



56-1 ONE REPORT 2022

Microelectronics Public Company Limited
บริษัท อาเนา ไมโครอิเล็กทรอนิกส์ จำกัด (มหาชน)

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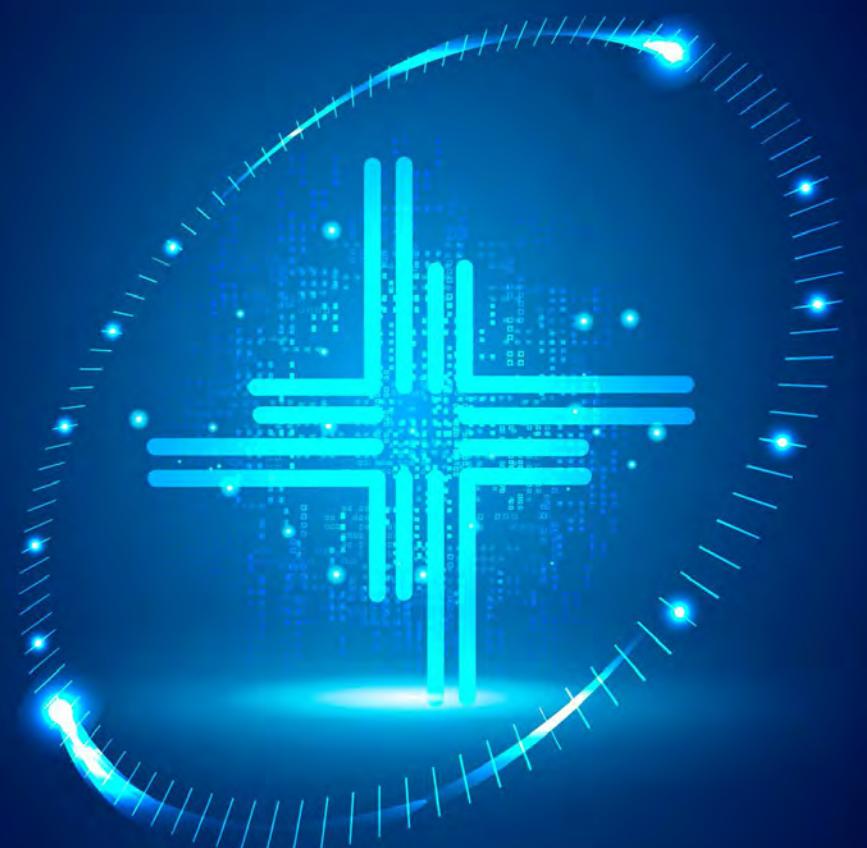
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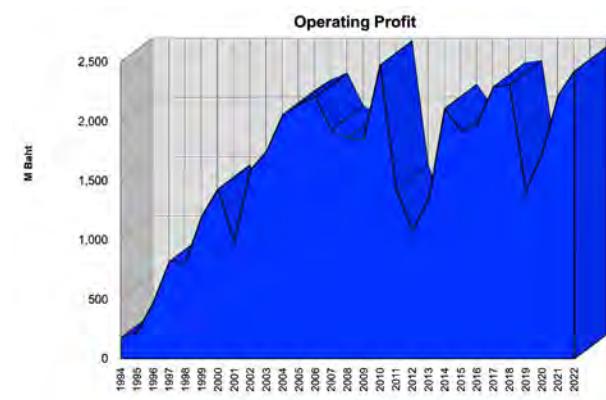
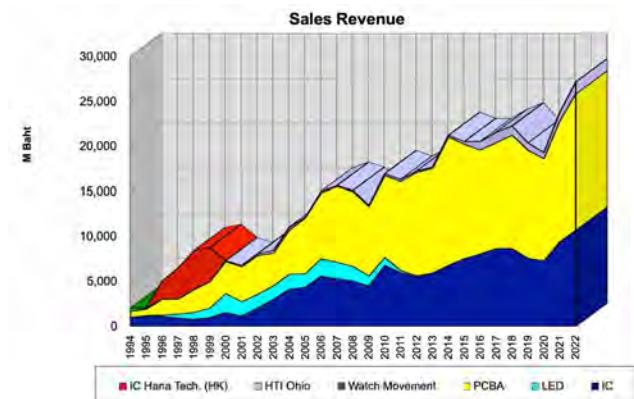
The Group Financial Highlights

