 10 days more than the previous peak seen in 4Q19/1Q20. What is more concerning is that aggregate inventory grew by 39.2% y-o-y as of Q422, which outpaced the 12.4% growth in aggregate revenue seen in FY22.

Global semiconductor companies – inventory analysis



Source: DBS Bank, Bloomberg Finance L.P.
Inventory analysis based on 16 global semiconductor companies under our coverage, excluding GFS

Further analysis reveals that inventory days increased the most for companies in the consumer-related segment, which corroborates our earlier observations. On the other hand, equipment providers with broader market focus – and lower exposure to memory – and analog chipmakers saw the least degree of increases to inventory days, ostensibly due to the less cyclical nature of their business.

Companies' inventory days

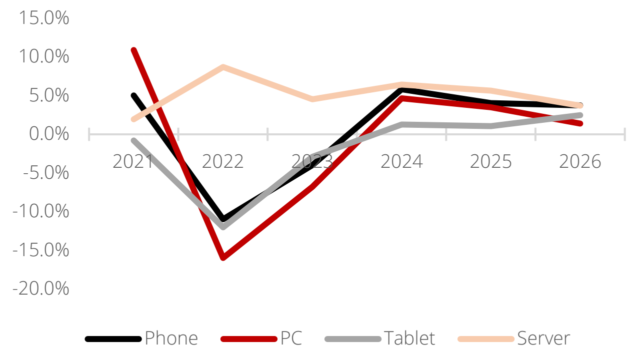
Company	Segment	2017-21 avg.	4Q22	% increase
MRVL	Enterprise	75.57	111.02	47%
NVDA	Consumer	87.18	121.63	40%
INTC	Consumer	97.12	123.02	27%
LRCX	Equipment	103.86	129.48	25%
QCOM	Consumer	69.52	93.46	34%
TSM	Foundries	59.92	82.58	38%
TER	Equipment	59.70	80.54	35%
MU	Memory	108.38	120.36	11%
AVGO	Enterprise	42.90	52.79	23%
UMC	Foundries	54.68	64.53	18%
AMAT	Equipment	134.37	135.14	1%
AMD	Consumer	80.97	81.72	1%
TXN	Analog	135.53	136.12	0%
ADI	Analog	107.31	105.61	-2%
ASML	Equipment	218.41	215.71	-1%
KLAC	Equipment	201.93	189.10	-6%

Source: DBS Bank, Bloomberg Finance L.P.
Red = 4Q'22 increased >10 days, Green = 4Q'22 increased <10 days

2) Weak demand

The weak demand that has plagued the technology sector since 2022 is not expected to recover soon. Shipments for devices such as phones, PCs, tablets, and servers are expected to recover only in 2024. Among these devices, PCs are expected to be the worst performer while the server segment is still relatively stable. The nature of B2B sales as well as the structural trend towards digitalisation (e.g., cloud, data centre spending) provide some level of resilience to this segment.

Y-o-y growth for device shipments



Charts/graphics created by DBS Bank based on Gartner research. Source: Gartner, Inc., Forecast: PCs, Tablets and Mobile Phones, Worldwide, 2020-2026, 4Q22 Update, Ranjit Atwal, et al., 19 December 2022; Forecast: Servers, All Countries, 2020-2026, 4Q22

Results commentary

Pockets of strength for semiconductor; downstream more cautious. From the recently concluded results season, most of the SGX-listed companies in our coverage reported results that were in line with our expectations, except for Aztech (hit by forex loss), UMS (higher contribution from lower margin non-semiconductor division, forex loss) and Micro Mechanics (macro headwinds).

Going forward, for semiconductor plays such as UMS and Grand Venture, contributions from newly onboarded customers could provide some buffer against the current macro headwinds. On the other hand, the outlook for downstream plays is more muted.

