EQUITY RESEARCH - COMPANY REPORT

HANA MICROELECTRONICS   HANA TB
THAILAND / ELECTRONIC COMPONENT

HOLD
FROM BUY

TARGET PRICE	THB32.00
CLOSE	THB29.75
UP/DOWNSIDE	+7.6%
PRIOR TP	THB43.00
CHANGE IN TP	-25.6%
TP vs CONSENSUS	-21.5%

Weaker-than-expected demand

- Most customers are delaying orders to monitor Trump's trade tariff policies, implying potentially lower revenue in 4Q24-1Q25.
- HANA has decided to exit the Si business and put FT1's investment under review due to weak demand.
- Downgrade HANA to HOLD with a lower TP of THB32.

Trump's tariff policies on the radar

We have a negative view about yesterday's analyst meeting (19 Nov 2024), with two notable concerns: 1) most customers, especially in China, are delaying orders to monitor Trump's trade tariff policies at the beginning of 2025; and 2) the overall demand and selling prices of Silicon Carbide (SiC) are weakening more than expected, partly due to falling raw material prices and increased market supply. This could result in a longer time to reach break-even. However, the positive side is that HANA is negotiating multiple projects with both new and existing customers. If the trade environment improves, we expect a recovery in 2H25.

Exit Si business and review FT1's investment after weak demand

In addition, due to significant drops in Silicon (Si) selling prices caused by oversupply issues, HANA has decided to exit the Si business by signing an agreement with its Chinese partner to move machinery there and outsource production to reduce losses from this business. As for the FT1 project (a joint investment with PTT), which aims to produce wafers for SiC, the executive team has decided to reassess the market cautiously in light of weaker overall demand. The initial evaluation will take about six months.

## Cut 2024E-25E profit by 20-27% to reflect slower recovery

In the short term, we expect 4Q24 revenue to remain weak. However, with the Thai Baht weakening slightly, there may be a reversal of inventory write-downs made in 3Q24 due to a stronger Baht. Therefore, we project the gross margin will recover to 10% from 6.2% in 3Q24. We forecast 4Q24 core profit to recover q-q to THB262m, but it would drop by 9.8% y-y. As a result, we have cut 2024E-25E net profit by 20-27% to THB1.36b (-23% y-y) and THB1.67b (+24% y-y), respectively. Also, we expect profits in 1H25 to remain weak, with a recovery expected in 2H25.

Downgrade HANA to HOLD with a lower TP of THB32

We have revised our TP to THB32 after lowering the P/E multiple to 17x (-0.5 SD) from 22x to reflect a slower-than-expected recovery. Although the stock price has fallen by 25% over the past two months, reflecting a likely trough in core profit in 3Q24. Our new TP offers only a 6.6% upside, and our estimate still carries downside risks if the recovery does not materialize in 2H25, so we downgrade HANA to HOLD.

KEY STOCK DATA

YE Dec (THB m)	2023	2024E	2025E	2026E
Revenue	26,152	24,917	24,631	26,709
Net profit	1,761	1,357	1,675	1,956
EPS (THB)	1.99	1.53	1.89	2.21
vs Consensus (%)	-	(19.2)	(17.6)	(14.5)
EBITDA	3,752	3,023	3,676	4,055
Recurring net profit	2,009	1,152	1,675	1,956
Core EPS (THB)	2.27	1.30	1.89	2.21
Chg. In EPS est. (%)	-	(32.9)	(19.7)	(17.7)
EPS growth (%)	(23.8)	(42.7)	45.4	16.7
Core P/E (x)	13.1	22.9	15.7	13.5
Dividend yield (%)	3.4	2.3	2.9	4.5
EV/EBITDA (x)	5.0	6.3	4.9	4.4
Price/book (x)	0.9	0.9	0.9	0.8
Net debt/Equity (%)	(26.0)	(24.6)	(27.5)	(27.1)
ROE (%)	7.6	3.9	5.5	6.3
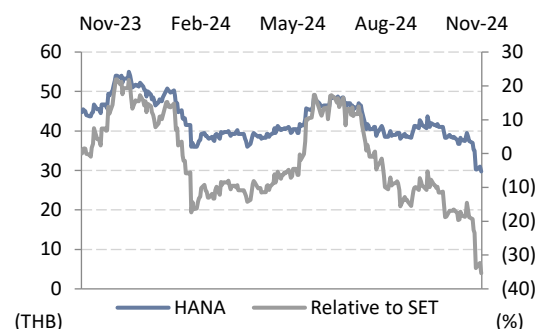
Share price performance	1 Month	3 Month	12 Month
Absolute (%)	(22.2)	(27.0)	(31.6)
Relative to country (%)	(20.6)	(34.8)	(33.7)
Mkt cap (USD m)			762
3m avg. daily turnover (USD m)			14.0
Free float (%)			58
Major shareholder		OMAC and related companies (29%)	
12m high/low (THB)			55.00/29.25
Issued shares (m)			885.36

Sources: Bloomberg consensus; FSSIA estimates

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Investment thesis

HANA is a leading EMS provider in Southeast Asia with over 45 years of experience. Since its inception in 1978, even though it is mainly a midstream producer, its strength has come from its diversification to several end products, such as telecommunications, computers, consumer products, automobiles, radio frequency identification (RFID), and medical products. It also has manufacturing bases in several countries while constantly developing new products, i.e., SiC, to catch up with industrial customer demands, particularly in EVs.

Company profile

HANA provides integrated electronic manufacturing services (EMS), including IC PCBA, RFID, and LCOS. It has seven manufacturing bases in Thailand, China, the U.S., Cambodia, and South Korea, with a total production area of 1.7m SQF and over 10,000 employees worldwide. At the end of 2023, revenue from PCBA ranked first (61% of total revenue), followed by IC (31%), RFID (6%), and SiC (2%).
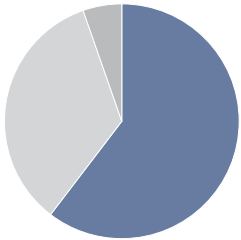
www.hanagroup.com

Principal activities (revenue, 2023)

- ■ PCBA - 60.4 %
- ■ IC - 34.3 %
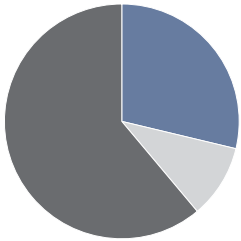- ■ IC Assemble (RFID / Microdisplay) - 5.3 %

Source: Hana Microelectronics

Major shareholders

- ■ OMAC and related companies - 28.7 %
- ■ LGT Bank (Singapore) Ltd - 10.2 %
- ■ Others - 61.1 %

Source: Hana Microelectronics

Catalysts

Potential catalysts for HANA's earnings growth in 2024 are 1) a recovery in the global economy and purchasing power, especially in China; 2) a decrease in raw material costs; and 3) a faster-than-expected capacity expansion.

