

Management's Discussion and Analysis

Year 2019

Overall Group Performance

Hana Microelectronics Group 'Hana' Sales Revenue decreased 8% year on year, at THB 20.4 billion in year 2019 from THB 22.3 billion in year 2018. Sales Revenue in USD terms decreased by 5% to USD 656 million in 2019 from USD 689 million in 2018. Operating profits decreased 39% to THB 1,408 million in 2019 from THB 2,309 million in 2018.

Net Profit decreased by 24% to THB 1,805 million in 2019 from THB 2,375 million in 2018 due to lower operating profits more than offsetting an increase in exchange gain of THB 319 million in 2019.

Past Performance Analysis

Revenue Analysis

Group Sales decreased 8% in 2019 to THB 20,384 million from 2018 at THB 22,264 million due to market weakness from the downturn in the semiconductor cycle and the US-China trade war. USD sales were 5% lower in 2019 at USD 656 million down from USD 689 million in 2018 as the average THB/USD exchange rate strengthened 4% to THB/USD 31.05 in 2019 from THB/USD 32.31 in 2018.

The Microelectronics divisions' sales revenue decreased 1% [-5% in THB terms] in 2019 over 2018. The microelectronics operation in Lamphun sales increased 7% [+3% in THB terms] and JXG decreased by 16% [-25% in THB terms] in 2018. In 2019 IC assembly sales overall decreased by 9% in USD terms [-12% in THB terms]. Specifically, IC AYT sales decreased 7% [-10% in THB terms], and IC JXG USD sales decreased by 22% [-25% in THB terms]. Hana Technologies Inc. "HTI" (formerly Hana Microdisplay Technologies), sales decreased 16% [-19% THB] for the year.

The annual sales split was:

	<u>2019</u>	<u>2018</u>	<u>2017</u>
PCBA (Thailand)	45%	40%	38%
PCBA (China)	14%	17%	17%
PCBA (Cambodia)	0%	0%	0%
IC (Thailand)	33%	33%	34%
IC (China)	4%	5%	6%
HTI (USA)	4%	5%	5%
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	100%	100%	100%

Gross Profit / Cost of Sales Analysis and Sales and Administration Analysis

Gross Profit decreased by THB 889 million with the gross margin being 11% in 2019 down 3 percentage points from 14% in 2018, due to lower sales revenue and stronger THB/USD exchange rate.

Operating Profit Analysis

The Operating profit margin decreased by 3 percentage points to 7% in 2019 from 10% in 2018. SGA including R&D expenses decreased by 1 [THB 16 million] due to reduced SGA expense at the Jiaxing plant.

Payout Analysis

For the year 2019 the Company paid an interim dividend of THB 523 million in Q4/19 (THB 0.65/share).

For the year 2018 the Company paid full dividends of THB 1,610 million (THB 2.00/share). An interim dividend paid of THB 805 million in Q4/18 and the final dividend of THB 805 million in Q2/19.

For the year 2017 the Company paid full dividends of THB 1,610 million (THB 2.00/share). An interim dividend paid of THB 805 million in Q4/17 and the final dividend of THB 805 million in Q2/18.

The final dividend is normally announced in the board meeting in February of the following year for approval in the annual general meeting in April and paid out in May.

Financial Status

Net cash reserves and short term financial investments were THB 8.5 billion at 31st December 2019 similar to THB 8.5 billion at 31st December 2018.

Asset Quality

Accounts Receivable

Most of customers are well known and have good reputation in the IC, and electronics industry. Provision is made of amounts outstanding over 90 days and amounts which the management believe may be doubtful. Accounts receivable were 64 days in 2019, 63 days in 2018 and 63 days in 2017.

	(Thousand Baht)		
	<u>2019</u>	<u>2018</u>	<u>2017</u>
Trade Receivables			
Less than 3 months	3,212,509	3,668,482	3,713,024
3 - 6 months	9,054	34,940	14,756
6 - 12 months	3,579	7,737	681
More than 12 months	3,626	1,480	9,130
Total accounts receivable - other companies	3,228,768	3,712,639	3,737,591
Less : Allowance for doubtful accounts	(4,485)	(21,556)	(11,159)
	3,224,283	3,691,083	3,726,432

Inventory

In general, Hana's production is based on clients' order, consequently, the majority of inventory are raw materials, expendable tools and work in process with little finished goods pending for

customer delivery. The group companies normally write-off out-of-date inventory, and make provision for aged inventory and depletion in the value of fixed assets, if material, each quarter. Inventory days were 98 days in 2019, 89 days in 2018, and 77 days in 2017.

