

HANA MICROELECTRONICS
THAILAND / ELECTRONIC COMPONENT

HANA TB

BUY

UNCHANGED

Consumer และ EV ช่วยหนุนการเติบโต

- ระยะสั้น คาดกำไร 4Q23 จะอ่อนลงตามฤดูกาล และเงินที่ฟื้นตัวช้า
- ภาพใหญ่แนวโน้มคำสั่งซื้อทั้ง Consumer และ Automotive จะเติบโตดีขึ้นในปี 24 เป็นบวกต่อ HANA ที่มีสัดส่วนรายได้กระจายหลายกลุ่มสินค้า
- ยังแนะนำซื้อ จากคาดการณ์กำไรกลับมาฟื้นตัวในปี 2024 และ Valuation ถูก

TARGET PRICE	THB60.00
CLOSE	THB51.25
UP/DOWNSIDE	+17.1%
PRIOR TP	THB60.00
CHANGE IN TP	UNCHANGED
TP vs CONSENSUS	+7.5%

KEY STOCK DATA

YE Dec (THB m)	2022	2023E	2024E	2025E
Revenue	27,167	26,089	26,895	29,931
Net profit	2,102	2,171	2,322	2,658
EPS (THB)	2.61	2.45	2.62	3.00
vs Consensus (%)	-	(9.9)	(12.6)	(13.2)
EBITDA	4,054	4,114	4,332	4,773
Recurring net profit	2,398	2,254	2,322	2,658
Core EPS (THB)	2.98	2.55	2.62	3.00
Chg. In EPS est. (%)	-	-	-	-
EPS growth (%)	5.4	(14.6)	3.0	14.5
Core P/E (x)	17.2	20.1	19.5	17.1
Dividend yield (%)	2.0	1.9	2.3	2.6
EV/EBITDA (x)	9.3	10.2	9.7	8.9
Price/book (x)	1.7	1.8	1.7	1.7
Net debt/Equity (%)	(14.1)	(12.8)	(12.0)	(11.0)
ROE (%)	10.2	9.2	8.9	9.8

คาดยอดขาย Semiconductor จะกลับมาโตสองหลักในปี 2024

ยอดขาย Semiconductor ทั่วโลกล่าสุดเดือน พ.ย. กลับมาฟื้นตัว +2.9% m-m, +5.3% y-y โต y-y เป็นครั้งแรกในรอบ 15 เดือน โดย SIA คาดยอดขายปี 2024 จะกลับมาเติบโต +13.1% y-y หลังจากลดลง -9.4% y-y ในปี 2023 ทั้งนี้คาดการณ์การกลับมาฟื้นตัวอีกครั้งของกลุ่ม Consumer electronics โดยคาดยอดขาย Smartphone ทั่วโลกปี 2024 จะกลับมาโตครั้งแรกในรอบ 3 ปี รวบรวม +4% y-y เป็น 1.17 พันล้านเครื่อง จากความต้องการโมเดลใหม่ที่มีการอัปเดตเพื่อรองรับ AI ได้มากขึ้น ขณะที่ Gartner คาดรายได้ AI Semiconductor ในปี 2024 จะโตสูง 25.6% y-y และจะโตเร่งขึ้นเป็นเท่าตัวในปี 2027 จากแนวโน้มความต้องการใช้ชิปที่มีเทคโนโลยีขั้นสูงเพิ่มขึ้น

ยอดขาย EV จะช่วยหนุนธุรกิจ SiC ให้คุ้มทุนได้ใน 2H24

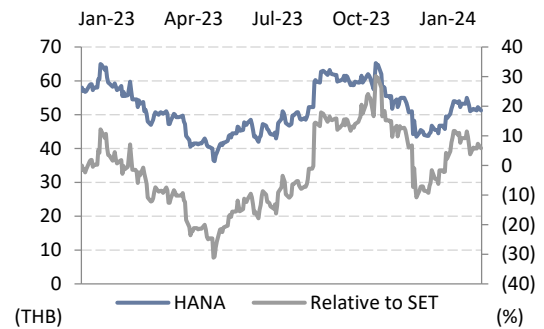
แม้คาดยอดขายรถยนต์ทั่วโลกปี 2024 จะเติบโตเล็กน้อยเพียง 2-3% y-y แต่มาจากรถยนต์สันดาปที่ปรับลดลง ขณะที่คาดยอดขาย EV ทั่วโลกจะเติบโตสูง 25-30% y-y จากความต้องการที่ยังเพิ่มขึ้นต่อเนื่อง เรามองช่วยหนุนความต้องการ Semiconductor ที่มีคุณภาพสูงขึ้นอย่าง SiC มากขึ้น ซึ่งเป็นบวกต่อ HANA ที่อยู่ระหว่างขยายกำลังการผลิต SiC MOSFET รวมถึงทำการตลาดลูกค้าใหม่ โดยคาดรายได้ SiC ปี 2024-25 จะเติบโต 140% y-y และ 87.5% y-y ตามลำดับ ซึ่งจะช่วยให้สัดส่วน SiC ขยับขึ้นเป็น 10% ของรายได้รวมปี 2025 จาก 2% ในปี 2023 และคาด EBITDA จะคุ้มทุนได้ใน 2H24