Risks to our call

Downside and upside risks to our P/E-based TP include 1) a slower or faster-than-expected recovery in the global economy and purchasing power, 2) higher or lower-than-expected raw material costs, 3) the Baht strength or weakness, and 4) a higher minimum wage and labor shortages.

Event calendar

Date	Event
February 2025	4Q24 results announcement

Key assumptions

	2024E	2025E	2026E
USD total revenue (USD m)	708	746	809
SiC revenue (USD m)	24	26	32
FX rate (USD/THB)	35	33	33
THB revenue growth (%)	(4.7)	(1.1)	8.4
Gross margin (%)	9.9	12.0	12.5

Source: FSSIA estimates

Earnings sensitivity

- ■ For every THB1/USD increase, we estimate 2025 net profit to fall by 6.8%, and vice versa, all else being equal.

- ■ For every 0.5% increase in GPM, we estimate 2025 net profit to rise by 5.7%, and vice versa, all else being equal.

- ■ For every 0.2% increase in SG&A, we estimate 2025 net profit to fall by 1.3%, and vice versa, all else being equal.

- ■ For every 10% increase in labor cost, we estimate 2025 net profit to fall by 6.6%, and vice versa, all else being equal.

Source: FSSIA estimates
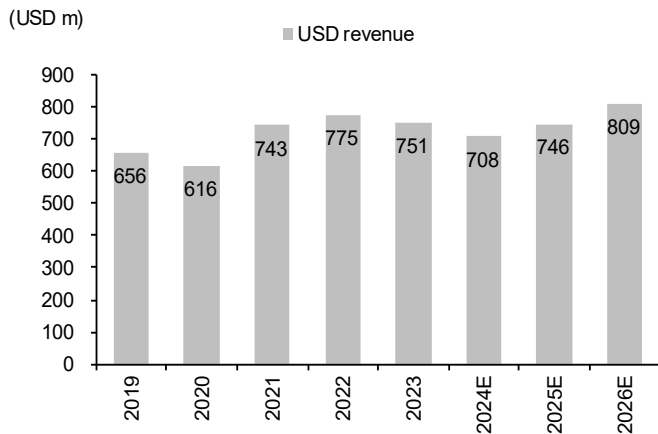
Exhibit 1: Changes in key assumptions for HANA

	------------------ Current ------------------			------------------ Previous ------------------			------------------ Change -------------------		
	2024E	2025E	2026E	2024E	2025E	2026E	2024E	2025E	2026E
	(THB m)	(THB m)	(THB m)	(THB m)	(THB m)	(THB m)	(%)	(%)	(%)
Total sale value (THB m)	24,917	24,631	26,709	26,047	27,555	29,376	(4.3)	(10.6)	(9.1)
Costs	22,451	21,675	23,370	23,026	24,056	25,499	(2.5)	(9.9)	(8.3)
Gross profit	2,467	2,956	3,339	3,021	3,500	3,878	(18.3)	(15.6)	(13.9)
SG&A expense	1,657	1,601	1,736	1,641	1,736	1,851	1.0	(7.8)	(6.2)
Interest expense	98	95	87	101	95	87	(3.3)	0.0	0.0
Reported net profit	1,357	1,675	1,956	1,866	2,086	2,376	(27.3)	(19.7)	(17.7)
Core profit	1,152	1,675	1,956	1,717	2,086	2,376	(32.9)	(19.7)	(17.7)
EPS (THB/share)	1.53	1.89	2.21	2.11	2.36	2.68	(27.4)	(19.8)	(17.6)
Key ratios (%)									
Total revenue growth	(4.7)	(1.1)	8.4	(0.4)	5.8	6.6	(4.3)	(6.9)	1.8
Net profit growth	(22.9)	23.5	16.7	6.0	11.8	13.9	(28.9)	11.7	2.8
Core profit growth	(42.7)	45.4	16.7	(14.5)	21.0	13.9	(28.2)	24.4	2.8
Gross margin	9.9	12.0	12.5	11.6	12.7	13.2	(1.7)	(0.7)	(0.7)
SG&A to sales	6.7	6.5	6.5	6.3	6.3	6.3	0.4	0.2	0.2
Net margin	5.4	6.8	7.3	7.2	7.6	8.1	(1.8)	(0.8)	(0.8)
Core margin	4.6	6.8	7.3	6.6	7.6	8.1	(2.0)	(0.8)	(0.8)
Operating statistics									
Total revenue (USD m)	708	746	809	738	810	864	(4.1)	(7.9)	(6.3)
SiC revenue (USD m)	24	26	32	20	40	70	19.9	(35.3)	(53.8)
FX rate (THB/USD)	35.2	33.0	33.0	35.5	34.0	34.0	(0.9)	(2.9)	(2.9)