Results summary

Company	FY22 results performance	Outlook/comment
Singapore		
AEM Holdings	Revenue above; earnings in line	• Weak outlook, company guiding for c.40% y-o-y drop in revenue • Key customer Intel affected by weak demand for consumer electronics • AEM's inventories increased by c.80% y-o-y largely due to longer dated, non-cancellable purchase orders with a key customer
Aztech	Core results above; earnings affected by forex loss	• Strong orderbook to propel growth • Measures in place to manage forex risk
Frencken	In line	• Cautious near-term outlook; cost pressure remains high
Grand Venture	In line	• Customer diversification to alleviate near-term semiconductor weakness • Non-semiconductor segments (including life sciences) expected to remain resilient
Micro Mechanics	Below	• Headwinds to persist; we expect slowing revenue from all markets in FY23, combined with continued margin pressure in an inflationary environment
UMS Holdings	Revenue in line; earnings below	• Customer diversification is a buffer against the current headwinds
Venture Corp	In line	• Not immune to macroeconomic slowdown in the near term; longer term growth strategies in place • Diversification in products and customers provides more resiliency
Nanofilm	In line	• Margins still expected to be weak going forward, especially in 1H23 • Bulk of contribution from new initiatives to come in only in 2024/2025
Thailand		
Delta Electronics (Thailand)	Above	• Positive outlook, company guiding for 15%-20% y-o-y growth in revenue for 2023 • Growth should be particularly strong for EV power, and then moderate for other products • Management targets 23%-24% gross margin, on the assumption of Bt35/US$ FX
Hana Microelectronics	Above due to large forex gain in 4Q22	• A mixed bag, but net-net, we see a weaker outlook for 2023 • Weakening demand for OSAT business in 1H23 • Depleting cash on hand, while large capex is still needed for the Silicon Carbide business
K.C.E. Electronics	Below	• Management is guiding for 4%-6% sales growth in US dollar terms in 2023 • Rising electricity costs could eat into margins in 2023
SVI PCL	Above	• Target 15% revenue growth to US$850m in 2023 • Key drivers are communication & network products (e.g., security cameras), industrial controls, audio/video, automotive, and microelectronics • Capacity expansion underway in Slovakia and Cambodia to meet rising demand

Source: DBS Bank, DBSVTH

Valuation

Singapore attractive, Thailand still expensive

Singapore

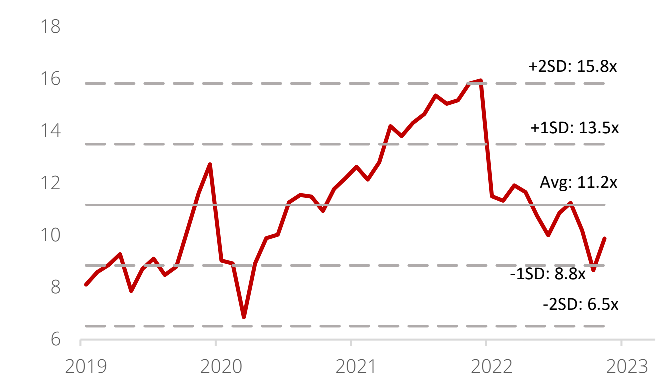
Attractive PE valuation. Valuation for the Singapore technology sector is now at an attractive level. Forward PE, based on the stocks in our coverage, of 9.5x is -c.2SD from its five-year average and is also near the previous trough in early 2020 due to the COVID pandemic.

Excluding large-cap Venture, which has a c.60% weightage in our technology portfolio, the forward PE of 9.5x is slightly above the -1SD level from the five-year average, as some of the stocks, like AEM and Micro Mechanics, are still trading above the average level.

5-year sector forward PE (x)* – Singapore

Source: DBS Bank, Bloomberg Finance L.P.
**Market cap weighted*

5-year sector forward PE (x)* – Singapore: ex Venture



Source: DBS Bank, Bloomberg Finance L.P.
**Market cap weighted*

Thailand

Excessive PE valuation. The valuation for Thailand's electronics sector (based on the companies in our coverage) is not cheap. They are now trading on a forward PE of 39x, +1SD from its five-year average. Such a high valuation is driven mainly by Delta Electronics (Thailand) (DELTA), which saw its share price triple from Bt333 at the end of June 2022 to Bt1,000 in March 2023, before easing slightly to Bt974 currently. The PE valuation of the stock then jumped from about 25x in June 2022 to as high as 68x currently.

The strong rally in DELTA's share price is mainly on the back of various reasons. These include:

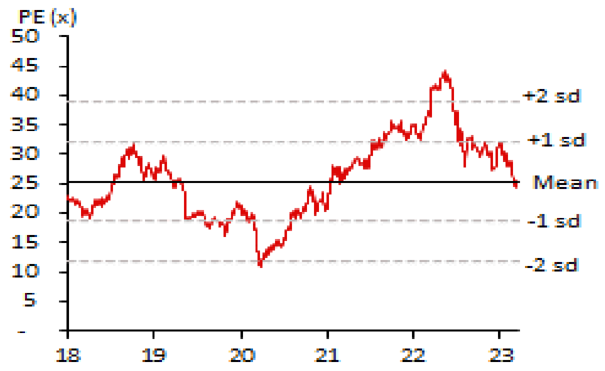
(i) The strong jump in the company's revenue and earnings, boosted by sales of EV power and power supplies for data centres
(ii) DELTA's small free float of only 22%
(iii) The speculation (and later the confirmation) that the stock would be re-included in the SET50 and the SET100 indices for 1H23 (1 Jan-30 Jun 2023)

5-year Sector Forward PE (x)* - Thailand

Source: DBSVTH, Bloomberg Finance L.P.
**market cap weighted*

Excluding heavyweight Delta Electronics (Thailand) Co., Ltd. (DELTA), which has a weight of c.88% in the sector, the sector is now trading at a forward PE of 25x, which is in line with its five-year average.