คาดการณ์กำไรจะกลับมาฟื้นตัวใน 1H24

ระยะสั้น คาดกำไรไปปกติ 4Q23 จะอ่อนตัวลงอยู่ที่ 545 ลบ. (-19% q-q, flat y-y) จากปัจจัยฤดูกาล และคำสั่งซื้อจากจีนที่ยังฟื้นช้า แต่คาดการณ์กำไรจะกลับมาฟื้นใน 1H24 และเร่งตัวขึ้นใน 3Q24 ภายหลัง Demand จากลูกค้า Consumer สูงขึ้น และผลการดำเนินงาน SiC เติบโตมากขึ้น ทั้งนี้เรายังคงประมาณการกำไรสุทธิปี 2023-24 ตามเดิมที่ 2.17 พันลบ. (+3.3% y-y) และ 2.32 พันลบ. (+7% y-y) ตามลำดับ

คงคำแนะนำซื้อ จากภาพรวมขึ้นส่วนที่กลับมาโต และ Valuation ถูกกว่ากลุ่ม

ยังคงเป้าหมายที่ 60 บาท (อิง PE 23x) แม้คาดการณ์ปี 2024 จะเติบโตเพียงตัวเลขหลักเดียว บนสมมติฐานที่ Conservative แต่เชื่อว่าผลการดำเนินงานผ่านจุดต่ำสุดไปแล้ว และภาพรวมอุตสาหกรรมอิเล็กทรอนิกส์กลับมาฟื้นตัว ทั้ง Consumer และ Automotive ขณะที่ HANA อยู่ระหว่างเพิ่มสัดส่วนรายได้ที่มาจาก EV มากขึ้น นอกจากนี้ ราคาหุ้นมี Valuation ถูกกว่ากลุ่ม ปัจจุบันเทรดที่ 2024-25 PE รวบรวม 20x และ 17x ตามลำดับ (KCE และ DELTA เทรดบน 2024 PE ที่ 23x และ 49x ตามลำดับ) จึงคงคำแนะนำซื้อ



Share price performance	1 Month	3 Month	12 Month
Absolute (%)	4.6	(20.8)	(12.4)
Relative to country (%)	3.4	(18.4)	4.7
Mkt cap (USD m)	1,298		
3m avg. daily turnover (USD m)	23.6		
Free float (%)	58		
Major shareholder	OMAC and related companies (32%)		
12m high/low (THB)	66.25/36.00		
Issued shares (m)	885.36		

Sources: Bloomberg consensus; FSSIA estimates



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Investment thesis

HANA ถือเป็นหนึ่งในผู้นำที่ให้บริการผลิต EMS ในภูมิภาคเอเชียตะวันออกเฉียงใต้ และมีประสบการณ์มายาวนานกว่า 45 ปี นับตั้งแต่ก่อตั้งบริษัทในปี 1978 แม้บริษัทจัดเป็นผู้ผลิตกลางน้ำ แต่มีจุดแข็งอยู่ที่การกระจายไปใน End products หลากหลายกลุ่ม อาทิ Telecommunications, Computers, Consumer products, Automobiles, Radio frequency identification (RFID), and Medical products รวมถึงมีการฐานการผลิตอยู่ในหลายประเทศ และยังมีการพัฒนาสินค้าใหม่เช่น SiC เพื่อตอบสนองให้ทันกับความต้องการของลูกค้าในหลายอุตสาหกรรม โดยเฉพาะรถยนต์ EV