Source: FSSIA estimates

Exhibit 2: HANA – 4Q24 earnings preview

	4Q23	1Q24	2Q24	3Q24	4Q24E	------- Change ------		2023	2024E	Change
	(THB m)	(THB m)	(THB m)	(THB m)	(THB m)	(q-q%)	(y-y%)	(THB m)	(THB m)	(y-y%)
Total revenue	6,221	6,371	6,752	6,100	5,695	(6.6)	(8.5)	26,152	24,917	(4.7)
Cost of sales	5,602	5,683	5,918	5,722	5,126	(10.4)	(8.5)	22,910	22,451	(2.0)
Gross profit	619	687	834	378	570	50.5	(8.0)	3,242	2,467	(23.9)
SG&A	408	415	419	425	399	(6.1)	(2.3)	1,631	1,657	1.6
Operating profit	211	272	415	(46.3)	171	nm	(19.0)	1,611	810	(49.7)
Interest expense	24.7	23.9	25.9	23.9	24.0	0.4	(2.7)	52	98	88.3
Tax expense	20	27	31	16	20	26.1	(0.1)	85	93	9.3
Reported net profit	125	313	376	406	262	(35.4)	109.9	1,761	1,357	(22.9)
Core profit	291	352	487	52	262	407.3	(9.8)	2,009	1,152	(42.7)
Key Ratios (%)						(ppt)	(ppt)			
Gross margin	9.9	10.8	12.4	6.2	10.0	3.8	0.1	12.4	9.9	(2.5)
SG&A to sales	6.6	6.5	6.2	7.0	7.0	0.0	0.4	6.2	6.7	0.4
Operating margin	3.4	4.3	6.1	(0.8)	3.0	3.8	(0.4)	6.2	3.2	(2.9)
Net margin	2.0	4.9	5.6	6.7	4.6	(2.1)	2.6	6.7	5.4	(1.3)
Core margin	4.7	5.5	7.2	0.8	4.6	3.8	(0.1)	7.7	4.6	(3.1)
Operating statistics (THB m)										
Total IC revenue	2,349	2,249	2,445	2,294	2,164	(5.7)	(7.9)	7,845	8,989	(11.3)
Total PCBA revenue	3,872	4,121	4,306	3,806	3,531	(7.2)	(8.8)	12,086	11,029	7.1

Sources: HANA, FSSIA estimates

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Exhibit 3: USD revenue

(USD m)

USD revenue

Year	USD revenue
2019	656
2020	616
2021	743
2022	775
2023	751
2024E	708
2025E	746
2026E	809

Sources: HANA, FSSIA estimates

Exhibit 4: SiC revenue and % to total revenue

(USD m)   (%)

SiC revenue   % to revenue (RHS)

Year	SiC revenue	% to revenue
2021	2	0.2
2022	13	1.7
2023	15	2.0
2024E	24	3.4
2025E	26	3.5
2026E	32	4.0
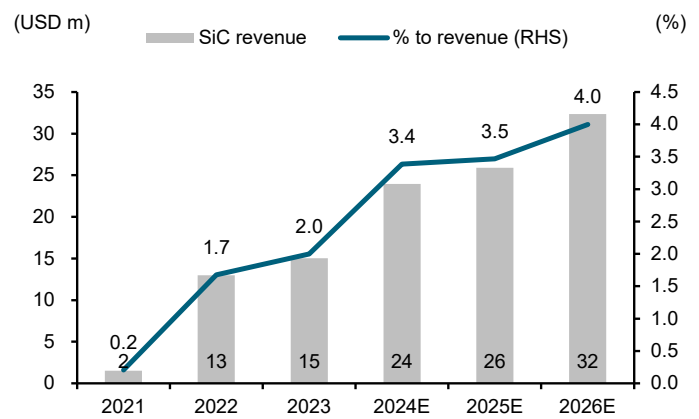
Sources: HANA, FSSIA estimates

Exhibit 5: Total revenue and gross margin

(THB m)   (%)

THB revenue   Gross margin (RHS)

Year	THB revenue	Gross margin
2019	20,384	11.4
2020	19,283	13.2
2021	23,780	13.8
2022	27,167	13.5
2023	26,152	12.4
2024E	24,917	9.9
2025E	24,631	12.0
2026E	26,709	12.5
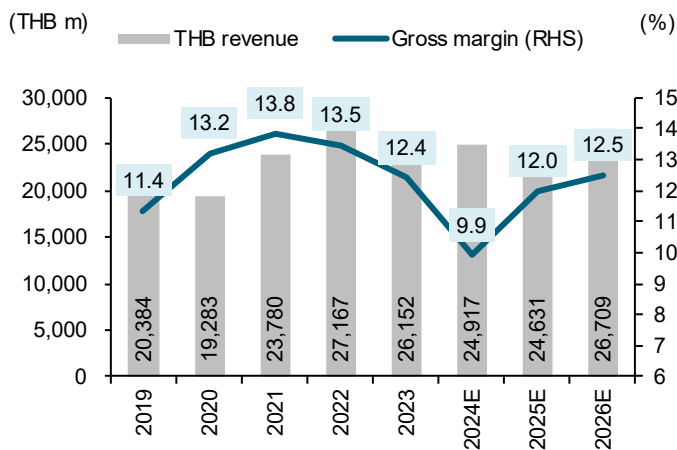
Sources: HANA, FSSIA estimates

Exhibit 6: Net profit and growth

(THB m)   (%)

Net profit   Growth y-y (RHS)

Year	Net profit
2019	1,805
2020	1,908
2021	1,545
2022	2,102
2023	1,761
2024E	1,357
2025E	1,675
2026E	1,956
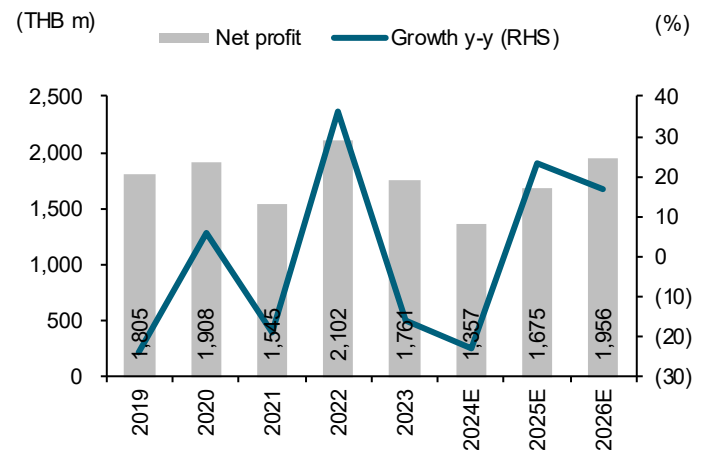
Sources: HANA, FSSIA estimates