Liquidity

The group has THB 8.5 billion in cash and financial investments with no interest bearing debt. Liquidity ratios are high at over 3 times current liabilities. Operating Cashflow (EBITDA) was THB 2,546 million in 2019 26% lower than THB 3,420 million in 2018.

EBITDA was THB 2.5 billion in 2019 and THB 3.4 billion in 2018 and 3.4 billion in 2017.

Cash and financial investments in 2019 remained stable at THB 8.5 billion, due to EBITDA 2.5 billion less final dividend THB 0.8 billion 2018 paid in Q219, interim dividend Q419 THB 0.5 billion, net capital expenditure THB 1.1 billion, other items THB -0.1 billion.

Cash and financial investments in 2018 decreased by THB 1.0 billion to THB 8.5 billion, due to EBITDA 3.4 billion less final dividend THB 0.8 billion 2017 paid in Q218, interim dividend Q418 THB 0.8 billion, capital expenditure THB 1.9 billion, other items THB -1.1 billion.

Cash and financial investments in 2017 decreased by THB 0.2 billion to THB 9.7 billion, due to EBITDA 3.4 billion less final dividend THB 0.8 billion 2016 paid in Q217, interim dividend Q417 THB 0.8 billion, capital expenditure THB 1.1 billion, other items THB -0.9 billion.

Capital Expenditure

Net Capital Expenditure was THB 1,076 million in 2019, THB 2,333 million in 2018, and THB 1,111 million in 2017. Capital Expenditure was lower in 2019 due to the lower capital expenditure from Ayutthaya plant compared to recent years due to the weakening in the semiconductor industry in 2019 and high capital expenditure in 2018.

Generally, capital expenditure for production equipment will follow the increase in sales, particularly in the IC division. However, there is a 3 to 6 month time lag due to the ordering lead time. Plant expansion will depend on the current building utilisation and lead time to construct new plant or expand in an existing plant.

Source of Financial Capital

As the group has no interest bearing debt and operating working capital is positive the groups funding is from the shareholders equity.

Major Factors which could have an Impact on the Company's Performance

The Company business is that of an electronics manufacturing service company. The Company manufactures products on behalf of its customers for shipment to them or their customers. Therefore, the Company's performance is mostly affected by its ability to win and retain business from the existing and new customers. In turn, customer demand is affected by world economic growth and the customer's sales growth.

The groups sales revenue are in foreign currency (primarily USD) and USD currency costs are approximately 60% percent of sales revenues. The Group operating profit sensitivity to change in the Thai Baht/USD and Chinese CNY/USD exchange rates is currently about Baht 200 million per quarter for every 10% change in the average Baht/USD and CNY/USD rates (i.e. $(1 - 0.60) \times \text{Sales Revenue} \times 10\%$).

Out of the groups foreign exchange exposure, USD 120 million is hedged, Foreign exchange contracts are used to buy THB and sell USD on a rolling 3 or 6 months basis.

Whilst the book value of the offshore companies are represented in foreign currency, the effect of the change in the exchange rate is shown by the movement of the foreign currency 'Translation Adjustment' in the shareholders funds section of the balance sheet. There is no cash affect concerning its movement.

For Hana being an export group of companies the currency movements cause volatility in earnings due to effects on the operating margins and also inventory valuations (which the management report each quarter when there is a material effect on the profits) and margins.

Foreign Exchange Rates

The THB/USD currency movements reflected the economic trends in emerging markets and commodities during period. The average rate for 2019 of THB/USD 31.05 was 4% stronger than the THB/USD 32.31 in 2018 which was 5% stronger than the THB/USD 33.93 in 2017.

Exceptional Items

There were no Exceptional Items in 2019, 2018 or 2017.