(Unit : Million Baht)

	2022	2021	2020	2022/2021 % change
Total Revenue	27,656	24,137	19,808	15%
Sales Revenue	27,167	23,780	19,283	14%
Gross Profit	3,661	3,287	2,548	11%
Earnings From Operations	2,422	2,219	1,725	9%
Net Profit before Non Recurring Items	2,398	2,274	1,798	5%
Net Profit (Loss) for the year	2,102	1,545	1,908	36%
Recurring EBITDA*	4,052	3,520	2,900	15%
Total Assets	29,703	27,853	25,180	7%
Total Liabilities	5,841	4,795	3,567	22%
Shareholders Equity	23,862	23,058	21,614	3%
Net (Cash**) Debt / Equity	0.09	-0.05	-0.28	
Net Profit (after tax) % Sales	8%	6%	10%	33%
Recurring EBITDA Margin	15%	15%	15%	1%
Return on Equity	9%	7%	9%	31%
Dividend per share (from the profits of)	1.00	2.00	1.40	-50%
Payout ratio	38%	104%	59%	-63%
EPS before Non Recurring Items	2.98	2.83	2.23	5%
EPS after Non Recurring Items	2.61	1.92	2.37	36%
Book Value per share	29.65	28.65	26.85	3%
Net Number of shares outstanding (year end)	804.88	804.88	804.88	0%

* Operating revenues before deducting of finance cost, income tax expenses, depreciation and amortization

** Cash: Cash and cash equivalents and short-term investments



Chairman's Statement



Dear Shareholder,

We entered 2022 with optimism that the Covid-19 disruption was now behind us and we could look forward to a strong economic rebound and less supply chain disruptions. Our hopes were soon dashed when Russia invaded Ukraine on February 24th setting off the biggest European conflict since WW2. Inflation had already started to increase under the Covid-19 impact of supply chains, but the impact on energy prices set off the fastest rise in US interest rates for over 30 years as inflation exploded and the US Federal Reserve scrambled to get ahead of the curve. Fortunately, the resulting US dollar strength, from the second quarter through to the end of October, had a significant positive impact on our operating margins.

Hana Ayutthaya (IC assembly & test) and Hana Lamphun (microelectronics assemblies) delivered strong operating profits. Demand for our key segments, mobile (Android) and automotive had contrasting fortunes. The former was heavily impacted due to the Ukrainian conflict and the China zero-Covid policy which locked down large parts of the economy whilst demand for automotive parts continued to remain strong as semiconductor supplies continued to remain in short supply.

Nonetheless, we continued our focus on automation to help offset the minimum wage increase in Thailand imposed in October and what we expect will increase again in the new year across all our operations as high inflation start to impact.

In the second half Hana Jiaxing, in China rebounded from the lock downs to deliver much improved performances as our RFID customer's demand bounced back, driven by a

recovery in hospitality businesses, in-person schooling and the reopening of offices. Our investment in an EV (electric vehicle) module line at Hana Jiaxing three years ago, began to bear fruit as the conversion from ICE (internal combustion engine) to EV started to accelerate helping to offset the weakness in the mobile phone sector.

Our US facility in Ohio (Hana Technologies, Inc.) saw a strong recovery over last year as our RFID inlay lines set-up in 2021 began to ramp-up. Many major retailing giants are adopting active tagging due to the significant productivity gains in inventory management and Hana Technologies Inc. saw a sharp increase in demand, only limited by a lack of raw materials (semiconductors). With additional capacity being installed in our China facility, this will see another big step-up in output in 2023.

