

Management's Discussion and Analysis Year 2022

Overall Group Performance

Hana Microelectronics Group "Hana" Sales Revenue increased 14% year on year, at THB 27,167 million in year 2022 from THB 23,780 million in year 2021. Sales Revenue in USD terms increased by 4% to USD 775 million in 2022 from USD 744 million in 2021. Earnings from Operations increased 9% to THB 2,422 million in 2022 from THB 2,219 million in 2021.

Net Profit increased by 36% to THB 2,102 million in 2022 from THB 1,545 million in 2021 due to a 10% weaker average THB/USD exchange rate in 2022, and exceptional item of THB 420 million (USD 12.7 million) write-down of balance of Credit Suisse Supply Chain fund in Q4/21.

Past Performance Analysis

Revenue Analysis

Group sales increased 14% in 2022 to THB 27,167 million from 2021 at THB 23,780 million driven by a post-Covid-19 economic recovery coupled with a weaker THB/USD exchange rate. USD sales were 4% higher in 2022 at USD 775 million up from USD 744 million in 2021. The average THB/USD exchange rate weakened 10% to THB/USD 35.1 in 2022 from THB/USD 32.0 in 2021.

The Microelectronics divisions' sales revenue in USD increased 2% [13%% in THB terms] in 2022 over 2021. The microelectronics operation in Lamphun sales decreased -1% [+9% in THB terms] and Jiaying increased by 11% [+22%] in 2022.

In 2022 IC assembly sales overall increased by 1% [11%]. Specifically, IC AYT sales increased 1% [10% THB terms] and IC JXG USD sales increased by 1% [11% in THB terms].

Hana Technologies Inc. "HTI", sales increased 27% [39% THB] for the year.

The annual sales split was:

	<u>2022</u>	<u>2021</u>	<u>2020</u>
PCBA (Thailand)	41%	41%	45%
PCBA (China)	14%	14%	12%
PCBA (Cambodia)	1%	1%	0%
IC (Thailand)	33%	34%	34%
IC (China)	5%	5%	5%
HTI (USA)	5%	5%	4%
IC (Korea)	1%	0%	0%
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	100%	100%	100%

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

Gross Profit increased by THB 374 million with the gross margin decreasing -1% point to 13% in 2022 from 14% in 2021.

Operating Profit Analysis

The Earnings from Operations margin was similar at 9% in 2022 and 2021. SGA including R&D expenses were 19% higher in 2022 than 2021 due to increased R&D expenses at Power Master and capacity expansion at HTI.

Payout Analysis

For the year 2022, the company paid full dividends of THB 805 million (THB 1.0/share). An interim dividend paid of THB 402 million in Q4/22 and the final dividend of THB 402 million to be paid in Q2/23.

For the year 2021, the company paid full dividends of THB 1,610 million (THB 2.0/share). An interim dividend paid of THB 805 million in Q4/21 and the final dividend of THB 805 million in Q2/22.

For the year, 2020 the company paid full dividends of THB 1,126 million (THB 1.40/share). An interim dividend paid of THB 523 million in Q4/20 and the final dividend of THB 603 million in Q2/21.

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 financial investments were THB 3.6 billion at the 31st December 2022 down from THB 6.0 billion at the 31st December 2021.

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 2022, 62 days in 2021 and 64 days in 2020.

	(Thousand Baht)		
	<u>2022</u>	<u>2021</u>	<u>2020</u>
Trade Receivables			
Less than 3 months	4,754,011	4,252,339	3,318,590
3 - 6 months	31,736	52,465	18,861
6 - 12 months	97	5,720	3,203
More than 12 months	3,418	5,408	2,418
Total accounts receivable - other companies	4,789,262	4,315,932	3,343,072
Less : Allowance for doubtful accounts	(13,289)	(11,114)	(6,117)
	4,775,973	4,304,818	3,336,955

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 127 days in 2022, 101 days in 2021 and 98 days in 2020.

Accounts Payable

Credit terms with suppliers are mostly open account with credit terms varying from cash in advance to 90 days. The credit term has been determined in accordance with the principles of fair dealing between the Company and suppliers. Accounts payable were 60 days in 2022, 52 days in 2021 and 50 days in 2020.

Liquidity

The group has THB 3.6 billion in cash and financial investments. Liquidity ratios are high at over 3 times current liabilities.

Operating Cashflow (EBITDA) was THB 4,052 million in 2022, 15% higher than THB 3,520 million in 2021 and THB 3,027 million in 2020.

Cash and financial investments in 2022 decreased to THB 3.6 billion, due to EBITDA 4.1 billion less final dividend THB 0.8 billion 2021 paid in Q222, interim dividend Q422 THB 0.4 billion, net capital expenditure THB 2.7 billion, other items THB -2.5 billion.