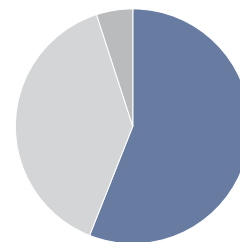
Company profile

HANA เป็นผู้ให้บริการผลิต ผลิตภัณฑ์อิเล็กทรอนิกส์แบบครบวงจร (Electronic Manufacturing Service หรือ EMS) โดยครอบคลุมทั้ง IC PCBA, RFID และ LCOS เป็นต้น ซึ่งมีโรงงานผลิตจำนวน 7 แห่งตั้งอยู่ที่ประเทศไทย จีน สหรัฐ กัมพูชา และเกาหลีใต้ รวมจำนวนพื้นที่การผลิตกว่า 1.7 ล้านตร.ฟุต และมีพนักงานกว่า 1 หมื่นคนทั่วโลก โดยสิ้นปี 2022 บริษัทมีสัดส่วนรายได้จาก PCBA 56% รองมาคือ IC 38%, RFID 5% และ SiC 1% ของรายได้รวม ตามลำดับ

www.hanagroup.com

Principal activities (revenue, 2022)

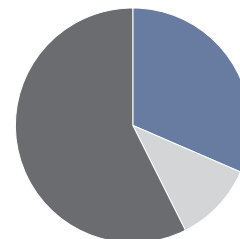
- PCBA - 56.0 %
- IC - 39.0 %
- IC Assemble (RFID / Microdisplay) - 5.0 %



Source: Hana Microelectronics

Major shareholders

- OMAC and related companies - 31.5 %
- LGT Bank (Singapore) Ltd - 11.1 %
- Others - 57.4 %



Source: Hana Microelectronics

Catalysts

ปัจจัยหนุนการเติบโตในปี 2024 คือ 1) การฟื้นตัวของเศรษฐกิจโลกและกำลังซื้อ โดยเฉพาะในตลาดจีน 2) การลดลงของราคาต้นทุนวัตถุดิบ 3) การขยายกำลังการผลิตที่เร็วกว่าแผน

Risks to our call

ความเสี่ยงต่อราคาเป้าหมายของเราคือ 1) เศรษฐกิจโลกและกำลังซื้อฟื้นตัวช้ากว่าคาด 2) ต้นทุนวัตถุดิบปรับตัวสูงกว่าคาด 3) ค่าเงินบาทแข็งค่า และ 4) ต้นทุนค่าแรงปรับตัวสูงขึ้น หรือประสบปัญหาขาดแคลนแรงงาน

Event calendar

Date	Event
February 2024	4Q23 results announcement
March 2024	4Q23 analyst meeting

Key assumptions

	2023E	2024E	2025E
USD total revenue (USD m)	756	815	907
SiC revenue (USD m)	20	48	90
FX rate (USD/THB)	35	33	33
THB revenue growth (%)	(4.0)	3.1	11.3
Gross margin (%)	13.4	13.4	13.7

Source: FSSIA estimates

Earnings sensitivity

- For every THB1/USD increase, we estimate 2024 net profit to fall by 6.8%, and vice versa, all else being equal.
- For every 0.5% increase in GPM, we estimate 2024 net profit to rise by 5.7%, and vice versa, all else being equal.
- For every 0.2% increase in SG&A, we estimate 2024 net profit to fall by 1.3%, and vice versa, all else being equal.
- For every 10% increase in labour cost, we estimate 2024 net profit to fall by 6.6%, and vice versa, all else being equal.

Source: FSSIA estimates

Exhibit 1: HANA - 4Q23 earnings preview

	4Q22	1Q23	2Q23	3Q23	4Q23E	Change		2022	2023E	Change
	(THB m)	(THB m)	(THB m)	(THB m)	(THB m)	(q-q%)	(y-y%)	(THB m)	(THB m)	(y-y%)
Total revenue	7,125	6,466	6,910	6,555	6,326	(3.5)	(11.2)	27,167	26,089	(4.0)
Cost of sales	6,171	5,913	5,871	5,523	5,440	(1.5)	(11.8)	23,506	22,593	(3.9)
Gross profit	954	553	1,039	1,031	886	(14.1)	(7.1)	3,661	3,496	(4.5)
SG&A	505	382	392	449	437	(2.8)	(13.6)	1,695	1,644	(3.0)
Operating profit	449	171	646	582	449	(22.8)	0.1	1,966	1,852	(5.8)
Interest expense	5.9	1.8	8.0	17.4	12.0	(30.9)	104.1	13	26	106.3
Tax expense	31	12	33	21	29	35.7	(8.7)	107	96	(10.3)
Reported net profit	1,075	266	635	734	545	(25.7)	(49.3)	2,102	2,171	3.3
Core profit	553	295	749	674	545	(19.1)	(1.4)	2,254	2,322	3.0
Key Ratios (%)						(ppt)	(ppt)			(ppt)
Gross margin	13.4	8.6	15.0	15.7	14.0	(1.7)	0.6	13.5	13.4	(0.1)
SG&A to sales	7.1	5.9	5.7	6.9	6.9	0.0	(0.2)	6.2	6.3	0.1
Operating margin	6.3	2.7	9.4	8.9	7.1	(1.8)	0.8	7.2	7.1	(0.1)
Net margin	15.1	4.1	9.2	11.2	8.6	(2.6)	(6.5)	7.7	8.3	0.6
Core margin	7.8	4.6	10.8	10.3	8.6	(1.7)	0.9	8.3	8.9	0.6