Exhibit 7: Historical P/E band

HANA PER (x)

std +2 = 34.2x
std +1 = 27.6x
5Y-avg = 21x
std -1 = 14.4x
std -2 = 7.8x
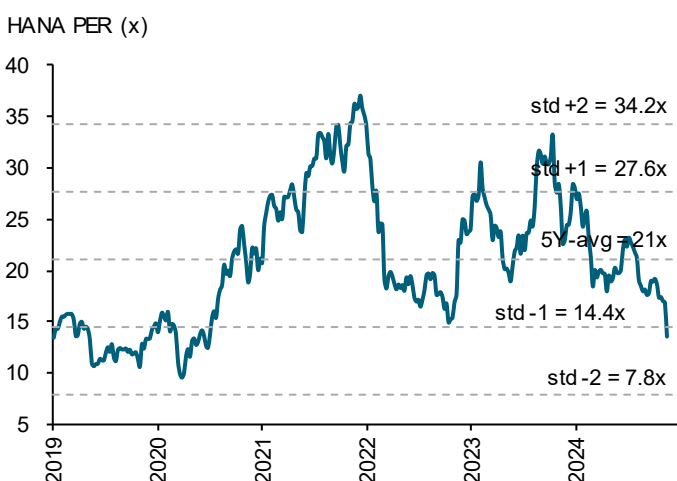
Sources: Bloomberg, FSSIA's compilation

Exhibit 8: Historical P/BV band

HANA PBV (x)

std +2 = 2.5x
std +1 = 2x
5Y-avg = 1.5x
std -1 = 1x
std -2 = 0.5x
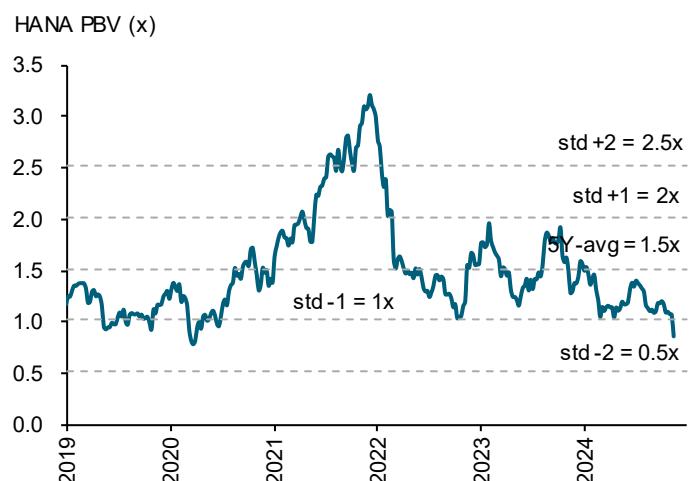
Sources: Bloomberg, FSSIA's compilation

Financial Statements

Hana Microelectronics

Profit and Loss (THB m) Year Ending Dec	2022	2023	2024E	2025E	2026E
Revenue	27,167	26,152	24,917	24,631	26,709
Cost of goods sold	(23,506)	(22,910)	(22,451)	(21,675)	(23,370)
Gross profit	**3,661**	**3,242**	**2,467**	**2,956**	**3,339**
Other operating income	458	439	361	369	401
Operating costs	(1,695)	(1,631)	(1,657)	(1,601)	(1,736)
Operating EBITDA	**4,054**	**3,752**	**3,023**	**3,676**	**4,055**
Depreciation	(1,630)	(1,702)	(1,852)	(1,952)	(2,052)
Goodwill amortisation	0	0	0	0	0
Operating EBIT	**2,425**	**2,050**	**1,171**	**1,724**	**2,003**
Net financing costs	81	45	74	77	100
Associates	0	0	0	0	0
Recurring non-operating income	0	0	0	0	0
Non-recurring items	(296)	(249)	205	0	0
Profit before tax	**2,209**	**1,846**	**1,450**	**1,802**	**2,103**
Tax	(107)	(85)	(93)	(126)	(147)
Profit after tax	**2,102**	**1,761**	**1,357**	**1,675**	**1,956**
Minority interests	0	0	0	0	0
Preferred dividends	0	0	0	0	0
Other items	-	-	-	-	-
Reported net profit	**2,102**	**1,761**	**1,357**	**1,675**	**1,956**
Non-recurring items & goodwill (net)	**296**	**249**	**(205)**	**0**	**0**
Recurring net profit	**2,398**	**2,009**	**1,152**	**1,675**	**1,956**
Per share (THB)					
Recurring EPS *	2.98	2.27	1.30	1.89	2.21
Reported EPS	2.61	1.99	1.53	1.89	2.21
DPS	1.00	1.00	0.69	0.85	1.33
Diluted shares (used to calculate per share data)	805	885	885	885	885
Growth					
Revenue (%)	14.2	(3.7)	(4.7)	(1.1)	8.4
Operating EBITDA (%)	15.1	(7.5)	(19.4)	21.6	10.3
Operating EBIT (%)	9.2	(15.5)	(42.9)	47.2	16.2
Recurring EPS (%)	5.4	(23.8)	(42.7)	45.4	16.7
Reported EPS (%)	36.0	(23.9)	(22.9)	23.5	16.7
Operating performance					
Gross margin inc. depreciation (%)	13.5	12.4	9.9	12.0	12.5
Gross margin exc. depreciation (%)	19.5	18.9	17.3	19.9	20.2
Operating EBITDA margin (%)	14.9	14.3	12.1	14.9	15.2
Operating EBIT margin (%)	8.9	7.8	4.7	7.0	7.5
Net margin (%)	8.8	7.7	4.6	6.8	7.3
Effective tax rate (%)	4.9	4.6	6.4	7.0	7.0
Dividend payout on recurring profit (%)	33.6	44.1	53.0	45.0	60.0
Interest cover (X)	(29.9)	(45.4)	(15.8)	(22.3)	(20.0)
Inventory days	136.1	158.6	155.8	156.6	147.9
Debtor days	64.0	70.9	72.9	70.4	67.3
Creditor days	64.0	65.0	57.3	55.9	52.8
Operating ROIC (%)	10.2	7.7	4.2	6.1	7.0
ROIC (%)	9.9	7.5	4.1	6.0	6.8
ROE (%)	10.2	7.6	3.9	5.5	6.3
ROA (%)	8.1	6.1	3.1	4.5	5.1
* Pre-exceptional, pre-goodwill and fully diluted					

Revenue by Division (THB m)	2022	2023	2024E	2025E	2026E
PCBA	14,147	15,791	16,107	16,912	18,265
IC	10,595	8,962	7,383	6,220	6,825
IC Assemble (RFID / Microdisplay)	2,425	1,399	1,427	1,498	1,618

Sources: Hana Microelectronics; FSSIA estimates

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Financial Statements
Hana Microelectronics

