16 January 2023

Technology | Technology

Technology

Bracing For a Long Cold Winter

Neutral (Maintained)

Stocks Covered	8
Rating (Buy/Neutral/Sell):	4 / 4 / 0
Last 12m Earnings Revision Trend:	Negative

- **Keep NEUTRAL, Top Picks: CTOS Digital (CTOS) and Coraza Integrated Technology (CORAZA).** We believe the semiconductor market will remain in the doldrums in 1H23, as inventory correction takes place amid demand uncertainty. Non-semiconductor counters should see relatively brighter prospects given the domestic-focused business and full reopening of borders. Sector valuation is rather fair, at its 5-year mean, capped by elevated bond yields and quantitative tightening cycle. Still, derailed earnings remain likely.
- **Slowdown to persist.** An inflection of a slowdown for the semiconductor has emerged since Aug 2022 and from the 3Q22 results and outlook guidance. While the reopening of China could spur demand, the weakness is expected to carry through in the coming quarters amid weakening demand and inventory corrections. In fact, some of the major foundries showed sequential weakness as 2H is typically seasonally stronger. Notably, WSTS recently lowered its forecasts for the second time in a row, cutting its 2022F and 2023F growth by -8.4% and -16.0% to USD580.1bn and USD556.6bn and predicting global semiconductor sales at a 4.1% contraction for 2023.
- **The tech "Cold War".** With protectionism and self-sufficiency as the remedies for major economic superpowers in the semiconductor industry, a further divergence in the supply chain will continue to take place. This could potentially cause overcapacity in the long run and drive up prices for electronics devices, given the loss of manufacturing efficiencies and higher production costs. Malaysia, being a neutral ground in South-East Asia, stands to gain from the supply chain and relocation efforts by multinational corporations to diversify out of China.
- **Outlook**. Overall guidance from chip-related companies is less bullish for the near term, clouded by the worsening macroeconomic outlook and low consumer confidence – a few bright spots lie in vehicle electrification and high-performance computing-related chips. Non-semiconductor players should see brighter prospects, given the domestic-focused business and full reopening of borders. The main challenges are labour and material shortages, demand uncertainties, and geopolitical tensions. Still, their solid balance sheets and relatively healthy USD/MYR (despite our in-house forecasts of the MYR strengthening) should cushion exporters from the demand slowdown.
- **Sector valuation is now fair,** at its 5-year mean of 21x-22x, given the potential earnings risks – albeit – offset by slowing inflation pressure and being at the tail-end of the rate hike cycle. We advocate investors to seek names with exposure to front-end players, beneficiaries of the trade diversion and certain engineering support services players. CTOS may stand to benefit from the rotational play out from the slowdown of semiconductor names for its leading position and growth prospects – on the higher demand for its various digital solutions, analytical insights, and exposure to fintech. We also like CORAZA for its exposure to front-end equipment and robust demand for engineering services in Penang, expansion plans and healthy orderbook.
- **Upside/downside risks:** i) Strengthening/softening smartphone sales, ii) favourable/unfavourable FX movements, iii) strong/weak consumer demand, iv) obsolescence of technology, and v) intensifying geopolitical conflicts. The sector's ESG scores range from 2.9 to 3.3, with no major ESG risk concerns.

Company Name	Rating	Target (MYR)	% Upside (Downside)	P/E (x) Dec-23F	P/B (x) Dec-23F	ROAE (%) Dec-23F	Yield (%) Dec-23F
Coraza Integrated Technology	Buy	0.91	11.4	17.6	2.8	16.6	1.6
CTOS Digital	Buy	1.92	30.5	32.3	6.1	19.6	1.9
Datasonic Group	Neutral	0.52	11.7	17.9	3.7	21.1	3.9
GHL Systems	Neutral	0.88	(5.9)	34.8	1.9	5.6	-
Globetronics Technology	Neutral	1.09	(5.2)	17.9	2.4	13.8	4.7
Inari Amertron	Neutral	2.60	(3.0)	25.3	3.8	15.2	3.4
Malaysian Pacific Industries	Buy	31.70	(2.1)	21.9	2.9	14.1	1.3
Unisem (M)	Buy	3.39	16.0	17.7	1.9	11.3	2.7

Source: Company data, RHB

Top Picks

Top Picks	Target Price
CTOS Digital (CTOS MK) – BUY	MYR1.92
Coraza Integrated Technology (CORAZA MK) – BUY	MYR0.91