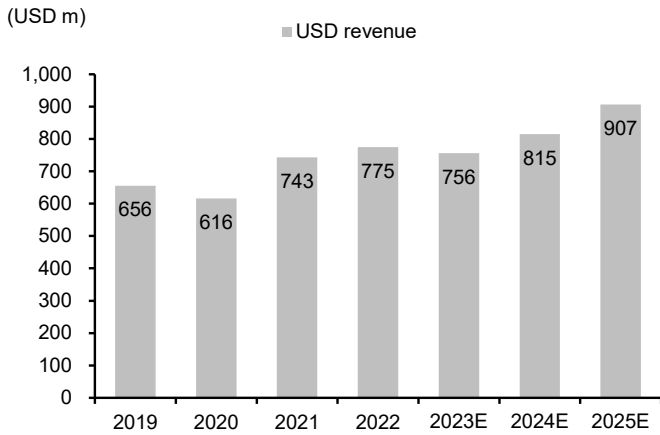
Sources: HANA; FSSIA estimates

Exhibit 2: Key assumptions for HANA

	Current			Growth		
	2023E	2024E	2025E	2023E	2024E	2025E
	(THB m)	(THB m)	(THB m)	(%)	(%)	(%)
Total sale value (THB m)	26,089	26,895	29,931	(4.0)	3.1	11.3
Costs	22,593	23,280	25,836	(3.9)	3.0	11.0
Gross profit	3,496	3,615	4,095	(4.5)	3.4	13.3
SG&A expense	1,644	1,694	1,886	(3.0)	3.1	11.3
Interest expense	26	19	15	106.3	(27.5)	(19.3)
Reported net profit	2,171	2,322	2,658	3.3	6.9	14.5
Core profit	2,254	2,322	2,658	(6.0)	3.0	14.5
EPS (THB/share)	2.45	2.62	3.00	(6.1)	6.9	14.5
Key ratios (%)						
Gross margin	13.4	13.4	13.7	(0.1)	0.0	0.2
SG&A to sales	6.3	6.3	6.3	0.1	0.0	0.0
Net margin	8.3	8.6	8.9	0.6	0.3	0.2
Core margin	8.6	8.6	8.9	(0.2)	(0.0)	0.2
Operating statistics						
Total revenue (USD m)	756	815	907	(2.4)	7.8	11.3
SiC revenue (USD m)	20	48	90	53.8	140.0	87.5
FX rate (THB/USD)	34.5	33.0	33.0	(1.7)	(4.3)	0.0