Our key financial performances were as follows:

- Revenues up 14% from THB 23,780 million in 2021 to THB 27,167 million in 2022
- Operating income up 9% from THB 2,219 million to THB 2,422 million
- EBITDA income up 15% from THB 3,520 million to THB 4,052 million
- NPAT up 36% from THB 1,545 million to THB 2,102 million
- Cash and financial investments were down from THB 6.0 billion at end 2021 to THB 3.6 billion at end 2022

Chairman's Statement

During 2022, we invested THB 2,876 million in capital expenditure. A large percentage of which was focused on bringing our latest division, Power Master Semiconductor (PMS) in Korea to mass production. During Q3, we launched our Silicon Carbide (SiC) diode & MOSFET devices alongside our silicon based SJMOSFET. As we increase production during 2023, we expect to see a reduction in operating losses from PMS.

With the US/China relationship continuing to decouple, our manufacturing footprint is suitably positioned to navigate these geopolitical evolutions. Our Jiaxing facility will focus on 'made in China' and our Thai and Cambodian operations cater for 'made outside China'. Not only do we not see any end to decoupling – we see it gathering further momentum requiring us to accommodate and accelerate these developments.

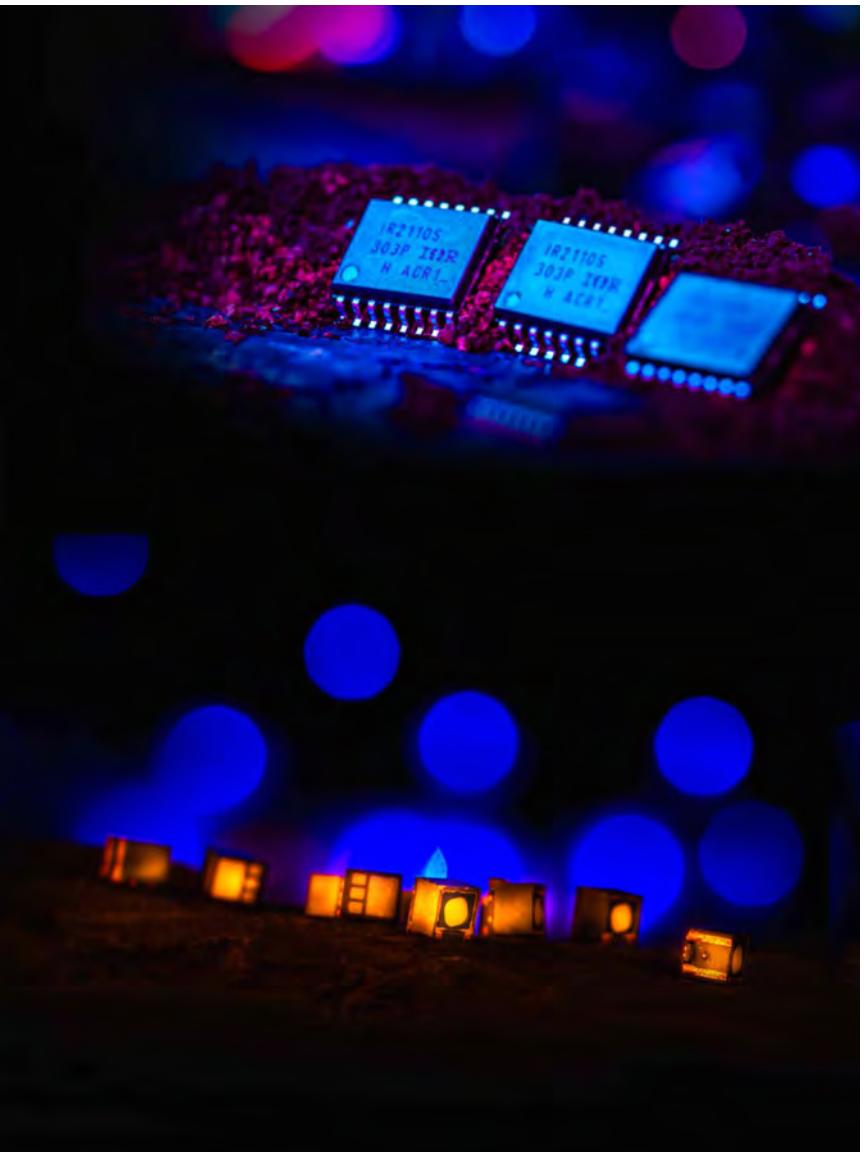
Looking ahead to 2023, whilst we believe the rate of inflation may have peaked, we do not see a quick reduction and expect global interest rates to remain high. It is clear that some form of recession /economic slowdown needs to happen in order to bring inflation down meaningfully and central banks are intent on achieving this aim. We therefore anticipate pressure on the consumer and a reduction in demand. Add that to a significant fall in the US\$ index, rising utility costs and despite China's Covid U-turn - we expect 2023 to be a challenging year. However, with the anticipated ramp up of both our SiC and active tag business, we hope to navigate through these headwinds and remain focused on executing on our growth roadmap.