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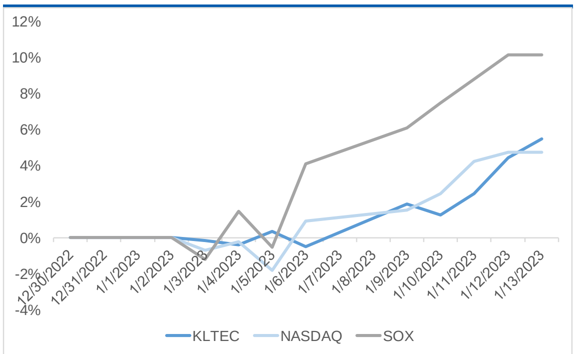
KLTEC vs NASDAQ vs SOX (YTD performance)



Source: Company data, RHB

Bracing For a Long Cold Winter

3Q22 results recap

Signs of a slowdown have begun to emerge among the companies within the semiconductor space, with three out of four OSAT companies booking slower-than-expected results in 3Q22. With the exception of Unisem (M) (UNI MK, BUY, MYR3.39), all OSAT players recorded a YoY decline in earnings, affected by lower loadings and decreasing economies of scale amid the slowdown in the demand for consumer electronics. CORAZA's (CORAZA MK, BUY, TP: MYR0.91) results slightly missed despite showing 37% and 51% in earnings and revenue growth YoY in 3Q22 due to margin compression from the hike in input costs and additional set-up costs incurred for its rented facility.

The only results that were above expectations came from CTOS Digital (CTOS MK, BUY, TP: MYR1.92), which almost doubled its 3Q22 core PATAMI, supported by strong growth in all business segments and contributions from various acquisitions. Meanwhile, Datasonic's (DSON MK, NEUTRAL, TP: MYR0.52) and GHL Systems' (GHLS MK, BUY, TP: MYR0.88) results were in line, with better YoY numbers. The strong performance from DSON was supported by increasing orders for passport-related and MyKad-related solutions. GHLS, on the other hand, was buoyed by stronger electronic data capture (EDC) terminal sales and a stronger merchant discount rate (MDR) trend for the transaction payment acquisition (TPA) segment and better contribution from overseas.

The sector's 3Q22 aggregate core PATAMI grew 5.6% YoY but contracted 2.6% QoQ, with five out of eight companies reporting solid growth – the significant better numbers from DSON and CTOS offset the OSAT players' weakness. There were no changes in our ratings following this quarter's results review. We cut sector earnings forecasts by 9.5%, mainly on the revisions made on estimates for Inari Amertron (INRI MK, NEUTRAL, TP: MYR2.60) and Malaysian Pacific Industries (MPI MK, BUY, TP: MYR31.70) as we expect to see further weaknesses in the following quarter as the sector continues to be undermined by slowing demand. Overall guidance from the companies under our coverage was mixed, with the main challenges identified as labour shortages, prolonged inflationary pressure, demand uncertainties, and geopolitical tensions.

Figure 1: Sector core earnings

(MYRm)	3Q21	2Q22	3Q22	QoQ (%)	YoY (%)	9M21	9M22	YoY (%)	Comments
Coraza Integrated Technology	3.7	3.3	4.0	19.5	6.8	8.4	11.4	35.6	Below
CTOS Digital	13.3	21.8	26.4	20.7	97.5	32.4	64.5	99.1	Above
Datasonic Group*	1.0	12.0	24.8	107.0	2471.8	(4.7)	36.8	Nm	In Line
GHL Systems	6.0	4.9	7.1	44.7	18.4	20.5	17.4	(15.5)	In Line
Globetronics	16.7	11.1	11.4	2.7	(31.9)	34.5	31.4	(8.7)	Below
Inari Amertron**	105.6	85.8	100.5	17.2	(4.8)	105.6	100.5	(4.8)	Below
MPI**	79.4	78.5	49.7	(36.7)	(37.4)	79.4	49.7	(37.4)	Below
Unisem	39.9	70.6	56.7	(19.7)	42.2	142.2	179.1	25.9	In Line
Total	**265.6**	**288.1**	**280.6**	**(2.6)**	**5.6**	**418.4**	**490.9**	**17.3**	

*Note: *FYE (Mar) and **FYE (Jun) refers to 2QFY23F and 1QFY23F*
Source: RHB, Company data