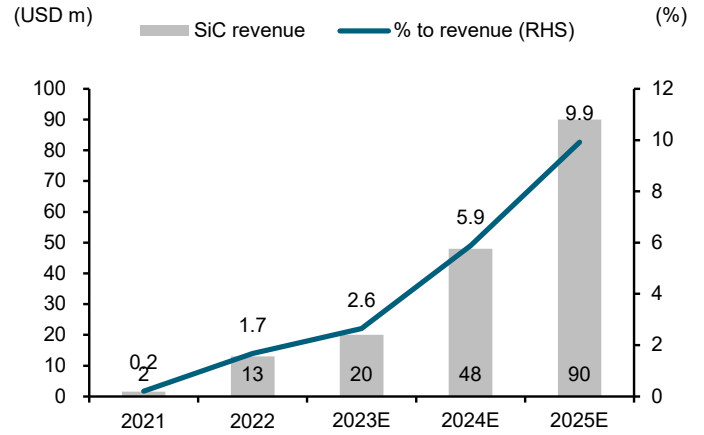
Source: FSSIA estimates

Exhibit 3: USD revenue



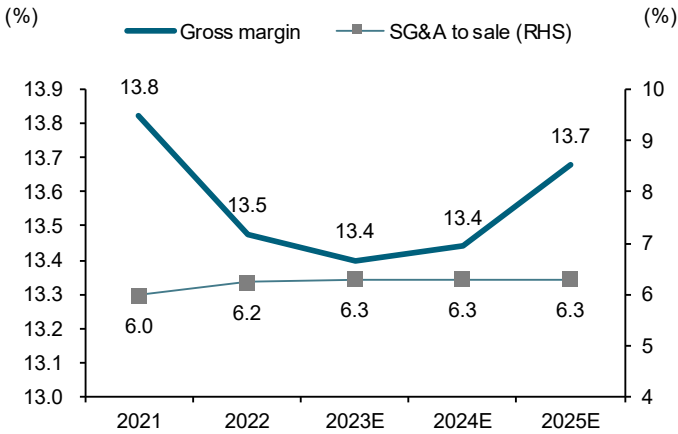
Sources: HANA; FSSIA estimates

Exhibit 4: SiC revenue



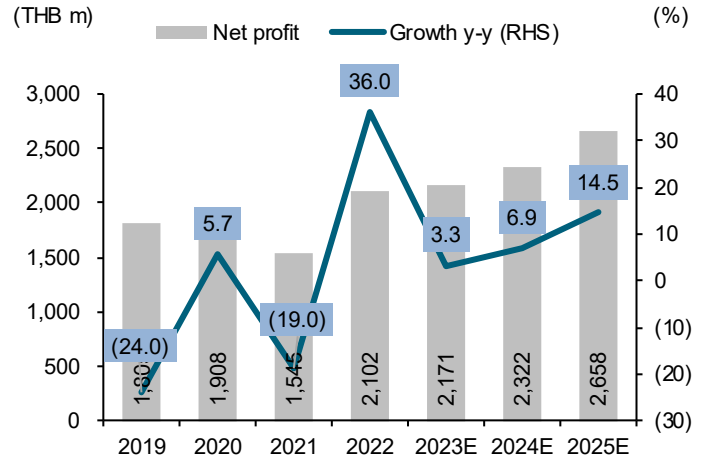
Sources: HANA; FSSIA estimates

Exhibit 5: Gross margin and SG&A to sales



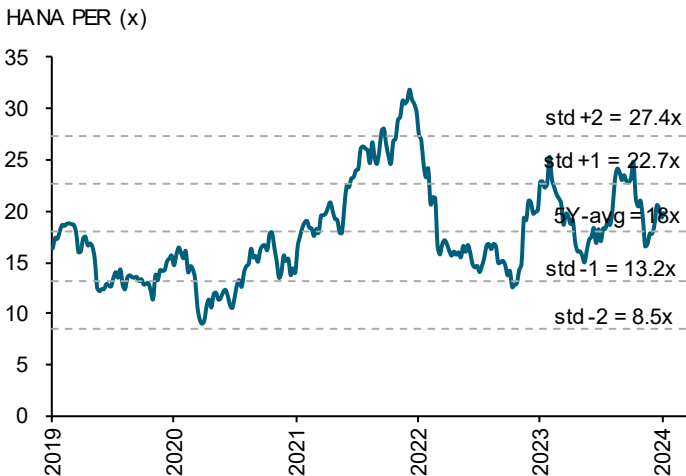
Sources: HANA; FSSIA estimates

Exhibit 6: Net profit and growth



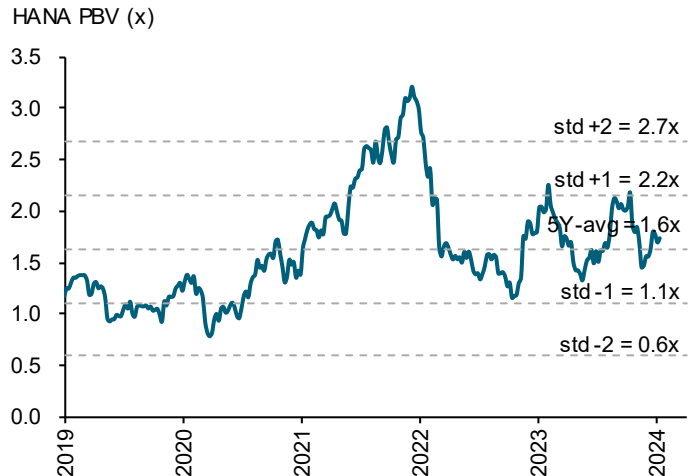
Sources: HANA; FSSIA estimates

Exhibit 7: Historical P/E band



Sources: Bloomberg, FSSIA's compilation

Exhibit 8: Historical P/BV band



Sources: Bloomberg, FSSIA's compilation

Financial Statements

Hana Microelectronics

Profit and Loss (THB m) Year Ending Dec	2021	2022	2023E	2024E	2025E
Revenue	23,780	27,167	26,089	26,895	29,931
Cost of goods sold	(20,493)	(23,506)	(22,593)	(23,280)	(25,836)
Gross profit	3,287	3,661	3,496	3,615	4,095
Other operating income	357	458	457	457	509
Operating costs	(1,423)	(1,695)	(1,644)	(1,694)	(1,886)
Operating EBITDA	3,522	4,054	4,114	4,332	4,773
Depreciation	(1,301)	(1,630)	(1,805)	(1,955)	(2,055)
Goodwill amortisation	0	0	0	0	0
Operating EBIT	2,221	2,425	2,309	2,378	2,718
Net financing costs	106	81	42	54	66
Associates	0	0	0	0	0
Recurring non-operating income	0	0	0	0	0
Non-recurring items	(729)	(296)	(83)	0	0
Profit before tax	1,598	2,209	2,268	2,431	2,783
Tax	(53)	(107)	(96)	(109)	(125)
Profit after tax	1,545	2,102	2,171	2,322	2,658
Minority interests	0	0	0	0	0
Preferred dividends	0	0	0	0	0
Other items	-	-	-	-	-
Reported net profit	1,545	2,102	2,171	2,322	2,658
Non-recurring items & goodwill (net)	729	296	83	0	0
Recurring net profit	2,274	2,398	2,254	2,322	2,658
Per share (THB)					
Recurring EPS *	2.83	2.98	2.55	2.62	3.00
Reported EPS	1.92	2.61	2.45	2.62	3.00
DPS	2.00	1.00	0.98	1.18	1.35
Diluted shares (used to calculate per share data)	805	805	885	885	885
Growth					
Revenue (%)	23.3	14.2	(4.0)	3.1	11.3
Operating EBITDA (%)	21.4	15.1	1.5	5.3	10.2
Operating EBIT (%)	28.6	9.2	(4.8)	3.0	14.3
Recurring EPS (%)	26.5	5.4	(14.6)	3.0	14.5
Reported EPS (%)	(19.0)	36.0	(6.1)	6.9	14.5