Cash Flow (THB m) Year Ending Dec	2022	2023	2024E	2025E	2026E
Recurring net profit	2,398	2,009	1,152	1,675	1,956
Depreciation	1,630	1,702	1,852	1,952	2,052
Associates & minorities	-	-	-	-	-
Other non-cash items	24	(241)	299	0	0
Change in working capital	(2,626)	(491)	303	242	(785)
Cash flow from operations	**1,426**	**2,980**	**3,606**	**3,870**	**3,223**
Capex - maintenance	-	-	-	-	-
Capex - new investment	(2,821)	(2,550)	(3,000)	(2,000)	(2,000)
Net acquisitions & disposals	-	-	-	-	-
Other investments (net)	14	162	(1)	4	(31)
Cash flow from investing	**(2,807)**	**(2,389)**	**(3,001)**	**(1,996)**	**(2,031)**
Dividends paid	(1,191)	(859)	(610)	(754)	(1,174)
Equity finance	0	4,588	0	0	0
Debt finance	(2)	1,280	(152)	(138)	(142)
Other financing cash flows	209	(342)	(232)	(9)	62
Cash flow from financing	**(984)**	**4,667**	**(995)**	**(901)**	**(1,253)**
Non-recurring cash flows	-	-	-	-	-
Other adjustments	0	0	0	0	0
Net other adjustments	**0**	**0**	**0**	**0**	**0**
Movement in cash	**(2,365)**	**5,258**	**(389)**	**973**	**(61)**
Free cash flow to firm (FCFF)	(1,368.15)	643.40	703.16	1,968.82	1,278.92
Free cash flow to equity (FCFE)	(1,174.20)	1,529.93	221.29	1,727.23	1,112.24

Per share (THB)					
FCFF per share	(1.55)	0.73	0.79	2.22	1.44
FCFE per share	(1.33)	1.73	0.25	1.95	1.26
Recurring cash flow per share	5.03	3.92	3.73	4.10	4.53

Balance Sheet (THB m) Year Ending Dec	2022	2023	2024E	2025E	2026E
Tangible fixed assets (gross)	28,300	29,984	32,984	34,984	36,984
Less: Accumulated depreciation	(17,446)	(18,283)	(20,135)	(22,087)	(24,139)
Tangible fixed assets (net)	**10,853**	**11,701**	**12,849**	**12,897**	**12,845**
Intangible fixed assets (net)	**0**	**0**	**0**	**0**	**0**
Long-term financial assets	72	72	72	72	72
Invest. in associates & subsidiaries	-	-	-	-	-
Cash & equivalents	3,634	8,893	8,503	9,477	9,415
A/C receivable	4,981	5,178	4,779	4,724	5,122
Inventories	9,457	8,969	8,611	8,314	8,964
Other current assets	171	119	125	123	134
Current assets	**18,243**	**23,159**	**22,018**	**22,637**	**23,635**
Other assets	534	373	374	369	401
Total assets	**29,703**	**35,306**	**35,313**	**35,976**	**36,952**
Common equity	23,862	29,147	29,834	30,755	31,538
Minorities etc.	0	0	0	0	0
Total shareholders' equity	**23,862**	**29,147**	**29,834**	**30,755**	**31,538**
Long term debt	0	204	250	227	208
Other long-term liabilities	813	921	748	739	801
Long-term liabilities	**814**	**1,125**	**998**	**966**	**1,009**
A/C payable	4,161	3,391	3,075	2,969	3,201
Short term debt	274	1,105	908	793	670
Other current liabilities	593	538	498	493	534
Current liabilities	**5,027**	**5,034**	**4,482**	**4,255**	**4,406**
Total liabilities and shareholders' equity	**29,703**	**35,306**	**35,313**	**35,976**	**36,952**
Net working capital	9,856	10,338	9,941	9,699	10,484
Invested capital	21,316	22,485	23,236	23,038	23,802
* Includes convertibles and preferred stock which is being treated as debt					

Per share (THB)					
Book value per share	29.65	32.92	33.70	34.74	35.62
Tangible book value per share	29.65	32.92	33.70	34.74	35.62
Financial strength					
Net debt/equity (%)	(14.1)	(26.0)	(24.6)	(27.5)	(27.1)
Net debt/total assets (%)	(11.3)	(21.5)	(20.8)	(23.5)	(23.1)
Current ratio (x)	3.6	4.6	4.9	5.3	5.4
CF interest cover (x)	(19.3)	(89.4)	(42.3)	(47.1)	(30.1)

Valuation	2022	2023	2024E	2025E	2026E
Recurring P/E (x) *	**10.0**	**13.1**	**22.9**	**15.7**	**13.5**
Recurring P/E @ target price (x) *	**10.7**	**14.1**	**24.6**	**16.9**	**14.5**
Reported P/E (x)	11.4	15.0	19.4	15.7	13.5
Dividend yield (%)	3.4	3.4	2.3	2.9	4.5
Price/book (x)	1.0	0.9	0.9	0.9	0.8
Price/tangible book (x)	1.0	0.9	0.9	0.9	0.8
EV/EBITDA (x) **	5.1	5.0	6.3	4.9	4.4
EV/EBITDA @ target price (x) **	5.5	5.5	6.9	5.4	4.9
EV/invested capital (x)	1.0	0.8	0.8	0.8	0.7
* Pre-exceptional, pre-goodwill and fully diluted ** EBITDA includes associate income and recurring non-operating income					

Sources: Hana Microelectronics; FSSIA estimates

Hana Microelectronics PCL (HANA TB)

FSSIA ESG rating

★ ★ ★

Exhibit 9: FSSIA ESG score implication

56.35 /100

Rating	Score	Implication
★ ★ ★ ★ ★	>79-100	Leading its industry peers in managing the most significant ESG risks which not only better cost efficiency but also lead to higher profitability.
★ ★ ★ ★	>59-79	A mixed track record of managing the most significant ESG risks and opportunities relative to industry peers.
★ ★ ★	>39-59	**Relevant ESG materiality matrix has been constructively addressed, well-managed and incorporated into day-to-day operations, in which targets and achievements are evaluated annually.**
★ ★	>19-39	Relevant ESG materiality matrix has been identified with key management in charge for progress to be followed up on and to provide intensive disclosure. Most targets are conventional and achievable.
★	1-19	The company has adopted the United Nations Sustainable Development Goals (UN SDGs), established sustainability management guidelines and fully complies with regulations or ESG suggested guidance from related organizations such as the SET and SEC.