5-year Sector Forward PE (x)* - Thailand ex DELTA



Source: DBSVTH, Bloomberg Finance L.P.
**market cap weighted*

Valuation pegs

Target price valuation peg at average or below. In terms of the valuation peg for our target price, the majority of the stocks with BUY recommendations are pegged to the five-year average PE level, whereas those with HOLD, FULLY VALUED, and SELL calls are pegged below the five-year average PE.

Valuation pegs - Singapore

Company	Rec'n	Current PE (x)*	Current Level	TP peg PE	TP peg Level
Semiconductor					
AEM	Sell	13.7	+1SD	9x	Below avg
UMS	Buy	6.8	-c.2SD	10x	Avg
Frencken	Hold	7.4	-c.0.5SD	8x	Below avg
Grand Venture	Buy	10.8	-c.0.5SD	12x	Below avg
Micro Mechanics	FV	20.5	-c.0.5SD	23x	Avg
Downstream					
Aztech	Buy	4.7	-c.1.5SD	7x	Below avg
Venture	Buy	12.6	-c.1.5SD	15x	Avg
Nanofilm	Hold	20.6	-c.1.4SD	16x	-1.5SD

Source: DBS Bank
** 12-mth forward PE*

For Thailand stocks, our valuations for DELTA and HANA are pegged to the five-year average PE level, while that for KCE is pegged at -0.5SD of its average PE. As for SVI, the only stock in our coverage with a BUY rating, our TP is pegged at +0.5SD of its five-year average PE.

Valuation pegs - Thailand

Stock	Rec'n	Current Price (Bt)	Current Level	TP Peg Price (Bt)	TP Peg Level
DELTA	SELL	974.00	69x PE (+1.8SD)	508.00	37x PE (Avg)
HANA	FV	51.50	20x PE (+0.25SD)	45.00	18x PE (Avg)
KCE	FV	46.25	25x PE (-0.4SD)	41.00	23x PE (-0.5SD)
SVI	BUY	9.55	12x PE (-0.2SD)	11.00	14.5x PE (+0.5SD)

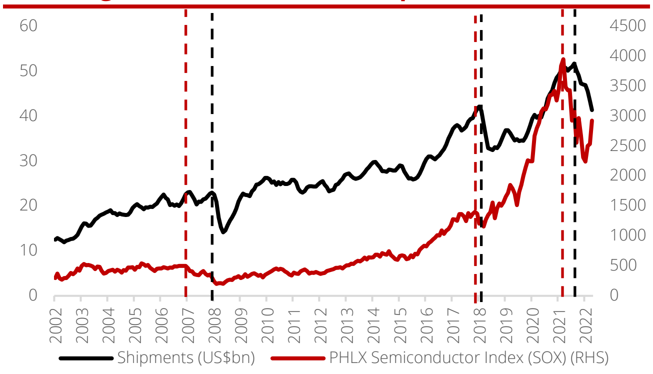
Source: DBSVTH

Positioning ahead of industry trough

Stock market moves ahead of industry. Traditionally, the stock market tends to move ahead of the industry. Based on the historical trend, the gap between the industry and the stock market is usually less than a year. Using the semiconductor industry as a gauge, the SOX started its downtrend in January 2022 while the current peak for semiconductor shipment data was in May 2022. We can expect another 10% to 30% downside in semiconductor shipment data *(refer to chart on page 4: More downside to global semiconductor shipments)* over the next few months but the uptrend should remain intact. Based on this analysis, we can look to position ahead of the anticipated recovery in the industry.

Semiconductor to recover ahead of the downstream plays. Within the whole technology value chain, we would expect the semiconductor segment to recover ahead of the downstream plays, given that the upstream semiconductor plays are more niche and at the front end of the value chain while the downstream plays are more diversified in terms of product mix and players. Barriers to entry are also lower, meaning there is more competition.