Slowdown to persist

Global semiconductor sales growth has slowed down in recent months, reaching an inflection point in Aug 2022 – ending 30 months of consecutive growth. Notably, MoM sales decreased in Aug 2022 by the largest percentage since Feb 2019, with largest weakness seen in China, which recorded the sharpest declines. While the reopening of China could potentially bring some optimisms on the underlying demand stemming from an improved macro condition, the weakness is expected to carry through in the coming quarters amid weakening demand and inventory corrections globally. Similar weakness in both the outlook and guidance observed from Top 10 foundries globally, which showed a QoQ decline despite 2H being the seasonally stronger for most semiconductor players. TrendForce expects the weakness to intensify into 4Q22 and beyond amid weak consumer confidence and slow inventory consumption.

Notably, WSTS recently lowered its forecasts for the second time in a row, cutting 2022F and 2023F growth by -8.4% and -16% to USD580.1bn and USD556.6bn. A 4.1% contraction in global semiconductor industry sales has been pencilled in for 2023 as weakness in ICs is expected to continue, before seeing a recovery in 2H23. On the other hand, sensors, optoelectronics and discrete related chips are expected to grow in 2023.

Similarly, smartphone cycle is also expected to be lukewarm going into 2023 with the usual device refresh cycle and upgrading to 5G device being the main drivers. According to IDC, 3Q22 worldwide smartphone shipments declined for the fifth consecutive quarter by 9.7% to 301.9m units, marking the largest-ever decline in 3Q as demand continued to be undermined by economic uncertainties. It sees a steeper shipment decline for 2022 and softer recovery in 2023, with the latest forecast revision now at a 9.1% decline in 2022 and a mild recovery of 2.8% in 2023 after slashing the previous forecasts by 5% or 70m units due to the rising costs and reduced demand.

Meanwhile, SEMI expects global fab equipment spending for front-end facilities to increase by 8.3% YoY to an all-time high of USD94.8bn in 2022 but to contract by 16.8% to USD78.8bn in 2023 before a rebound in 2024. While the multi-year expansion for foundry was pencilled in, driven by protectionism policies by major governments around the world, a delay or dial back in scale maybe on the cards given the pace of slowdown in the semiconductor market currently. Back-end equipment segment sales are also expected to be challenging, with the expectation to slow to USD7.6bn in 2022 and a further 7.3% slip to USD7.1bn in 2023. Similarly, assembly and packaging equipment sales are forecasted to drop by 14.9% to USD6.1bn in 2022 and 13.3% to USD5.3bn in 2023.

Domestically, total exports of electrical and electronic (E&E) products continued to show strength by growing 32.1% YoY in Nov 2022 to MYR53.2bn, while YTD exports value grew 45.3% YoY to MYR541.7bn, buoyed by robust demand for semiconductors and ICs, telecommunication equipment and parts as well as benefiting from the trade diversion.

Figure 2: Global Top 10 foundry's revenue

Ranking	Company	Revenue			Market Share	
		3Q22	2Q22	QoQ	3Q22	2Q22
1	TSMC	20,163	18,145	11.1%	56.1%	53.4%
2	Samsung	5,584	5,588	-0.1%	15.5%	16.4%
3	UMC	2,479	2,448	1.3%	6.9%	7.2%
4	GlobalFoundries	2,074	1,993	4.1%	5.8%	5.9%
5	SMIC	1,907	1,903	0.2%	5.3%	5.6%
6	HuaHong Group	1,200	1,056	13.6%	3.3%	3.1%
7	PSMC	561	656	-14.4%	1.6%	1.9%
8	VIS	438	520	-15.7%	1.2%	1.5%
9	Tower	427	426	0.2%	1.2%	1.3%
10	Nexchip	371	478	-22.5%	1.0%	1.4%
Total		35,205	33,213	6.0%	97%	96%

