Management's Discussion and Analysis

Year 2021

Overall Group Performance

Hana Microelectronics Group 'Hana' Sales Revenue increased 23% year on year, at THB 23.8 billion in year 2021 from THB 19.3 billion in year 2020. Sales Revenue in USD terms increased by 21% to USD 743m in 2021 from USD 616m in 2020. Earnings from Operations increased 29% to THB 2,219m in 2021 from 1,725m in 2020.

Net Profit decreased by 19% to THB 1,545m in 2021 from THB 1,908m in 2020 due to higher bonuses, higher R&D costs, exchange loss of difference of THB 444m and exceptional item of THB 420m (USD 12.7m) write-down of balance of Credit Suisse Supply Chain fund in Q421.

Past Performance Analysis

Revenue Analysis

Group Sales increased 23% in 2021 to THB 23,780m from 2020 at THB 19,282m due to market recovery from the lower sales revenues in 2020 due to the COVID-19 pandemic. USD sales were 21% higher in 2021 at USD 744m up from USD 616m in 2020 as the average THB/USD exchange rate weakened 2% to THB/USD 31.98 in 2021 from THB/USD 31.29 in 2020.

The Microelectronics divisions' sales revenue increased 16% [19% in THB terms] in 2021 over 2020. The microelectronics operation in Lamphun sales increased 16% [+18% in THB terms] and JXG increased by 18% [+21% in THB terms] in 2021.

In 2021 IC assembly sales overall increased by 25% in USD terms [+28% in THB terms]. Specifically, IC AYT sales increased 23% [+25% in THB terms], and IC JXG USD sales increased by 49% [+52% in THB terms].

Hana Technologies Inc "HTI", sales increased 37% [+41% THB] for the year.

The annual sales split was:

	<u>2021</u>	<u>2020</u>	<u>2019</u>
PCBA (Thailand)	44%	45%	45%
PCBA (China)	13%	12%	14%
PCBA (Cambodia)	0%	0%	0%
IC (Thailand)	34%	34%	33%
IC (China)	5%	5%	4%
HTI (USA)	4%	4%	4%
	100%	100%	100%

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

Gross Profit increased by THB 739m with the gross margin being 14% in 2021 up 1 percentage points from 13% in 2020. +1% points higher gross margin due to greater economies of scale from higher revenues in 2021.

Operating Profit Analysis

The Earnings from Operations margin was similar at 9% in 2021 and 2020 due to higher salary expenses from resumption in bonus payments during 2021 and increased R&D expenses in the IC operation in Korea. SGA including R&D expenses were 17% higher in 2021 than 2020. Exceptional items were THB 420m (USD 12.7m) write down to zero of the balance of the Credit Suisse Supply Chain Fund.

Payout Analysis

For the year 2021 the company paid full dividends of THB 1,610m (THB 2.0/share). An interim dividend paid of THB 805m in Q4/21 and the final dividend of THB 805m in Q2/22. For the year 2020 the company paid full dividends of THB 1,126m (THB 1.40/share). An interim dividend paid of THB 523m in Q4/20 and the final dividend of THB 603m in Q2/21. For the year 2019 the company paid full dividends of THB 1,046m (THB 1.30/share). An interim

dividend paid of THB 523m in Q4/19 and the final dividend of THB 523m in Q2/20.

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 6.0 billion at the 31st December 2021 down from THB 9.7 billion at the 31st December 2020.

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 62 days in 2021, 64 days in 2020 and 64 days in 2019.

Trade Receivables	'000	<u>2021</u>	<u>2020</u>	<u>2019</u>
Less than 3 months		4,252,339	3,318,590	3,212,509
3 - 6 months		52,465	18,861	9,054
6 - 12 months		5,720	3,203	3,579
More than 12 months		5,408	2,418	3,626
Total accounts receivable - other com	pani	4,315,932	3,343,072	3,228,768
Less : Allowance for doubtful account	S	(11,114)	(6,117)	(4,485)
		4,304,818	3,336,955	3,224,283

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 101 days in 2021, 98 days in 2020 and 98 days in 2019.

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 52 days in 2021, 50 days in 2020 and 57 days in 2019.

<u>Liquidity</u>

The group has THB 6.0 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 3,520m in 2021, 21% higher than THB 2,900m in 2020. EBITDA was THB 3.5 billion in 2021 and THB 2.9 billion in 2020 and 2.5 billion in 2019.

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

Cash and financial investments in 2020 increased to THB 9.7 billion, due to

EBITDA 2.9 billion less final dividend THB 0.5b 2019 paid in Q220, interim dividend Q420 THB 0.5b , net capital expenditure THB 1.1b, other items THB 0.6b.

Cash and financial investments in 2019 remained stable at THB 8.5 billion, due to

EBITDA 2.5 billion less final dividend THB 0.8b 2018 paid in Q219, interim dividend Q419 THB 0.5b , net capital expenditure THB 1.1b, other items THB -0.1b.

Capital Expenditure

Capital Expenditure was THB 3,895m in 2021, THB 1,055m in 2020, and THB 1,076m in 2019. Capital Expenditure was higher than in 2020 due to the higher capital expenditure from Ayutthaya plant compared to recent years due to the demand recovery in 2021, COVID-19 pandemic starting in 2020 and weakening in the semiconductor industry in 2019. Higher capital expenditure from development in IC division in Korea. 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 as 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 200m per quarter for every 10% change in the average Baht/USD and CNY/USD rates (i.e. (1- 0.60) x Sales Revenue x 10%). Out of the groups foreign exchange exposure, USD 120m 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 economic trends in emerging markets and commodities during period. The average rate for 2021 was THB/USD 31.98 which was 2% weaker than 2020 of THB/USD 31.29 was 1% weaker than the THB/USD 31.05 in 2019.

Impact from COVID-19

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 COIVD-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.

Sales across the group were lower than expected from March to September 2020 with Revenues increasing in Q420. Customer demand was lower during that period due to reduced demand from their customers, inventory reductions throughout the supply chain and component shortages during lockdown periods affecting our suppliers.

Exceptional Items

In Q4 2021 we wrote down the balance invested in Credit Suisse (Lux) Supply Chain Finance Fund of THB 404m (USD 12.7m) to zero. The original invested amount totalled USD 35m. 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, or 2019.

Subsequent Event

None