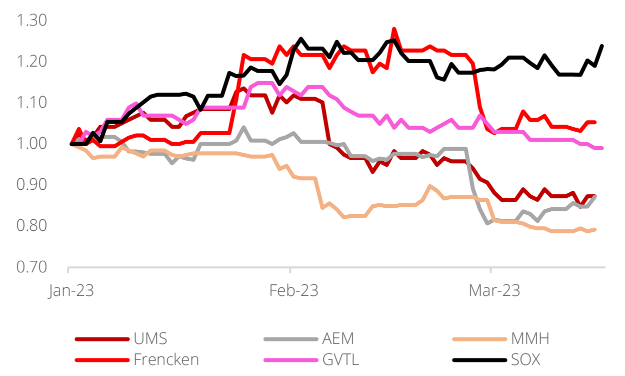
SOX vs. global semiconductor shipments



Source: SIA, CEIC, Refinitiv; DBS Bank

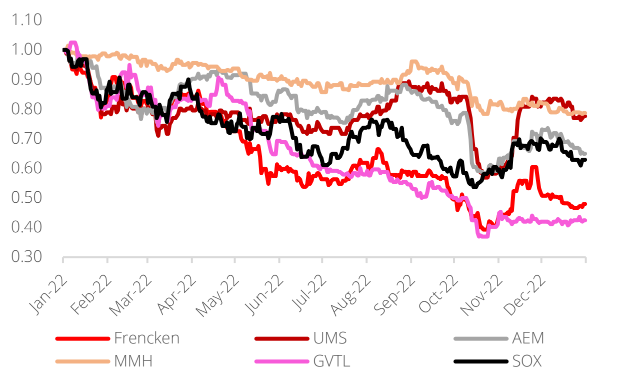
SG tech underperformed global peers YTD. Despite the outperformance in the SOX YTD, SG tech stocks have generally underperformed their global peers. In 2022, the performance was more inline.

Relative performance YTD – upstream



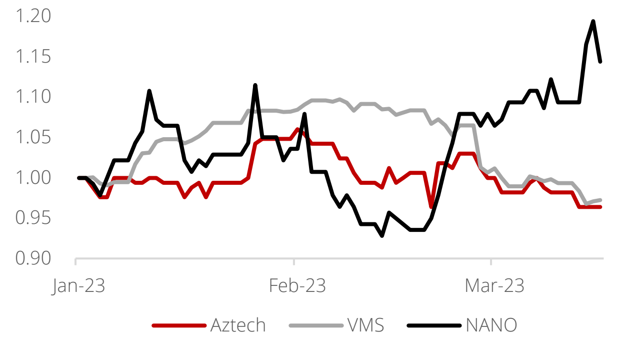
Source: DBS Bank; Bloomberg Finance L.P.

Relative performance 2022 – upstream



Source: DBS Bank; Bloomberg Finance L.P.

Relative performance YTD – downstream



Source: DBS Bank; Bloomberg Finance L.P.

Stock Picks

In the semiconductor space, our pick are UMS and Grand Venture. Downstream, we prefer Venture. For Thailand, we like SVI PCL.

Singapore

UMS (BUY, TP: S$1.53, 47% upside)
Riding on longer term growth trend for the semiconductor industry. An integrated original equipment manufacturer (OEM) for front-end semiconductor equipment, providing both component manufacturing and sub-assembly services, primarily servicing key clients such as Applied Materials (AMAT). UMS is riding on the long-term growth trend for the semiconductor industry, driven by the structural change in the industry.

New customer to fill the gap of the near-term weakness in semiconductor industry. UMS's customer diversification strategy has finally borne fruit with the recent onboarding of a new customer in the front-end semiconductor space. We expect this muted growth phase that was a result of the macro headwinds, to be partially offset by the contribution from this new customer. Expected contribution in 2H23 could still be low, but this should gradually increase as the group goes into mass production. We expect this customer to contribute significantly to the group in three to four years' time.

Beneficiary of trade diversification; new plant to ramp up production in 2023. With its main production facilities in Malaysia, UMS is a key beneficiary of trade diversification. On the back of the China-US trade tensions, which were worsened by the recent export ban by the US for exports to China, more companies are looking to diversify their manufacturing footprints. The group has constructed a new plant in Penang and production is expected to ramp up this year.

BUY, TP S$1.53. We have also rolled forward to FY23F/FY24F earnings and pegged our valuation to the 4-year average PE of 10x (previously 11x). Upside could come from:- 1) Stronger recovery in semiconductor equipment sales; 2) Client diversification. UMS is currently in discussions with other potential customers. Prospects are good as more players intend to diversify and move more operations to Penang, and 3) Earnings-accretive M&As.

Key Risks to Our View: Key client risk. Historically, c.90% of UMS's revenues on average was attributed to Applied Materials (AMAT). Disruptions to the relationship or weakness in AMAT's end-demand could significantly weigh on UMS's performance.