Operating performance					
Gross margin inc. depreciation (%)	13.8	13.5	13.4	13.4	13.7
Gross margin exc. depreciation (%)	19.3	19.5	20.3	20.7	20.5
Operating EBITDA margin (%)	14.8	14.9	15.8	16.1	15.9
Operating EBIT margin (%)	9.3	8.9	8.9	8.8	9.1
Net margin (%)	9.6	8.8	8.6	8.6	8.9
Effective tax rate (%)	3.3	4.9	4.2	4.5	4.5
Dividend payout on recurring profit (%)	70.8	33.6	38.5	45.0	45.0
Interest cover (X)	(20.9)	(29.9)	(55.4)	(44.1)	(41.4)
Inventory days	108.0	136.1	153.7	139.8	134.2
Debtor days	61.5	64.0	67.3	64.0	61.7
Creditor days	55.7	64.0	63.7	53.8	51.6
Operating ROIC (%)	12.1	10.2	8.7	8.5	9.2
ROIC (%)	11.6	9.9	8.5	8.3	9.0
ROE (%)	10.2	10.2	9.2	8.9	9.8
ROA (%)	8.3	8.1	7.5	7.6	8.3
* Pre-exceptional, pre-goodwill and fully diluted					
Revenue by Division (THB m)					
PCBA	13,425	15,214	15,791	16,107	16,912
IC	9,394	10,595	8,899	9,361	11,520
IC Assemble (RFID / Microdisplay)	961	1,358	1,399	1,427	1,498

Sources: Hana Microelectronics; FSSIA estimates

Financial Statements

Hana Microelectronics

Cash Flow (THB m) Year Ending Dec	2021	2022	2023E	2024E	2025E
Recurring net profit	2,274	2,398	2,254	2,322	2,658
Depreciation	1,301	1,630	1,805	1,955	2,055
Associates & minorities	-	-	-	-	-
Other non-cash items	(455)	24	(16)	0	0
Change in working capital	(2,566)	(2,626)	582	(282)	(1,055)
Cash flow from operations	554	1,426	4,625	3,995	3,658
Capex - maintenance	-	-	-	-	-
Capex - new investment	(4,026)	(2,821)	(3,500)	(3,000)	(2,000)
Net acquisitions & disposals	-	-	-	-	-
Other investments (net)	(99)	14	13	(16)	12
Cash flow from investing	(4,124)	(2,807)	(3,487)	(3,016)	(1,988)
Dividends paid	(1,382)	(1,191)	(890)	(1,045)	(1,196)
Equity finance	0	0	80	0	0
Debt finance	(5)	(2)	0	0	0
Other financing cash flows	1,289	209	(469)	8	(641)
Cash flow from financing	(98)	(984)	(1,279)	(1,037)	(1,837)
Non-recurring cash flows	-	-	-	-	-
Other adjustments	0	0	0	0	0
Net other adjustments	0	0	0	0	0
Movement in cash	(3,668)	(2,365)	(141)	(58)	(168)
Free cash flow to firm (FCFF)	(3,562.70)	(1,368.15)	1,163.72	997.32	1,684.33
Free cash flow to equity (FCFE)	(2,285.87)	(1,174.20)	668.50	986.68	1,028.49