Sources: FSSIA estimates

Exhibit 10: ESG – peer comparison

	FSSIA	------------------ Domestic ratings ----------------------						----------------------------- Global ratings -------------------------							--- Bloomberg ---	
	ESG score	DJSI	SET ESG	THSI	CG score	AGM level	Thai CAC	Morningstar ESG risk	ESG Book	MSCI	Moody's	Refinitiv	S&P Global	ESG score	Disclosure score
SET100	69.20	5.34	4.40	4.40	4.76	4.65	3.84	Medium	51.76	BBB	20.87	58.72	63.91	3.72	28.17
Coverage	67.12	5.11	4.15	4.17	4.83	4.71	3.53	Medium	52.04	BB	16.97	56.85	62.09	3.40	31.94
DELTA	87.59	Y	Y	Y	5.00	5.00	Certified	Low	68.81	AA	--	91.19	74.00	4.15	--
HANA	56.35	--	Y	Y	5.00	5.00	Certified	Negligible	56.93	BBB	--	44.01	31.00	1.81	--
KCE	45.77	--	--	--	5.00	5.00	Certified	Medium	52.70	--	--	61.53	16.00	2.16	52.98

Sources: SETTRADE.com; FSSIA's compilation

Exhibit 11: ESG score by Bloomberg

FY ending Dec 31	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
ESG financial materiality scores - ESG score	**0.91**	**0.98**	**0.99**	**1.39**	**1.61**	**1.81**	**—**
BESG environmental pillar score	0.00	0.00	0.00	0.00	0.00	0.00	—
BESG social pillar score	0.37	0.37	0.37	1.14	1.63	1.66	—
BESG governance pillar score	3.51	3.89	3.96	3.95	3.95	4.88	—
ESG disclosure score	**25.98**	**25.98**	**25.98**	**30.50**	**36.02**	**36.02**	**—**
Environmental disclosure score	1.66	1.66	1.66	7.13	22.92	22.92	—
Social disclosure score	15.90	15.90	15.90	24.00	24.79	24.79	—
Governance disclosure score	60.26	60.26	60.26	60.26	60.26	60.26	—
Environmental							
Emissions reduction initiatives	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Climate change policy	No	No	No	Yes	Yes	Yes	Yes
Climate change opportunities discussed	No	No	No	Yes	Yes	Yes	Yes
Risks of climate change discussed	No	No	No	No	No	No	No
GHG scope 1	—	—	—	—	1	1	1
GHG scope 2 location-based	—	—	—	26	26	23	23
GHG Scope 3	—	—	—	—	—	—	—
Carbon per unit of production	—	—	—	—	—	—	—
Biodiversity policy	No	No	No	No	No	No	No
Energy efficiency policy	No	No	No	No	No	No	Yes
Total energy consumption	—	—	—	—	—	—	—
Renewable energy use	—	—	—	—	—	—	—
Electricity used	—	—	—	—	—	—	—
Fuel used - natural gas	—	—	—	—	—	—	—

Sources: Bloomberg; FSSIA's compilation

FINANSIA

Exhibit 12: ESG score by Bloomberg *(cont.)*

FY ending Dec 31	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Fuel used - crude oil/diesel	No	No	No	No	No	No	No
Waste reduction policy	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Hazardous waste	—	—	—	—	—	—	—
Total waste	—	—	—	—	—	—	—
Waste recycled	—	—	—	—	—	—	—
Waste sent to landfills	—	—	—	—	—	—	—
Environmental supply chain management	No	No	No	No	Yes	Yes	Yes
Water policy	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Water consumption	—	—	—	—	—	—	—
Social							
Human rights policy	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Policy against child labor	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Quality assurance and recall policy	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Consumer data protection policy	No	No	No	No	No	No	No
Equal opportunity policy	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Gender pay gap breakout	No	No	No	No	No	No	No
Pct women in workforce	—	—	—	73	73	72	—
Pct disabled in workforce	—	—	—	1	1	1	—
Business ethics policy	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Anti-bribery ethics policy	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Health and safety policy	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Lost time incident rate - employees	—	—	—	0	0	0	—
Total recordable incident rate - employees	—	—	—	—	—	—	—
Training policy	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Fair remuneration policy	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Number of employees – CSR	4,038	3,947	3,969	3,957	3,742	3,636	3,324
Employee turnover pct	—	—	—	—	—	—	—
Total hours spent by firm - employee training	199,881	165,774	182,574	197,850	179,616	207,252	150,148
Social supply chain management	No	No	No	No	Yes	Yes	Yes
Governance							
Board size	**6**	**6**	**6**	**6**	**6**	**6**	**8**
No. of independent directors (ID)	**3**	**3**	**3**	**3**	**3**	**3**	**4**
No. of women on board	1	1	1	1	1	1	2
No. of non-executive directors on board	3	3	3	3	3	3	4
Company conducts board evaluations	Yes	Yes	Yes	Yes	Yes	Yes	Yes
No. of board meetings for the year	7	7	7	7	7	7	6
Board meeting attendance pct	100	100	100	100	100	100	100
Board duration (years)	—	—	—	—	—	—	—
Director share ownership guidelines	No	No	No	No	No	No	No
Age of the youngest director	56	53	54	55	56	57	58
Age of the oldest director	82	72	73	73	74	75	65
No. of executives / company managers	**5**	**5**	**5**	**5**	**5**	**5**	**6**
No. of female executives	1	1	1	1	1	1	1
Executive share ownership guidelines	No	No	No	No	No	No	No
Size of audit committee	**3**	**3**	**3**	**3**	**3**	**3**	**4**
No. of ID on audit committee	3	3	3	3	3	3	4
Audit committee meetings	4	4	4	4	4	4	4
Audit meeting attendance %	100	100	100	100	100	100	100
Size of compensation committee	**0**	**0**	**0**	**0**	**0**	**0**	**0**
No. of ID on compensation committee	—	—	—	—	—	—	—
No. of compensation committee meetings	—	—	—	—	—	—	—
Compensation meeting attendance %	—	—	—	—	—	—	—
Size of nomination committee	**3**	**3**	**3**	**3**	**3**	**3**	**4**
No. of nomination committee meetings	3	2	3	3	2	3	3
Nomination meeting attendance %	100	100	100	100	100	100	100
Sustainability governance							
Verification type	No	No	No	No	No	No	No