Subsequent Event

None

HANA MICROELECTRONICS GROUP

CONSOLIDATED STATEMENT OF EARNINGS

'000 Baht	Year		Year		Year		%	
	2019		2018		2017		2019-2018	2019-2018
REVENUES								
Sales	20,384,422		22,264,260		21,550,861		(1,879,838)	-8%
consisting of:								
<i>PCBA (Lamphun, Thailand)</i>	9,093,562	45%	8,824,932	40%	8,014,779	38%	268,629	3%
<i>PCBA (Jiaxing, China)</i>	2,794,402	14%	3,706,284	17%	3,641,321	17%	(911,882)	-25%
<i>PCBA (Cambodia)</i>	85,348	0%	44,182	0%	84,896	0%	41,166	93%
<i>IC (Ayutthaya, Thailand)</i>	6,665,343	33%	7,445,097	33%	7,350,290	34%	(779,754)	-10%
<i>IC (Jiaxing, China)</i>	908,097	4%	1,203,452	5%	1,302,562	6%	(295,355)	-25%
<i>HTI (Ohio, USA)</i>	837,670	4%	1,040,312	5%	1,157,012	5%	(202,642)	-19%
	<u>20,384,422</u>	100%	<u>22,264,260</u>	100%	<u>21,550,861</u>	100%	<u>(1,879,838)</u>	-8%
Other Income	347,883		375,335		295,473		(27,452)	-7%
TOTAL OPERATING REVENUES	<u>20,732,305</u>		<u>22,639,595</u>		<u>21,846,334</u>		<u>(1,907,290)</u>	-8%
EXPENSES								
Cost of Sales	18,070,411	89%	19,060,852	86%	18,336,460	85%	(990,441)	-5%
Selling & Admin. Expenses	1,227,028	6%	1,245,852	6%	1,219,773	6%	(18,824)	-2%
R&D Expenses	26,744	0%	23,634	0%		0%		0%
TOTAL EXPENSES	<u>19,324,183</u>	95%	<u>20,330,338</u>	91%	<u>19,556,233</u>	91%	<u>(1,009,265)</u>	-5%
OPERATING EARNINGS	<u>1,408,122</u>	7%	<u>2,309,257</u>	10%	<u>2,290,100</u>	10%	<u>(898,025)</u>	-39%
Dividend Income	66		2,014		57		(1,948)	
Interest	183,557		196,115		206,197		(12,558)	-6%
Finance Expenses	(13,234)		(6,752)		(7,284)		(6,483)	96%
EARNINGS before Income Tax	<u>1,578,511</u>	8%	<u>2,500,634</u>	11%	<u>2,489,070</u>	11%	<u>(919,013)</u>	-37%
Corporate Income Tax	(108,265)	7%	(140,537)	6%	(131,974)	5%	32,272	-23%
Earnings before Exch. & Exceptional Items	<u>1,470,246</u>	7%	<u>2,360,098</u>	11%	<u>2,357,096</u>	11%	<u>(886,741)</u>	-38%
Exchange Gain (Loss)	334,338		15,125		530,634		319,213	
Exceptional Items	-		-		-		-	
NET EARNINGS for the Period	<u>1,804,585</u>	9%	<u>2,375,223</u>	10%	<u>2,887,730</u>	13%	<u>(567,528)</u>	-24%

HANA MICROELECTRONICS GROUP

CONSOLIDATED Balance Sheet

'000 Baht	Year 2019	Year 2018	Year 2017	2019-2018	%
				2019-2018	2019-2018
ASSETS					
CURRENT ASSETS					
Cash in Hand & at Banks	5,434,979	4,081,336	4,756,538	1,353,643	33%
Financial Investments	3,582,766	4,465,406	4,982,973	(882,640)	-20%
Accounts Receivable - trade	3,340,723	3,831,672	3,904,178	(490,949)	-13%
Inventories	4,518,387	5,222,840	4,082,874	(704,452)	-13%
Other Current Assets	137,874	155,141	166,896	(17,268)	-11%
TOTAL CURRENT ASSETS	17,014,729	17,756,395	17,893,458	(741,666)	-4%
Fixed Deposit	135,790	146,121	-	(10,331)	-7%
INVESTMENTS IN ASSOCIATED COMPANY	-	-	-	-	
FIXED ASSETS (net)	6,974,166	7,251,542	6,065,872	(277,376)	-4%
OTHER ASSETS	301,498	214,255	443,768	87,243	
TOTAL ASSETS	24,426,183	25,368,314	24,403,098	(942,131)	-4%
LIABILITIES					
CURRENT LIABILITIES					
Bank Overdrafts & Loans	500,000	-	-	500,000	
Accounts & Notes Payable	2,252,054	3,421,409	2,920,965	(1,169,354)	-34%
Short Term Provisions	-	324,498	-	(324,498)	-100%
Corporate Income Tax Payable	22,447	37,278	40,486	(14,831)	-40%
Accrued Expenses	301,540	-	326,809	301,540	
Other Current Liabilities	105,661	130,408	97,658	(24,747)	-19%
TOTAL CURRENT LIABILITIES	3,181,702	3,913,593	3,385,918	(731,890)	-19%
LONG TERM LIABILITIES					
Long Term Loans	-	-	-	-	
Other Long Term Liabilities	698,864	371,590	327,302	327,274	
TOTAL LIABILITIES	3,880,567	4,285,183	3,713,220	(404,616)	-9%
SHAREHOLDERS EQUITY					
Share Capital	804,879	804,879	804,879	-	
Unrealised gain(loss) on change in investments	-	-	-	-	
Share Premium	1,723,219	1,723,219	1,723,219	-	0%
Retained Earnings	-	-	-	-	
Appropriated Statutory Reserve	456,463	456,463	443,691	-	0%
Unappropriated & Treasury Share Reserve	18,441,803	18,237,930	17,504,229	203,873	1%
Translation adj. & Investment revaluation	(880,748)	(139,361)	213,860	(741,387)	532%
Treasury shares	-	-	-	-	
Excess Cost over Net Book Value of Subsidiary Investments	-	-	-	-	
TOTAL SHAREHOLDERS EQUITY	20,545,616	21,083,130	20,689,878	(537,514)	-3%
TOTAL LIABILITIES & SHAREHOLDERS EQUITY	24,426,182	25,368,313	24,403,098	(942,130)	-4%