Per share (THB)	2021	2022	2023E	2024E	2025E
FCFF per share	(4.02)	(1.55)	1.31	1.13	1.90
FCFE per share	(2.58)	(1.33)	0.76	1.11	1.16
Recurring cash flow per share	3.88	5.03	4.57	4.83	5.32

Balance Sheet (THB m) Year Ending Dec	2021	2022	2023E	2024E	2025E
Tangible fixed assets (gross)	26,004	28,300	31,800	34,800	36,800
Less: Accumulated depreciation	(16,342)	(17,446)	(19,251)	(21,206)	(23,261)
Tangible fixed assets (net)	9,663	10,853	12,549	13,594	13,539
Intangible fixed assets (net)	0	0	0	0	0
Long-term financial assets	72	72	72	72	0
Invest. in associates & subsidiaries	-	-	-	-	-
Cash & equivalents	5,999	3,634	3,493	3,435	3,267
A/C receivable	4,553	4,981	4,646	4,790	5,330
Inventories	6,857	9,457	8,047	8,292	9,202
Other current assets	162	171	130	134	150
Current assets	17,570	18,243	16,316	16,651	17,949
Other assets	548	534	522	538	599
Total assets	27,853	29,703	29,459	30,855	32,087
Common equity	23,058	23,862	25,332	26,609	27,400
Minorities etc.	0	0	0	0	0
Total shareholders' equity	23,058	23,862	25,332	26,609	27,400
Long term debt	3	0	0	0	0
Other long-term liabilities	763	813	261	269	299
Long-term liabilities	766	814	261	269	299
A/C payable	3,506	4,161	3,095	3,189	3,539
Short term debt	8	274	250	250	250
Other current liabilities	515	593	522	538	599
Current liabilities	4,029	5,027	3,867	3,977	4,388
Total liabilities and shareholders' equity	27,853	29,703	29,459	30,855	32,087
Net working capital	7,550	9,856	9,207	9,489	10,544
Invested capital	17,833	21,316	22,349	23,693	24,682

* Includes convertibles and preferred stock which is being treated as debt

Per share (THB)	2021	2022	2023E	2024E	2025E
Book value per share	28.65	29.65	28.61	30.05	30.95
Tangible book value per share	28.65	29.65	28.61	30.05	30.95

Financial strength	2021	2022	2023E	2024E	2025E
Net debt/equity (%)	(26.0)	(14.1)	(12.8)	(12.0)	(11.0)
Net debt/total assets (%)	(21.5)	(11.3)	(11.0)	(10.3)	(9.4)
Current ratio (x)	4.4	3.6	4.2	4.2	4.1
CF interest cover (x)	(15.3)	(19.3)	(99.0)	(72.9)	(45.1)

Valuation	2021	2022	2023E	2024E	2025E
Recurring P/E (x) *	18.1	17.2	20.1	19.5	17.1
Recurring P/E @ target price (x) *	21.2	20.1	23.6	22.9	20.0
Reported P/E (x)	26.7	19.6	20.9	19.5	17.1
Dividend yield (%)	3.9	2.0	1.9	2.3	2.6
Price/book (x)	1.8	1.7	1.8	1.7	1.7
Price/tangible book (x)	1.8	1.7	1.8	1.7	1.7
EV/EBITDA (x) **	10.0	9.3	10.2	9.7	8.9
EV/EBITDA @ target price (x) **	12.0	11.1	12.1	11.5	10.5
EV/invested capital (x)	2.0	1.8	1.9	1.8	1.7

* 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

★ ★ ★

56.35 /100

Exhibit 9: FSSIA ESG score implication

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 ESG score	Domestic ratings						Global ratings						Bloomberg	
		DJSI	SET THSI	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