Sources: Bloomberg; FSSIA's compilation

Disclaimer for ESG scoring

ESG score	Methodology	Rating
The Dow Jones Sustainability Indices (DJSI) By S&P Global	The DJSI World applies a transparent, rules-based component selection process based on the companies' Total Sustainability Scores resulting from the annual S&P Global Corporate Sustainability Assessment (CSA). Only the top-ranked companies within each industry are selected for inclusion.	Be a member and invited to the annual S&P Global Corporate Sustainability Assessment (CSA) for DJSI. Companies with an S&P Global ESG Score of less than 45% of the S&P Global ESG Score of the highest scoring company are disqualified. The constituents of the DJSI indices are selected from the Eligible Universe.
SET ESG Ratings List (SETESG) by The Stock Exchange of Thailand (SET)	SET ESG quantifies responsibility in Environmental and Social issues by managing business with transparency in Governance, updated annually. Candidates must pass the preemptive criteria, with two crucial conditions: 1) no irregular trading of the board members and executives; and 2) free float of >150 shareholders, and combined holding must be >15% of paid-up capital. Some key disqualifying criteria include: 1) CG score of below 70%; 2) independent directors and free float violation; 3) executives' wrongdoing related to CG, social & environmental impacts; 4) equity in negative territory; and 5) earnings in red for > 3 years in the last 5 years.	To be eligible for **SETESG inclusion**, verified data must be scored at a minimum of 50% for each indicator, unless the company is a part of DJSI during the assessment year. The scoring will be fairly weighted against the nature of the relevant industry and materiality. **SETESG Index** is extended from the SET ESG Ratings companies whose 1) market capitalization > THB5b (~USD150b); 2) free float >20%; and 3) liquidity >0.5% of paid-up capital for at least 9 out of 12 months. The SETTHSI Index is a market capitalisation-weighted index, cap 5% quarterly weight at maximum, and no cap for number of stocks.
CG Score by Thai Institute of Directors Association (Thai IOD)	An indicator of CG strength in sustainable development, measured annually by the Thai IOD, with support from the Stock Exchange of Thailand (SET). The results are from the perspective of a third party, not an evaluation of operations.	Scores are rated in six categories: 5 for Excellent (90-100), 4 for Very Good (80-89), 3 for Good (70-79), 2 for Fair (60-69), 1 for Pass (60-69), and not rated for scores below 50. Weightings include: 1) the rights; 2) and equitable treatment of shareholders (weight 25% combined); 3) the role of stakeholders (25%); 4) disclosure & transparency (15%); and 5) board responsibilities (35%).
AGM level By Thai Investors Association (TIA) with support from the SEC	It quantifies the extent to which shareholders' rights and equitable treatment are incorporated into business operations and information is transparent and sufficiently disclosed. All form important elements of two out of five the CG components to be evaluated annually. The assessment criteria cover AGM procedures before the meeting (45%), at the meeting date (45%), and after the meeting (10%). *(The first assesses 1) advance circulation of sufficient information for voting; and 2) facilitating how voting rights can be exercised. The second assesses 1) the ease of attending meetings; 2) transparency and verifiability; and 3) openness for Q&A. The third involves the meeting minutes that should contain discussion issues, resolutions and voting results.)*	The scores are classified into four categories: 5 for Excellent (100), 4 for Very Good (90-99), 3 for Fair (80-89), and not rated for scores below 79.
Thai CAC By Thai Private Sector Collective Action Against Corruption (CAC)	The core elements of the Checklist include corruption risk assessment, establishment of key controls, and the monitoring and developing of policies. The Certification is good for three years. *(Companies deciding to become a CAC certified member start by submitting a Declaration of Intent to kick off an 18-month deadline to submit the CAC Checklist for Certification, including risk assessment, in place of policy and control, training of managers and employees, establishment of whistleblowing channels, and communication of policies to all stakeholders.)*	The document will be reviewed by a committee of nine professionals. A passed Checklist will move for granting certification by the CAC Council approvals whose members are twelve highly respected individuals in professionalism and ethical achievements.
Morningstar Sustainalytics	The Sustainalytics' ESG risk rating provides an overall company score based on an assessment of how much of a company's exposure to ESG risk is unmanaged. *Sources to be reviewed include corporate publications and regulatory filings, news and other media, NGO reports/websites, multi-sector information, company feedback, ESG controversies, issuer feedback on draft ESG reports, and quality & peer reviews.*	A company's ESG risk rating score is the sum of unmanaged risk. The more risk is unmanaged, the higher ESG risk is scored.
ESG Book	The ESG score identifies sustainable companies that are better positioned to outperform over the long term. The methodology considers the principle of financial materiality including information that significantly helps explain future risk-adjusted performance. Materiality is applied by over-weighting features with higher materiality and rebalancing these weights on a rolling quarterly basis.	The total ESG score is calculated as a weighted sum of the features scores using materiality-based weights. The score is scaled between 0 and 100 with higher scores indicating better performance.
MSCI	MSCI ESG ratings aim to measure a company's management of financially relevant ESG risks and opportunities. It uses a rules-based methodology to identify industry leaders and laggards according to their exposure to ESG risks and how well they manage those risks relative to peers.	
Moody's ESG solutions	Moody's assesses the degree to which companies take into account ESG objectives in the definition and implementation of their strategy policies. It believes that a company integrating ESG factors into its business model and relatively outperforming its peers is better positioned to mitigate risks and create sustainable value for shareholders over the medium to long term.	
Refinitiv ESG rating	Designed to transparently and objectively measure a company's relative ESG performance, commitment and effectiveness across 10 main themes, based on publicly available and auditable data. The score ranges from 0 to 100 on relative ESG performance and insufficient degree of transparency in reporting material ESG data publicly. *(Score ratings are 0 to 25 = poor; >25 to 50 = satisfactory; >50 to 75 = good; and >75 to 100 = excellent.)*	
S&P Global	The S&P Global ESG Score is a relative score measuring a company's performance on and management of ESG risks, opportunities, and impacts compared to its peers within the same industry classification. The score ranges from 0 to 100.	
Bloomberg	ESG Score	Bloomberg score evaluating the company's aggregated Environmental, Social and Governance (ESG) performance. The score is based on Bloomberg's view of ESG financial materiality. The score is a weighted generalized mean (power mean) of Pillar Scores, where the weights are determined by the pillar priority ranking. Values range from 0 to 10; 10 is the best.
Bloomberg	ESG Disclosure Score	Disclosure of a company's ESG used for Bloomberg ESG score. The score ranges from 0 for none to 100 for disclosure of every data point, measuring the amount of ESG data reported publicly, and not the performance on any data point.