Cash and financial investments in 2021 decreased to THB 6.0 billion, due to EBITDA 3.5 billion less final dividend THB 0.8 billion 2020 paid in Q221, interim dividend Q421 THB 0.6 billion, net capital expenditure THB 3.9 billion, other items THB -1.9 billion.

Cash and financial investments in 2020 increased to THB 9.7 billion, due to EBITDA 2.9 billion less final dividend THB 0.5 billion 2019 paid in Q220, interim dividend Q420 THB 0.5 billion, net capital expenditure THB 1.1 billion, other items THB 0.6 billion.

Capital Expenditure

Capital Expenditure was THB 2,876 million in 2022, THB 3,895 million in 2021, and THB 1,055 million in 2020.

Capital Expenditure was lower in 2022 than in 2021 due to the lower capital expenditure at Ayutthaya plant due to the cooling of semiconductor demand in 2022, whereas there was high semiconductor demand in 2021 due to recover of the global economy from the COVID-19 pandemic. In 2020 capital expenditure was lower due to the pandemic.

Generally, capital expenditure for production equipment will follow the increase in sales, particularly in the IC division. However, there is a 6 to 12 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 group's 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 group's 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 group's 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.

Other factors which may affect operating performance of the company are (but not limited to): Customer retention, winning new customers, product price erosion, customers products success in their respective markets and lifecycle of such products, consistently manufacturing products to agreed specifications and delivery schedules with customers, recall, product liability risks in the event of product failures, suppliers

price and consistent supply of raw materials to agreed specifications, supplier financial solvency, fluctuation in foreign exchange rates for each of our operations compared to both product sales currency which is primarily USD, materials purchasing currency which is primarily USD and the operating currency in each country which we operate, wages and salaries increases, availability and turnover of direct labour and skilled staff, credit risks, market, liquidity and funding, insurance, operational, regulatory compliance, strategic, reputation, legal and regulatory environment, competitive and systemic risks. Our success in executing and completing mergers and acquisitions and subsequent operational risks. Our success in developing and marketing new products and factory processes. Success in protecting intellectual property developed.

Macro-economic stability of the countries in which we, our customers and suppliers operate. Global financial stability which may affect interest rates and access of funding of the company, its customers and suppliers. Pandemic risks such as the continuing severity, magnitude and duration of the COVID-19 pandemic, including impacts of the pandemic, of businesses' and governments' responses to the pandemic the extent to which the COVID-19 pandemic and related impacts, including global supply chain disruptions.

Foreign Exchange Rates

The THB/USD currency movements reflected the increase in relative interest rates in the USA in 2022. In 2021 economic trends in emerging markets and commodities markets during the period. The average rate for 2022 was THB/USD 35.07 which was 10% weaker than 2021 at THB/USD 31.98 which was 2% weaker than the 2020 of THB/USD 31.29.

Impact from COVID-19

Overall, demand in 2022 continued to be well supported after the growth in 2021 from the global recovery after the pandemic. However, Semiconductor demand cooled particularly in the second half of the year as supply chains normalised.

Demand in 2021 continued to increase and was strong throughout the year. Increased demand resulted from consumers expenditure moving from travel and services more towards physical goods, including electronics, due to the restrictions on travel and entertainment imposed by governments in attempts to control the spread of COVID-19. Demand was further supported due to developed country governments injecting cash in the economies to help alleviate reduced spending from the economic downturn.

Covid-19 outbreak occurred in Q321 in our Ayutthaya plant reducing production in Q321 and an outbreak also occurred in Q421 in our Lamphun plant but there was no material affect on production. Due to increased demand globally for physical goods rebounding from cut backs in demand in 2020 supply chain disruptions occurred of semiconductor components which affected many of our customers However, the overall result was not a material impact to our ability to supply our customers.

In 2020 there was no material impact on the company or groups performance or financial condition from the COVID-19 pandemic. Our plant in Jiaxing, China was the most directly impacted due to an extended Chinese New year shutdown and shortage of labour which resulted in USD 20m sales in Q120 being less than sales of USD 33m in Q119. No other plants in the group suffered from any lockdown. Except for 2 cases at the subsidiary, Hana Technologies, Inc. in Ohio, USA, no other site's employees suffered COVID-19. Each factory made preparations for work-from-home if an outbreak occurred. Social distancing strategies, daily checking of all employees and visitors to each site for COVID-19 symptoms and regular disinfection of all surfaces in all non-production areas also have been implemented.

All customer demand was fulfilled and there were no financial liquidity, solvency, capital expenditure planning, cash flow or contractual impacts to the company or its subsidiaries from the pandemic.

Exceptional Items

There were no Exceptional Items in 2022.

In Q4 2021 we wrote down the balance invested in Credit Suisse (Lux) Supply Chain Finance Fund of THB 404 million (USD 12.7 million) to zero. The original invested amount totaled USD 35 million. Whilst there may be some further recoveries from the fund we believe it is prudent to provide for the balance of the fund. There were no Exceptional Items in 2020.

Subsequent Event

None