Grand Venture (BUY, TP: S$0.60, 20% upside)

High-growth company with a strong blue-chip customer base. Over the past five years, GVT has delivered strong revenue and earnings growth with a CAGR of 34% and 30%, respectively. GVT also serves a blue-chip customer base – in the semiconductor back-end space, they serve four of the top six; in the analytical life sciences segment, they serve three of the top 10. The products that GVT supplies are made according to certain product specifications, thus its customer base tends to be sticky in nature.

Significant contributions from the front-end semiconductor space remain a crucial catalyst. GVT has successfully onboarded two new semiconductor front-end customers and is currently working on the first article inspection process. Contributions from front-end customers are likely to be meaningful in FY24 after the production ramp-up in 2H23. In addition, GVT is also in talks with two additional front-end semiconductor customers, as it seeks to penetrate further into the front end.

Still a promising, grand venture as the long-term semiconductor uptrend remains intact. Notwithstanding near-term volatility, the semiconductor industry is well poised for growth owing to the push towards digitalisation. McKinsey projects that the semiconductor industry will become a trillion-dollar industry by 2030. The long-term semiconductor outlook looks bright, which should benefit GVT, as more than half of its revenue comes from the semiconductor segment. The other segments that GVT has diversified into should remain resilient, which should help it cushion semiconductor weaknesses in the near term

Maintain BUY; TP S$0.60. Our target price is based on 12.0x FY23-24F earnings, which is slightly below the historical mean. Our target price is based on 12.0x FY23-24F earnings, which is slightly below the historical mean. We roll over our valuations to FY23-24F earnings to better reflect GVT's earnings potential from its front-end expansion.

Key risks to our view: Delay in front-end expansion, prolonged chip glut, and macro weakness

Venture (BUY, TP: S$20.10, 21% upside)

Differentiating technology capabilities set it apart from peers. As a leading global provider of technology services, products, and solutions, Venture is best known for its superior and differentiating capabilities in engineering, manufacturing, and R&D, and providing high-mix, high-value, and complex manufacturing. With its diversified product mix and blue-chip customer base, Venture is in a sweet spot to capture new opportunities in the emerging technology domains.

Not immune to macroeconomic slowdown in the near term; longer term growth strategies in place. Going forward, Venture will continue to invest in the development of new differentiating capabilities in multiple technology domains to pave the way for future growth. Key areas of focus include domains with structural long-term growth potential such as life sciences, medical, and healthcare. However, in the near term, the group is not immune to the macroeconomic slowdown that has affected demand, though Venture could be less affected than its peers, given its exposure to higher end consumer products where demand is less volatile. Furthermore, Venture's products, especially in life sciences, healthcare & wellness, and medical, also have a longer shelf life.

Strong cash position to support dividend and target next phase of growth. A strong net cash position of S$812.6m as at end-December 2022 with no debt would support at least a repeat of the 75 Scts DPS for FY22, which works out to an attractive yield of c.4%. Net cash per share works out to c.S$2.80. A strong war chest also enables the group to capture new opportunities for the next phase of growth.

Maintain BUY and target price of S$20.10, pegged to a five-year average PE of c.15x on blended FY23F/FY24F earnings. Key catalysts include strong recovery in demand and more new products in mass production.

Key Risks to Our View: Weakening client or global growth prospects. A broad global slowdown is likely to impact Venture due to its vulnerability to business cycles. Potential weakening of clients' end-demand and/or the US Dollar (USD) could dampen revenue growth. Slowdown in supply chain recovery pace.

Thailand

SVI PCL (BUY, TP: Bt11.00, 16% upside)

Among the top 40 EMSs worldwide. SVI is among the world's top 40 electronics manufacturing service (EMS) providers and focuses on high-complexity and medium-volume customers. SVI supplies complete electronics box builds and components to its customers in a variety of industries such as communication and network (40%), industrial control (27%), audio/video (8%), automotive (7%), medical (7%), microelectronics (5%), etc. Most of the company's clients are from Europe (56% of 2022 sales) and the US (10%), and the rest are from other countries, e.g., Japan, China, etc.

Five-year revenue CAGR of 20% targeted between 2022-27. Management targets revenue to grow by a 20% CAGR to hit US$2bn in 2027, from US$740m in 2022. This should be supported by organic growth from existing customers (10%-12%), new market segments, and an introduction of its own brand products related to the EV and 5G segments. In the near term, SVI targets its revenue to grow 15% – to US$850m in 2023 – with an estimated gross margin of 9.0%-9.5%.

A potential beneficiary of trade diversion from China. SVI's operations span across Asia and Europe with manufacturing facilities in Thailand, Cambodia, Slovakia, Austria, and Hungary. Trade diversions caused by the US-China trade tensions and China's zero-COVID policy during the pandemic will likely benefit SVI. Its Thailand and Cambodia plants could be target locations for a shift of orders away from China. In fact, the company managed to secure a few customers from China, one of which will be among its top five customers this year.