Morningstar Sustainalytics rating table:

NEGL	Low	Medium	High	Severe
0-10	10-20	20-30	30-40	40+

MSCI ratings:

AAA	8.571-10.000	**Leader:**	leading its industry in managing the most significant ESG risks and opportunities
AA	7.143-8.570		
A	5.714-7.142		
BBB	4.286-5.713	**Average:**	a mixed or unexceptional track record of managing the most significant ESG risks and opportunities relative to industry peers
BB	2.857-4.285		
B	1.429-2.856		
CCC	0.000-1.428	**Laggard:**	lagging its industry based on its high exposure and failure to manage significant ESG risks

Rating regarding the sustainable development of Thai listed companies, both on the SET and MAI, are publicly available on the website of the Securities and Exchange Commission of Thailand (SEC). Currently, ratings available are 1) "**CG Score**"; 2) "**AGM Level**"; 3) "**Thai CAC**"; and 4) THSI. The ratings are updated on an annual basis. FSSIA does not confirm nor certify the accuracy of such ratings.

Source: FSSIA's compilation

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History of change in investment rating and/or target price

Hana Microelectronics (HANA TB)
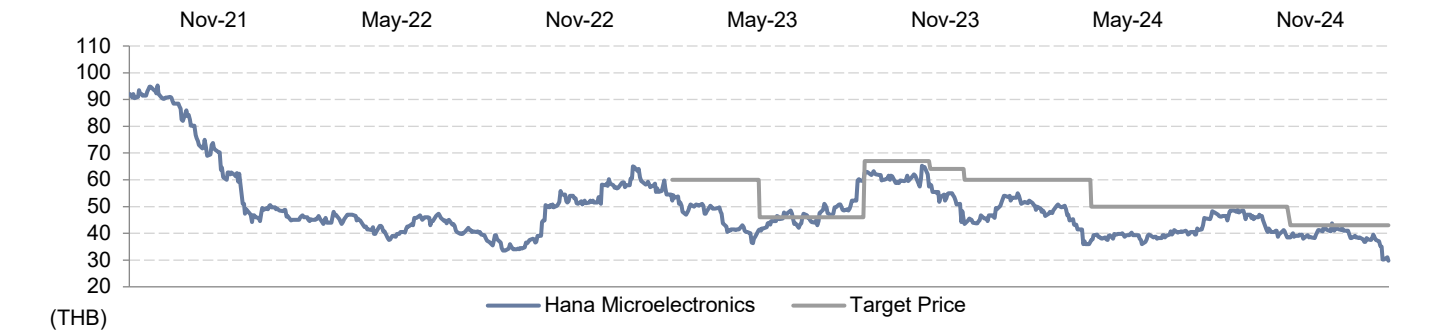
Date	Rating	Target price	Date	Rating	Target price	Date	Rating	Target price
07-Mar-2023	HOLD	60.00	17-Oct-2023	BUY	64.00	23-Aug-2024	BUY	43.00
22-May-2023	BUY	46.00	16-Nov-2023	BUY	60.00			
21-Aug-2023	BUY	67.00	05-Mar-2024	BUY	50.00			

Sureeporn Teewasuwet started covering this stock from 07-Mar-2023
Price and TP are in local currency
Source: FSSIA estimates

Company	Ticker	Price	Rating	Valuation & Risks
Hana Microelectronics	HANA TB	THB 29.75	HOLD	Downside and upside risks to our P/E-based TP include 1) a slower or faster-than-expected recovery in the global economy and purchasing power, 2) higher or lower-than-expected raw material costs, 3) Baht strength or weaken, and 4) higher minimum wage and labor shortages.

Source: FSSIA estimates

Additional Disclosures

Target price history, stock price charts, valuation and risk details, and equity rating histories applicable to each company rated in this report is available in our most recently published reports. You can contact the analyst named on the front of this note or your representative at Finansia Syrus Securities Public Company Limited.

All share prices are as at market close on 19-Nov-2024 unless otherwise stated.

RECOMMENDATION STRUCTURE

Stock ratings

Stock ratings are based on absolute upside or downside, which we define as (target price* - current price) / current price.

BUY (B). The upside is 10% or more.
HOLD (H). The upside or downside is less than 10%.
REDUCE (R). The downside is 10% or more.
Unless otherwise specified, these recommendations are set with a 12-month horizon. Thus, it is possible that future price volatility may cause a temporary mismatch between upside/downside for a stock based on market price and the formal recommendation.

* In most cases, the target price will equal the analyst's assessment of the current fair value of the stock. However, if the analyst doesn't think the market will reassess the stock over the specified time horizon due to a lack of events or catalysts, then the target price may differ from fair value. In most cases, therefore, our recommendation is an assessment of the mismatch between current market price and our assessment of current fair value.

Industry Recommendations

Overweight. The analyst expects the fundamental conditions of the sector to be positive over the next 12 months.
Neutral. The analyst expects the fundamental conditions of the sector to be maintained over the next 12 months.
Underweight. The analyst expects the fundamental conditions of the sector to be negative over the next 12 months.

Country (Strategy) Recommendations

Overweight (O). Over the next 12 months, the analyst expects the market to score positively on two or more of the criteria used to determine market recommendations: index returns relative to the regional benchmark, index sharpe ratio relative to the regional benchmark and index returns relative to the market cost of equity.

Neutral (N). Over the next 12 months, the analyst expects the market to score positively on one of the criteria used to determine market recommendations: index returns relative to the regional benchmark, index sharpe ratio relative to the regional benchmark and index returns relative to the market cost of equity.

Underweight (U). Over the next 12 months, the analyst does not expect the market to score positively on any of the criteria used to determine market recommendations: index returns relative to the regional benchmark, index sharpe ratio relative to the regional benchmark and index returns relative to the market cost of equity.