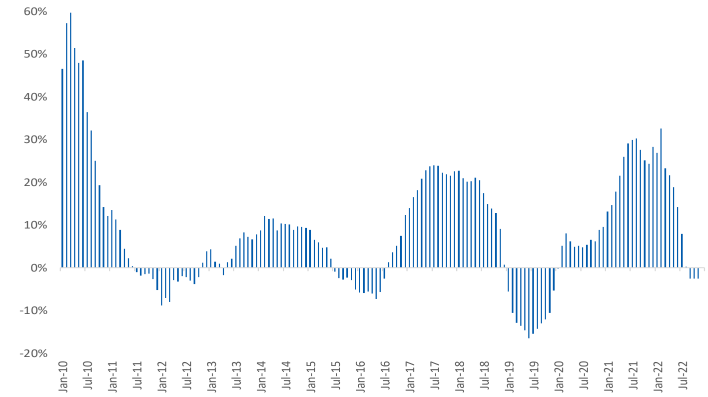
Source: TrendForce

Figure 3: Worldwide semiconductor market forecast

Fall 2022	Amounts in US$M			Year on Year Growth in %		
	2021	2022	2023	2021	2022	2023
Americas	121,481	142,138	143,278	27.4	17.0	0.8
Europe	47,757	53,774	54,006	27.3	12.6	0.4
Japan	43,687	48,064	48,280	19.8	10.0	0.4
Asia Pacific	342,967	336,151	311,005	26.5	-2.0	-7.5
Total World - $M	555,893	580,126	556,568	26.2	4.4	-4.1
Discrete Semiconductors	30,337	34,098	35,060	27.4	12.4	2.8
Optoelectronics	43,404	43,777	45,381	7.4	0.9	3.7
Sensors	19,149	22,262	23,086	28.0	16.3	3.7
Integrated Circuits	463,002	479,988	453,041	28.2	3.7	-5.6
Analog	74,105	89,554	90,952	33.1	20.8	1.6
Micro	80,221	78,790	75,273	15.1	-1.8	-4.5
Logic	154,837	177,238	175,191	30.8	14.5	-1.2
Memory	153,838	134,407	111,624	30.9	-12.6	-17.0
Total Products - $M	555,893	580,126	556,568	26.2	4.4	-4.1

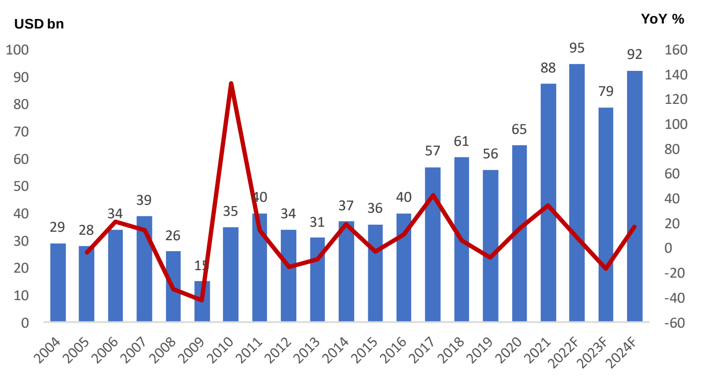
Source: World Semiconductor Trade Statistics

Figure 4: Monthly global semiconductor sales (YoY growth)



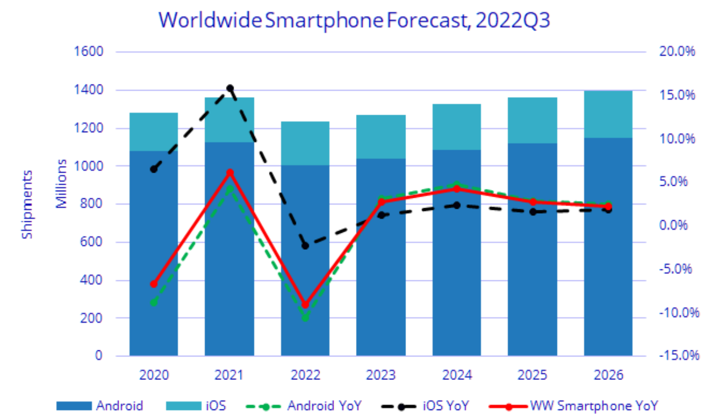
Source: Bloomberg, RHB. *3-month moving average

Figure 5: Fab equipment spending (USDbn)



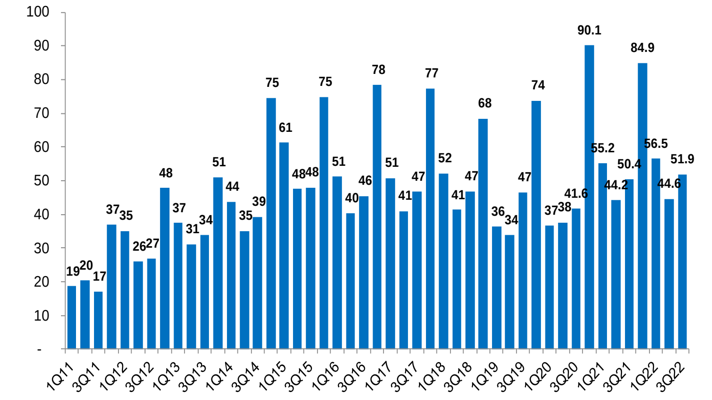
Source: SEMI, RHB

Figure 6: Worldwide smartphone shipment forecast



Source: International Data Corporation (IDC)