I would like to thank my fellow board members and all the staff of the Hana Group for their hard work and effort during 2022. We face the future with a united and strong Hana team.



John Thompson

Chairman of the Board of Directors



Operation Review

Hana Microelectronics Public Co., Ltd. (Lamphun)



The year 2022 was an excellent year for Hana Lamphun.

Due to the advent of the Russian-Ukraine war and Covid-19 affecting many economies, the beginning of the 2022 looked challenging. With careful planning and strict Covid-19 protocols in place, we were able to achieve zero operational disruptions throughout 2022 and met all our customer's shipment targets. Material supply-chain challenges were also overcome with careful planning and our efforts to develop and increase local supply-chain relationships

played a big part in achieving this, as well as reducing logistic costs.

During the year we added production floor space in addition to facilitate our future expansion plans for the next five years and beyond. Also with an adequate land bank, we are ready to expand in the next up-cycle together with a continued focus on our 'Thailand 4.0' roadmap.

The automotive sector remained strong through-out the year along with our test & measurement customer's demand as we

continued to develop the strong relationships with our key strategic customers in those industries. Consumer and medical sectors were weak and personal computer demand declined as expected with the return to work post Covid-19.

Through-out the year we continued to develop our automation processes with a focus on productivity and quality. Over the past 19 years, we have received an outstanding number of awards; 92 awards from Technology Promotion Association (Thailand-Japan) alone. In 2022, we received another 31 awards for Corporate Social Responsibility "CSR", technology, health & safety, as well as society and labour relations.

With all the above and helped by a strong USD currency, Hana Lamphun achieved a record financial result in 2022. Now that the USD has recently substantially reversed and with recession clouds gathering on the horizon

the outlook for 2023 looks challenging. That said, there are still new opportunities especially with the US/China decoupling environment gathering pace. We will embrace these opportunities together with a strong focus on our Continuous Improvement Program (CIP) activities, our automation developments and people development. With Covid-19 still a shadow hanging over all of us, we will remain vigilant to any possible recurrences.

My sincere thanks and appreciation to all Hana Lamphun staff for their dedication and support during the many difficult times in 2022. Your spirit, cooperation and always working as ONE Hana will always be our strength.

Mr. Wichai Sukprasertkul
Vice President and General Manager



Operation Review

Hana Semiconductor Co., Ltd. (Ayutthaya)



The year 2022 continued to have both significant challenges and also exciting opportunities.

During the first half of the year we were still dealing with the hangover of COVID-19, impacting our operations and creating long lead times for purchasing of machines and materials. During the second half of the year there was some slowdown in demand due to various geo-political issues which created a different challenge.