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.																											
Sustainability Investment List (THSI) by The Stock Exchange of Thailand (SET)	THSI 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 THSI 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. SETTHSI Index is extended from the THSI 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%). <i>(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.)</i>	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. <i>(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.)</i>	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. <i>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.</i>	A company's ESG risk rating score is the sum of unmanaged risk. The more risk is unmanaged, the higher ESG risk is scored. <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>NEGL</th> <th>Low</th> <th>Medium</th> <th>High</th> <th>Severe</th> </tr> </thead> <tbody> <tr> <td>0-10</td> <td>10-20</td> <td>20-30</td> <td>30-40</td> <td>40+</td> </tr> </tbody> </table>	NEGL	Low	Medium	High	Severe	0-10	10-20	20-30	30-40	40+																	
NEGL	Low	Medium	High	Severe																									
0-10	10-20	20-30	30-40	40+																									
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. <table border="0" style="margin-left: 20px;"> <tr> <td style="padding-right: 10px;">AAA</td> <td>8.571-10.000</td> <td style="padding-right: 10px;">Leader:</td> <td>leading its industry in managing the most significant ESG risks and opportunities</td> </tr> <tr> <td>AA</td> <td>7.143-8.570</td> <td></td> <td></td> </tr> <tr> <td>A</td> <td>5.714-7.142</td> <td></td> <td></td> </tr> <tr> <td>BBB</td> <td>4.286-5.713</td> <td>Average:</td> <td>a mixed or unexceptional track record of managing the most significant ESG risks and opportunities relative to industry peers</td> </tr> <tr> <td>BB</td> <td>2.857-4.285</td> <td></td> <td></td> </tr> <tr> <td>B</td> <td>1.429-2.856</td> <td></td> <td></td> </tr> <tr> <td>CCC</td> <td>0.000-1.428</td> <td>Laggard:</td> <td>lagging its industry based on its high exposure and failure to manage significant ESG risks</td> </tr> </table>	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
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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. <i>(Score ratings are 0 to 25 = poor; >25 to 50 = satisfactory; >50 to 75 = good; and >75 to 100 = excellent.)</i>																												
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.																											

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

GENERAL DISCLAIMER

ANALYST(S) CERTIFICATION

Sureeporn Teewasuwet FSS International Investment Advisory Securities Co., Ltd

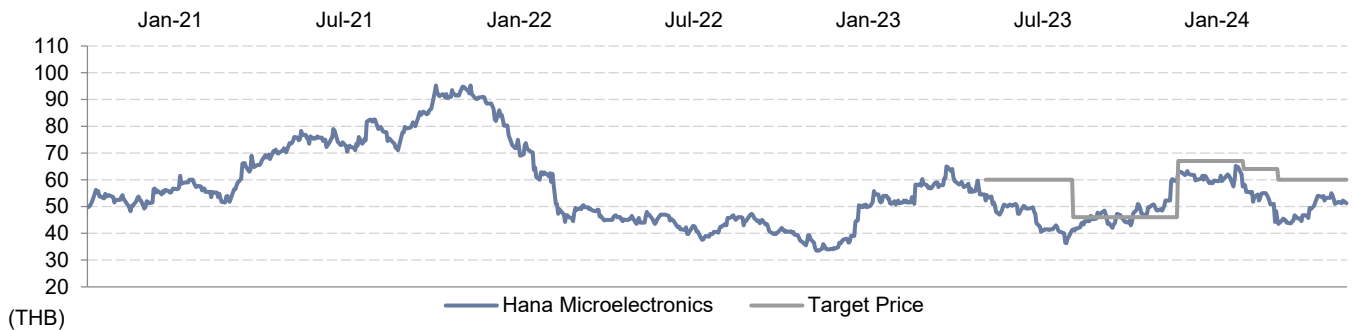
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History of change in investment rating and/or target price

Hana Microelectronics (HANA TB)



Date	Rating	Target price	Date	Rating	Target price	Date	Rating	Target price
07-Mar-2023	HOLD	60.00	21-Aug-2023	BUY	67.00	16-Nov-2023	BUY	60.00
22-May-2023	BUY	46.00	17-Oct-2023	BUY	64.00			

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 51.25	BUY	Downside risks to our P/E-based TP include 1) a slower-than-expected consumption recovery; 2) a potential rise in raw material costs; and 3) a stronger-than-expected THB against USD.

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 15-Jan-2024 unless otherwise stated.

RECOMMENDATION STRUCTURE

Stock ratings

Stock ratings are based on absolute upside or downside, which we define as $(\text{target price}^* - \text{current price}) / \text{current price}$.

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.