HANA MICROELECTRONICS GROUP
CONSOLIDATED Summary Statement of Cashflows

'000 Baht	Year 2019	Year 2018	Year 2017	2019-2018
Cashflow from Operating Activities				
Net Earnings before Tax	1,912,849	2,515,760	3,019,704	(602,910)
Adjustments to reconcile net earnings to net cash provided by operating activities				
Non Cash items				
Depreciation	1,138,134	1,110,629	1,083,474	27,505
Unrealised (gain) Loss on exchange	(47,777)	18,516	8,964	(66,293)
Change in other provisions	(191,183)	(106,226)	(376,972)	(84,958)
	<u>899,174</u>	<u>1,022,919</u>	<u>715,466</u>	<u>(123,746)</u>
Working Capital (increase) decrease				
Trade accounts receivable	481,963	2,933	(317,305)	479,030
Inventories	720,903	(1,166,828)	(362,756)	1,887,731
Trade accounts payable	(689,159)	152,498	99,205	(841,657)
Other	(114,364)	(47,320)	(140,119)	(67,045)
	<u>399,342</u>	<u>(1,058,716)</u>	<u>(720,975)</u>	<u>1,458,059</u>
Net Cashflow from Operating Activities	<u>3,211,365</u>	<u>2,479,962</u>	<u>3,014,195</u>	<u>731,403</u>
Cashflow from Investing Activities				
(Increase) decrease in short term investment	1,180,808	560,546	(1,091,869)	620,262
Increase in property, plant and equipment	(1,407,023)	(1,908,216)	(943,116)	501,193
Proceeds from sale of fixed assets	73,694	11,697	16,477	61,997
Increase (decrease) in translation adjustment	(880,326)	(206,708)	(812,434)	(673,617)
Decrease in short term loans to related parties				-
Other	9,060	(2,724)	(164,552)	11,784
	<u>(1,023,787)</u>	<u>(1,545,406)</u>	<u>(2,995,494)</u>	<u>521,619</u>
Cashflow from Financing Activities				
Cash paid for treasury stock	-	-	-	-
Cash received from increase in share capital & overdraft	494,115	-	-	494,115
Dividend paid	(1,328,050)	(1,609,758)	(1,609,758)	281,708
Net cash (used in) from financing activities	<u>(833,935)</u>	<u>(1,609,758)</u>	<u>(1,609,758)</u>	<u>775,823</u>
Net Cash, equivalents and short term liquid investments increase (decrease)	1,353,643	(675,201)	(1,591,057)	2,028,844
Cash and Equivalents at the beginning of the period	<u>4,081,337</u>	<u>4,756,538</u>	<u>6,347,595</u>	<u>(675,201)</u>
Cash and Equivalents at the end of the period	<u>5,434,980</u>	<u>4,081,337</u>	<u>4,756,538</u>	<u>1,353,643</u>

HANA MICROELECTRONICS GROUP

Financial Ratios

'000 Baht	Year 2019	Year 2018	Year 2017	2019-2018
Profitability Ratios				
Gross Profit Margin (%)	11%	14%	15%	-3%
Operating Profit Margin (%)	7%	10%	11%	-3%
Net Profit before Exceptional Margin (%)	7%	11%	11%	-4%
Net Profit after Exceptional Margin (%)	9%	11%	13%	-2%
EBITDA margin (%)	12%	15%	16%	-3%
Return On Equity (%) pa	9%	11%	14%	-2%
Return On Assets (%) pa	7%	9%	12%	-2%
Return On Operating Capital Employed (%) pa	11%	18%	20%	-7%
Efficiency Ratios				
Working Capital turnover	4	4	5	
Account Receivable days	64	63	63	1
Inventory days	98	89	77	9
Accounts Payable days	57	61	57	(4)
Liquidity Ratios				
Current Ratio	5.3	4.5	5.3	0.8
Quick Ratio	3.9	3.2	4.0	0.7
Financial Capital Ratios				
Debt / Equity	0.2	0.2	0.2	
Net Debt to Equity	-0.2	-0.2	-0.3	
Interest Coverage	n/a	n/a	n/a	