Reiterate BUY with a TP of Bt11. The stock is now trading at an attractive 2023 PE of 12.6x, the lowest in the sector. Our TP is based on a 14.5x PE, or +0.5SD of its historical average PE.

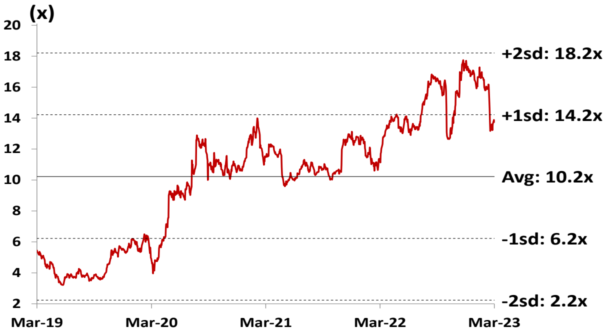
Key data for stocks in our coverage

Company	Price 16 Mar	12 mth Target Price	Target Return	Mkt Cap (US$m)	Rcmd	PER 22 (x)	PE 23F (x)	PE 24F (x)	EPS Gth 23F (%)	EPS Gth 24F (%)	Div Yid 23F (%)	P/BV 22A (x)	ROE 23F (%)
Singapore													
AEM Holdings	2.95	2.00	-32%	662	SELL	7.0	14.3	12.0	-50.7	19.3	1.8	1.8	12.3
Aztech	0.81	1.15	43%	457	BUY	9.2	4.9	4.1	89.0	19.3	6.2	2.2	38.7
Frencken	1.00	1.09	9%	314	HOLD	8.2	7.7	7.0	6.0	10.9	3.9	1.1	12.8
Grand Venture	0.50	0.60	20%	125	BUY	12.7	11.2	9.0	13.5	24.8	1.8	1.4	12.2
Micro Mechanics	2.08	2.12	2%	214	FV	14.6	30.8	17.7	-52.7	73.9	6.7	5.0	17.6
UMS Holdings	1.04	1.53	47%	511	BUY	7.0	7.2	6.3	-2.6	14.4	4.9	2.0	25.7
Venture Corp	16.57	20.10	21%	3,564	BUY	13.0	12.8	12.2	1.7	4.9	4.5	1.7	12.9
Nanofilm	1.58	1.33	-16%	807	HOLD	24.9	22.1	18.1	12.8	21.9	0.9	2.6	11.3
Average						**12.1**	**13.9**	**10.8**	**2.1**	**23.7**	**3.8**	**2.2**	**17.9**
Thailand													
Delta Electronics Thai	970.00	508.00	-48%	35,079	SELL	79.2	70.9	60.8	17.6	16.6	0.5	22.2	28.2
Hana Microelectronics	50.50	45.00	-11%	1,197	FV	19.7	20.5	17.5	-15.7	17.1	1.9	1.7	8.3
KCE Electronics	45.25	41.00	-9%	1,578	FV	23.6	25.9	22.8	-8.9	13.4	2.3	4.1	15.0
SVI PCL	9.45	11.00	16%	594	BUY	11.6	12.6	10.6	-7.9	18.8	2.7	3.2	23.1
Average						**33.5**	**32.5**	**27.9**	**-3.7**	**16.5**	**1.9**	**7.8**	**18.7**

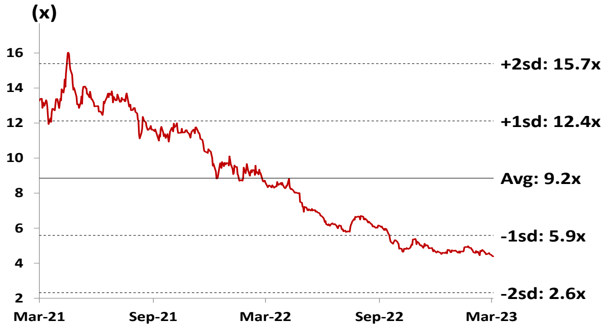
Source: DBS Bank; DBSVTH, Bloomberg Finance L.P.