For Hana-AYT certain market segments showed a slow down while others remained robust and strong. In the midst of all this dynamism, Hana-AYT still managed to show growth in revenue and ship out when compared to 2021.

We continued to make investments

in machinery to increase capacity, capability and quality. Our focus on automation was even more intense during 2022 since COVID-19 once again emphasized the need to reduce dependency on labour. The continued increase in costs due to COVID-19 related disruptions and other inflationary issues made the focus in automation even more urgent. This focus will continue during 2023.

Just like in the previous years, in 2022 even with all the disruptions and excitements caused due to COVID, our focus on quality and process improvement did not waver at all. We continued to excel in both remote and in-person customer audits and also the overall quality performance of the operations measured in defective parts-per-billion "PPB" showed a continuous downward trend. We were also

honored to receive many recognitions and supplier of the year awards from our Tier-1 customers. This type of recognition of our hard work encourages us to push the envelope of quality and service excellence even higher.

During 2022, our technical competency and spirit of innovation was recognized by the issuance of certain US patents. This focus of increasing our differentiation from our competitors due to innovation will continue in 2023 and beyond. Our New Product Development (NPD) Team and New Package Introduction (NPI) Team have been very active during 2022 due to several new challenging and exciting opportunities from our customers. We expect this momentum to continue in 2023 and bodes very well for the future of Hana-AYT.

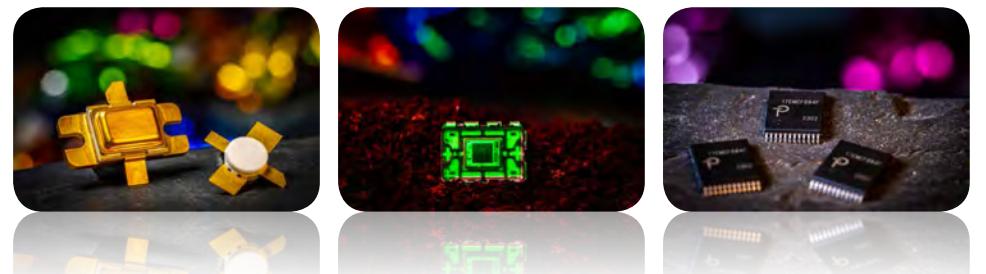
COVID-19 continued to be a challenge during the earlier part of 2022 but once again the team at Hana-AYT rose to the occasion and worked seamlessly to ensure we protect not only our employees but also support their families while ensuring we meet our commitments to our customers. It is with pride that we can say

that Hana-AYT did not shut down even for a single day during this COVID-19 crisis. The spirit of team work exhibited by all at Hana-AYT is indeed inspiring.

Our sincere gratitude to our customers and suppliers since without their support and faith in Hana-AYT it would not have been possible to sustain operations during the peak of the COVID-19 crisis. We remain very indebted to them and we promise that we will do our very best to live up to the faith and trust they place on the team at Hana-AYT.

The outlook for 2023 at this time remains mixed with the global uncertainties. However, the team at Hana-AYT remains cautiously optimistic. We are passionately committed to continue our journey of ensuring that we provide a value added differentiation to our customers while ensuring we place the highest priority in protecting the health and safety of our employees.

Mr. Sanjay Mitra
Executive Vice President and General Manager



Operation Review

Hana Microelectronics (Jiaxing) Co., Ltd.



2022 was the third year of the Covid19 pandemic. China's zero-Covid policy protected us well in the first two years but we faced a different story in 2022 when the Omicron variant became the dominate strain in China. Due to its super infectiousness, sticking to the zero-Covid policy, many big cities had to lockdown for a few weeks to a few months. Shanghai's lockdown during March to May 2022 had a significant impact on Hana Jiaxing operations because most of our import (materials) and export (finished products) shipments are made via Shanghai seaport and airport.