Figure 7: Quarterly shipments of Apple's iPhones (m units)



Source: IDC

The Tech "Cold War"

With protectionism and self-sufficiency as the remedies for major economic superpowers in the semiconductor industry, a further divergence in the supply chain will continue to take place. This could potentially cause overcapacity in the long run and drive up prices for electronics devices, given the loss of manufacturing efficiencies and higher production costs. The deepening restrictions and conflict between the US and China may spur European and Asian players to develop their products and sell to the Chinese. Malaysia, a neutral ground in South-East Asia, stands to gain from the supply chain and relocation efforts by multinational corporations to diversify out of China.

On 7 Oct, the US announced a fresh set of restrictions on the sale of AI chips to China, causing a further disruption to the sector – a series of moves to slow China's rise in the semiconductor space that have started since former US President Donald Trump's tenure. The recent enacted Creating Helpful Incentives to Produce Semiconductors (CHIPS) and Science Act of 2022 in Aug 2022 aims to provide USD52.7bn for US semiconductor research, development, manufacturing, and workforce development. This includes USD39bn in manufacturing incentives, including USD2bn for the legacy chips used in automobiles and defence systems, USD13.2bn in R&D and workforce development, and USD500m to provide for international information communications technology security and semiconductor supply chain activities. It also provides a 25% investment tax credit for capital expenses for the manufacturing of semiconductors and related equipment.

The new enacted law ensures the US will strengthen domestic semiconductor manufacturing, design, and research to maintain scientific and technological edge and reinforce the US chip supply chain, as well as counter the rise of China at the same time. According to Semiconductor Industry Association (SIA), the share of modern semiconductor manufacturing capacity located in the US has eroded from 37% in 1990 to 12% today as other countries have invested ambitiously in chip manufacturing incentives and the globalisation trend that continues to cause the paradigm shift into borderless trade in search for cost efficiency and economic value.

Figure 8: CHIPS and Science Act 2022

Agency/Program	Five-Year Authorization
Department of Commerce (Commerce)	**$50 billion total including:**
• Incentives program to bolster domestic manufacturing capacity including funds for:	
• Legacy chip production	$2 billion
• Industry loans and loan guarantees	$6 billion
• Creation of National Semiconductor Technology Center, National Advanced Packaging Manufacturing Program, and associated research and workforce development programs	$11 billion
Department of State – Establishing a new program to coordinate the development of secure and trusted emerging technologies with foreign governments	$500 million
National Science Foundation (NSF) – Funding to promote growth of the domestic semiconductor workforce	$200 million
Other Programs	
• CHIPS for America Defense Fund (sponsoring university-based prototyping of semiconductor technologies, including for defense applications)	$2 billion
• Wireless Supply Chain Innovation (sponsoring leap-ahead technologies that spur movement towards open-architecture and software-based wireless technologies)	$1.5 billion
• Advanced tax credit for companies investing in semiconductor manufacturing	~ $24 billion*

Source: Morrison & Foerster

Strategy

Overall guidance from chip-related companies is less bullish for the near term, clouded by weakening demand for consumer products, as consumers are affected by spiking and rampant inflation, geopolitical tensions, the impact of China's lockdowns, and weaknesses in Europe. A few bright spots lie in vehicle electrification, servers, and high-performance computing-related chips. However, non-semiconductor players should see brighter prospects, given the domestic-focused business and full reopening of borders. The main challenges are labour and material shortages, demand uncertainties, and geopolitical tensions. Their solid balance sheets (net cash positions) and relatively healthy USD/MYR should cushion exporters from the demand slowdown. Nonetheless, our in-house forecast for a weakening USD against the MYR to take place gradually to 4.20-4.30 by end-2023 may not bode well for the sector.