Valuation – forward PE bands

AEM

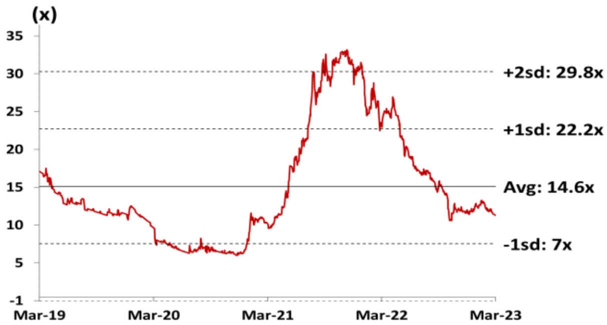


Aztech

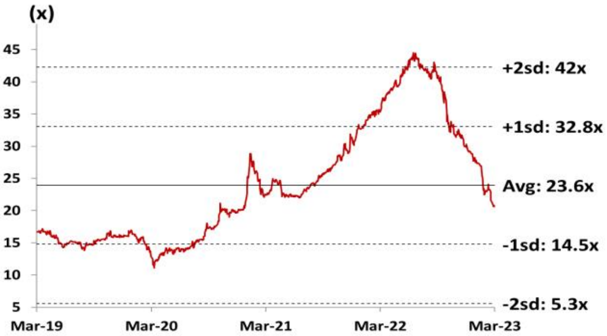


Frencken

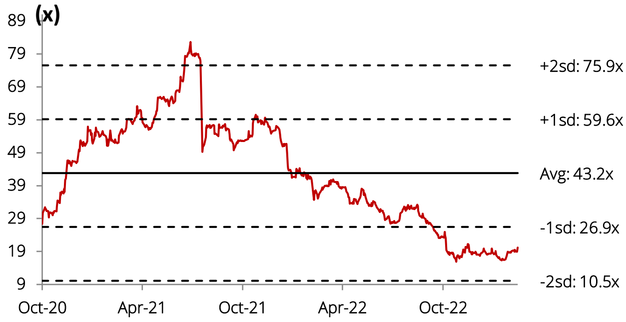
Grand Venture



Micro Mechanics



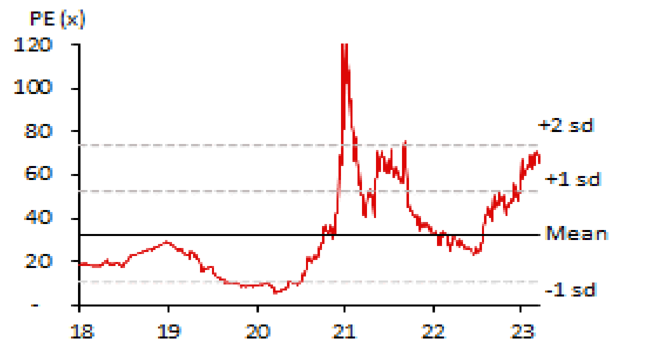
Nanofilm



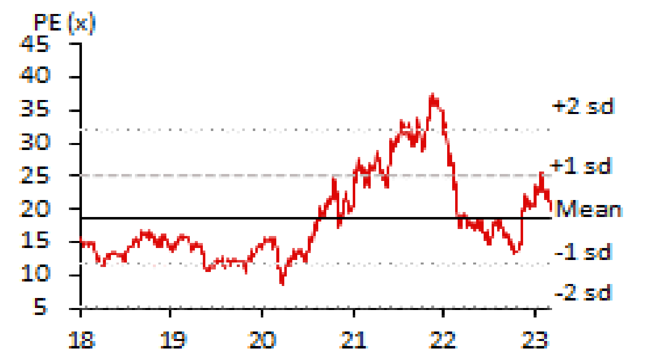
UMS

Venture

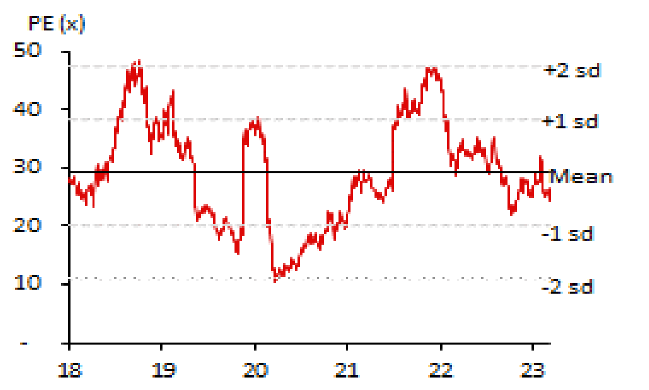
Delta Electronics (Thailand) Pcl



Hana Microelectronics



K.C.E. Electronics



SVI Pcl

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

DBS Bank, DBSVTH 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: 20 Mar 2023 06:32:46 (SGT)
Dissemination Date: 20 Mar 2023 06:58:31 (SGT)