It is not the only thing that made the year extremely challenging for Hana Jiaxing. For the

same reason, China's economy was hit badly leading to a weak consumer electronics market. We invested heavily in IC assembly and test capacity and capability in the past two years to support the strong demand from China local customers of which the products are mostly for smartphones. Unfortunately, 2022 saw a sharp decline in smartphone shipments within China, which led to an unexpected low utilization rate of the machines we had newly installed.

However, we benefited from having diversified customer product portfolios, and thanks to our employees' dedication, hard work, "can do attitude" and the understanding and strong support from all our business partners,

we managed to mitigate these negative effects as much as possible. We achieved a double-digit growth in revenues in 2022. The increase resulted mainly from the strong demand for the power modules and sensors for electric vehicles, access control devices and the data security products.

In 2022 we focused our IC assembly and test expansion plans on power discrete packages and power modules following Hana Jiaxing's long term strategic business roadmap. On Micro side, we worked on newly identified Value Analysis and Value Engineering opportunities "VA/VE" and process automation projects aiming to improve the overall manufacturing cost, minimize handling for better quality and reduce dependence on manpower. Our New Product Introduction "NPI" teams worked hard on new opportunities throughout the year. Some of the new programs such as the RFID inlay brought

into Hana Jiaxing from our sister company Hana Technologies, Inc. are expected to be major contributors to the growth of Jiaxing Operations in 2023 and beyond.

After 3 years of restrictions, China has finally reopened at the end of 2022. A heartfelt thank you to our customers for their understanding, patience and support during this very special and difficult time period. We look forward to meeting our customers again in Jiaxing in 2023 and working together on new business opportunities. The year ahead remains uncertain but we are optimistic that we are better prepared to serve the needs of all our customers.

Mr. Steven Lee

Vice President and General Manager



Operation Review

Hana Technologies, Inc.



Year 2022 was year of growth for Hana Technologies "HTI" despite difficult times. The year started out in very challenging fashion with the Omicron strain of Covid-19 affecting nearly 30% of the workforce and 2 winter storms that would have been easily navigated in any other year, but in the winter of 2022 the local government service organizations were also suffering through Covid-19 and labor shortages. As Covid-19 waned HTI was still faced with challenges lingering from 2021, that of critical supply-chain disruptions and severe labor shortages. Despite these challenges, HTI was able to increase both Sales and Profit in 2022.

HTI increased overall revenues by 27% over 2021. The increase came primarily from microelectronics assemblies and the new Hana branded RFID inlay product sales. Inlay sales more than doubled in Y2022 compared with Y2021 and microelectronics assembly business was up over 60%. Whilst still being constrained by the global semiconductor shortages, the RFID Inlay product business continues to expand into new markets with many new customers. HTI's microelectronics business saw increases all coming from existing customers growing their business inside established markets, including Telecom, Consumer Electronics and Automotive.

Tire Tag revenues fell even though HTI shipped more tags in 2022, but the product mix had a much higher ratio of less expensive tags. The net result was an increase in overall profit in Y2022 despite significant increases in labor, material and logistical costs.

Sales are also generated by HTI for its sister companies within the Hana Group. Tire Tag production and Consumer Electronics Assemblies in Lamphun "Hana-Lamphun", and IC Packaging in Hana Ayutthaya make up the bulk of these sales. The largest reduction was in Tire Tags, which underwent the migration to a less expensive product. We expect Tire Tag assembly service revenues for Hana-Lamphun to increase in 2023. HTI also embarked on an expansion of its RFID Inlay products that will be produced in Hana Jiaxing's factory and will

service the Asian RFID retail inlay market. This business is expected to grow substantially in 2023.