Sector valuation is now rather fair, at its 5-year mean of 21x-22x, given the potential earnings risks – albeit, offset by slowing inflation pressure, and the tail-end of the rate hike cycle. We believe the sector valuation will remain capped by elevated bond yields and quantitative tightening cycle. We advocate investors to seek names with exposure to the front-end players, as their outlook remains solid, eg certain engineering support services players. Elsewhere, orders for chips related to automotive, servers, and high-performance computing remain relatively solid. This benefits players that focus on these sub-segments, as the weaknesses are prevalent in consumer products, smartphones, and Internet of Things (IoT) devices, where inventory corrections are taking place.

Sector Top Picks: We like CTOS for its domestic-focused business, leading position, and growth prospects that track the expansion of the digital economy – with higher demand for its various digital solutions, analytical insights, and exposure to fintech. In the smaller-cap space, we like CORAZA for its exposure to front-end equipment and healthy demand for engineering support services owing to the robust E&E ecosystem in Penang, as well as the company's solid growth path from expansion plans and healthy orderbook.

Upside/downside risks for the sector: i) Strengthening/softening smartphone sales, ii) favourable/unfavourable FX movements, iii) strong/weak consumer demand, iv) obsolescence of technology, and v) intensifying geopolitical conflicts. The sector's ESG scores range from 2.9 to 3.3, with no major ESG risk concerns.

Figure 9: Peer comparison

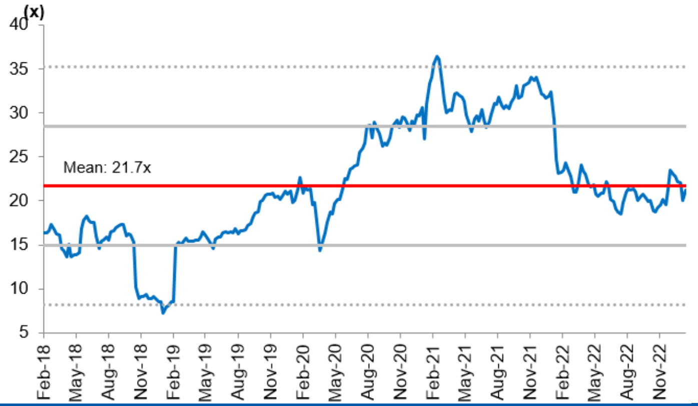
	Ticker	Last price (MYR)	Mkt cap (USDm)	P/E (x) FY23F	P/E (x) FY24F	EPS growth (%) FY23F	EPS growth (%) FY24F	P/BV (x) FY23F	P/BV (x) FY24F	ROE (%) FY23F	DY (%) FY23F
Coraza Integrated Technology	CORAZA MK	0.815	81	15.5	12.3	53.5	25.1	2.4	2.1	16.6	0.0
CTOS Digital	CTOS MK	1.50	799	33.0	29.5	23.5	11.8	6.2	5.7	19.6	1.8
Datasonic Group*	DSON MK	0.47	307	22.2	16.8	512.1	31.9	3.9	3.6	17.8	3.1
GHL Systems	GHLS MK	0.70	244	26.0	22.1	19.8	17.8	1.4	1.3	5.6	0.0
Globetronics	GTB MK	1.15	178	17.9	16.0	7.8	11.8	2.4	2.3	13.7	4.5
Inari Amertron**	INRI MK	2.65	2,281	26.1	23.9	-2.6	9.2	3.3	3.2	14.8	3.2
Malaysian Pacific Industries**	MPI MK	33.74	1,548	27.8	19.3	-20.0	44.2	3.3	2.9	12.2	1.2
Unisem (M)	UNI MK	2.95	1,097	17.9	14.9	6.9	20.4	2.0	1.8	11.3	2.7
Sector average				**24.4**	**20.4**	**78.2**	**21.0**	**3.2**	**3.0**	**13.6**	**2.4**

*Note: * FYE (Mar), **FYE (Jun) referring to FY23F and FY24F*
Source: Bloomberg

Figure 10: Forward P/E for KLTEC vs NASDAQ vs SOX

Source: Bloomberg, RHB

Figure 11: KLTEC's 5-year P/E band



Source: Bloomberg, RHB

RHB Guide to Investment Ratings

Buy:	Share price may exceed 10% over the next 12 months
Trading Buy:	Share price may exceed 15% over the next 3 months, however longer-term outlook remains uncertain
Neutral:	Share price may fall within the range of +/- 10% over the next 12 months
Take Profit:	Target price has been attained. Look to accumulate at lower levels
Sell:	Share price may fall by more than 10% over the next 12 months
Not Rated:	Stock is not within regular research coverage

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