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

GENERAL DISCLOSURE/DISCLAIMER

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

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

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

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

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

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

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

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

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

ANALYST CERTIFICATION

The research analyst(s) primarily responsible for the content of this research report, in part or in whole, certifies that the views about the companies and their securities expressed in this report accurately reflect his/her personal views. The analyst(s) also certifies that no part of his/her compensation was, is, or will be, directly or indirectly, related to specific recommendations or views expressed in the report. The research analyst (s) primarily responsible for the content of this research report, in part or in whole, certifies that he or his 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, DBS Vickers Securities (Singapore) Pte Ltd, DBSVUSA, or their subsidiaries and/or other affiliates have proprietary positions in AEM Holdings, Venture Corporation, Nvidia Corporation, Advanced Micro Devices Inc, Applied Materials Inc, Lam Research Corp, Analog Devices Inc, Broadcom Ltd, Texas Instruments Inc, Qualcomm Inc, Intel Corp recommended in this report as of 28 Feb 2023.

Compensation for investment banking services:

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

Disclosure of previous investment recommendation produced:

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

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

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

RESTRICTIONS ON DISTRIBUTION

General	This report is not directed to, or intended for distribution to or use by, any person or entity who is a citizen or resident of or located in any locality, state, country or other jurisdiction where such distribution, publication, availability or use would be contrary to law or regulation.
Australia	This report is being distributed in Australia by DBS Bank Ltd, DBS Vickers Securities (Singapore) Pte Ltd ("DBSVS") or DBSV HK. DBS Bank Ltd holds Australian Financial Services Licence no. 475946. DBS Bank Ltd, DBSVS and DBSV HK are exempted from the requirement to hold an Australian Financial Services Licence under the Corporation Act 2001 ("CA") in respect of financial services provided to the recipients. Both DBS and DBSVS are regulated by the Monetary Authority of Singapore under the laws of Singapore, and DBSV HK is regulated by the Hong Kong Securities and Futures Commission under the laws of Hong Kong, which differ from Australian laws. Distribution of this report is intended only for "wholesale investors" within the meaning of the CA.
Hong Kong	This report has been prepared by a personnel of DBS Bank Ltd, who is not licensed by the Hong Kong Securities and Futures Commission to carry on the regulated activity of advising on securities in Hong Kong pursuant to the Securities and Futures Ordinance (Chapter 571 of the Laws of Hong Kong). This report is being distributed in Hong Kong and is attributable to DBS Bank (Hong Kong) Limited ("DBS HK"), a registered institution registered with the Hong Kong Securities and Futures Commission to carry on the regulated activity of advising on securities pursuant to the Securities and Futures Ordinance (Chapter 571 of the Laws of Hong Kong). DBS Bank Ltd., Hong Kong Branch is a limited liability company incorporated in Singapore. This report has been prepared by an entity(ies) which is not licensed by the Hong Kong Securities and Futures Commission to carry on the regulated activity of advising on securities pursuant to the Securities and FuturesOrdinance (Chapter 571 of the Laws of Hong Kong). This report is being distributed in Hong Kong and is attributable to DBS Bank (Hong Kong) Limited ("DBS HK"), a registered institution registered with the Hong Kong Securities and Futures Commission to carry on the regulated activity of advising on securities pursuant to the Securities and Futures Ordinance (Chapter 571 of the Laws of Hong Kong). DBS Bank Ltd., Hong Kong Branch is a limited liability company incorporated in Singapore. For any query regarding the materials herein, please contact Dennis Lam (Reg No. AH8290) at dbsvhk@dbs.com
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 Bank Ltd which is regulated by the Monetary Authority of Singapore. This report is disseminated in the United Kingdom by DBS Bank Ltd, London Branch ("DBS UK"). DBS UK is authorised by the Prudential Regulation Authority and is subject to regulation by the Financial Conduct Authority and limited regulation by the Prudential Regulation Authority. Details about the extent of our regulation by the Prudential Regulation Authority are available from us on request. In respect of the United Kingdom, this report is solely intended for the clients of DBS UK, 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 UK, 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 Bank Ltd. DBSVUSA did not participate in its preparation. The research analyst(s) named on this report are not registered as research analysts with FINRA and are not associated persons of DBSVUSA. The research analyst(s) are not subject to FINRA Rule 2241 restrictions on analyst compensation, communications with a subject company, public appearances and trading securities held by a research analyst. This report is being distributed in the United States by DBSVUSA, which accepts responsibility for its contents. This report may only be distributed to Major U.S. Institutional Investors (as defined in SEC Rule 15a-6) and to such other institutional investors and qualified persons as DBSVUSA may authorize. Any U.S. person receiving this report who wishes to effect transactions in any securities referred to herein should contact DBSVUSA directly and not its affiliate.
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 Regional Research Offices

HONG KONG
DBS (Hong Kong) Ltd
Contact: Dennis Lam
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: Paul Yong
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, Thailand