HTI is looking forward to 2023, expecting to grow in all of its core markets: RFID, Telecom, Automotive, and Consumer Electronics. With a softening economy expected, HTI hopes to take advantage of fewer supply constraints on ICs for RFID and less competition for labor and materials supply. HTI will work closely with its customers and suppliers to manage the growth opportunities through any economic downturn, capitalizing on increased market share in its core areas.

Dr. John Erdmann

President and Chief Executive Officer



Operation Review

Hana Microelectronics (Cambodia) Co., Ltd.



During most of 2022, the Covid-19 lock down restrictions prohibited travel to Cambodia impeding any new business development activities.

Despite this, we were able to win some additional new accounts qualifying the production lines remotely. Never-the-less this was insufficient to meet our target of break-even in 2022.

The remote control business saw a marked reduction as post Covid-19 activities gathered pace and stay-at-home restrictions reduced. Access control demand increased but was still impeded by supply chain issues.

During the year, Hana Koh Kong won a new activity, the production of miniature inductors in high volume. With the assistance of Hana Lamphun, which designed and installed a

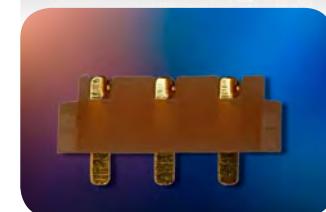
semi-automatic line we were able to achieve a fast ramp-up towards the end of the year. This new activity will help support our growth as we target breakeven in 2023.

With the strong cooperation from our sister companies Hana Ayutthaya and Lamphun, Hana Koh Kong has made significant improvements in many areas of operations and productivity and with the opening up of the borders we look forward to new opportunities in 2023.

I would like to thank all the management and staff for their great support during the difficult period of lock down in 2022 – we look forward with greater optimism.

Mr. Insuk Kim

General Manager (Acting)



Hana Board of Directors



1 2 3 4 5 6 7 8

1. Mr. Sanjay Nirendra Mitra

Executive Directors

2. Mrs. Sunun Thongbai

Independent Director

3. Mr. Insuk Kim

Executive Director

4. Mr. John Thompson

Chairman of the Board of Directors

5. Mr. Richard David Han

Executive Director

6. Mr. Terrence Philip Weir

Executive Director

7. Ms. Pornphan Abhamongkol

Independent Director

8. Mr. Stephanus Josephus Hendrikus Brader

Independent Director

Hana Executives



1 2 3 4 5 6
1 2 3 4 5 6

1. **Mr. Wichai Sukprasertkul**
Vice President and General Manager Hana-Lamphun
2. **Ms. Achara Chaicharncheep**
Senior Manager of Financial and Accounting

3. **Mr. Sanjay Nirendra Mitra**
Executive Vice President, Chief Operating Officer for Semiconductor, and Chief Marketing Officer
4. **Mr. Richard David Han**
President and Chief Executive Officer

5. **Mr. Insuk Kim**
Executive Vice President, Chief Operating Officer for Microelectronic and Chief Technical Officer
6. **Mr. Terrence Philip Weir**
Executive Vice President and Chief Financial Officer

Management Team



1 2 3 4 5
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Hana Microelectronics Public Co., Ltd. - Headquarter Management

1. Mr. Ki Myung Yoon

Strategic Products & Packages Development
Senior Director

2. Ms. Jirapa Kongmanee

Internal Audit Senior Manager

3. Mrs. Tappawong Na Tarlang

Corporate Human Resources, Business Partners,
Training & Administration Senior Director

4. Ms. Achara Chaicharncheep

Finance and Accounting Senior Manager

5. Mr. Peter Wuei Hwang

Corporate Business Development Director

Management Team



Hana Microelectronics Public Co., Ltd. - Lamphun Management

4 5 6 7 8 9 10 11 12 13 14 15 16 17 18
1 2 3

1. **Mr. Chukiat Suksatian**
Operation Director
2. **Mr. Wichai Sukprasertkul**
Vice President & General Manager
3. **Mr. Wasan Suthum**
Operation Director
4. **Mr. Chana Srisuttha**
Operation Senior Manager
5. **Mr. Arkhom Kaukool**
Industrial Engineering (IE) and Facility Senior Manager
6. **Ms. Chonsita Kitisivorapot**
Inventory Control Senior Manager
7. **Mr. Thawatchai Kumprasert**
Management Information System (MIS) Senior Manager
8. **Ms. Hataitip Mongkonsawat**
Operation Senior Manager
9. **Mrs. Panpen Wuthikhaem**
Human Resources Development Senior Manager
10. **Mr. Pattarapol Kantawang**
Customer Service Senior Manager
11. **Mr. Virush Prasatporn**
Production Senior Manager
12. **Ms. Tipawan Duangkaew**
Customer Service Senior Manager
13. **Ms. Krongtong Wannawichit**
Human Resources Senior Manager
14. **Mr. Ratchakul Kuldilok**
Quality Management Senior Manager
15. **Ms. Kittima Kongsing**
Production & Material Control Senior Manager
16. **Mr. Seksit Mulachicha**
Procurement Senior Manager
17. **Ms. Phiang-Amporn Ongwisit**
Traffic Senior Manager
18. **Mr. Nikorn Tolontong**
Customer Service Senior Manager

Management Team



Hana Semiconductor (Ayutthaya) Co., Ltd. Management

1. Ms. Areenee Kittisupornpong

Management Information System (MIS) Director

2. Ms. Praphaphun Naradilok

Plant Human Resources and Training Director

3. Ms. Suparin Kengradomkij

Logistics & Traffic Senior Manager

4. Ms. Samantha Kulasinghe

Manufacturing Support & Production Material Control,
Industrial Engineer Senior Director

5. Mrs. Saowanee Rachatakarn

Finance Director

6. Mrs. Rhodora F. Ceballo

Assembly Engineering, New Product Introduction (NPI) and
New Product Development Director

7. Mrs. Thawanvaree Pichitnorakarn

Purchasing Senior Manager

8. Ms. Sirirat Silapapipat

CSO Operations Director

9. Mr. Vanapong Kwangkaew

Technology Development and Customer Support
Senior Manager

10. Mr. Wanakorn Nonkhunthod

Supply Chain Management Director

11. Mr. Pongsak Klongjai

Operation Senior Manager

12. Mr. Sithigorn Petchruk

Maintenance Engineering Senior Manager

13. Mr. Paitoon Kungsaranuwat

Test Operation Director

14. Mr. Pongsakorn Jangsatian

Quality & Reliability Assurance (QRA) Director

15. Mr. Sanjay Nirendra Mitra

Executive Vice President, Chief Operating Officer
Semiconductor and Chief Marketing Officer

16. Mr. Punsak Eammongkolchai

IC Manufacturing Operations Senior Director

17. Mr. Sangwang Pichitpreecha

Test Operation Senior Manager

18. Mr. Anake Wannathong

CSO Test Operation Senior Manager

19. Mr. Seri Sukchean

Facility, Industrial Engineer, Environment & Safety
Senior Manager

20. Mr. Damrongdet Chupaob

Engineering Senior Manager

21. Mr. Lim Swee Seng

Quality Management Senior Manager

9 10 11 12 13 14 15 16 17 18 19 20 21
1 2 3 4 5 6 7 8

Management Team



Hana Microelectronics (Jiaxing) Co., Ltd. Management

5 6 7 8 9
1 2 3 4

1. **Mr. Peter Xu**
Manufacturing Support Director
2. **Mr. Felix Zheng**
Operations Director
3. **Mr. Steven Lee**
Vice President & General Manager

4. **Ms. Jane Li**
Finance & Logistics Director
5. **Ms. Lucy Guo**
Human Resources & General Affairs Director
6. **Mr. Steven Quah**
Quality & Reliability Assurance Senior Manager

7. **Mr. KY Chew**
Marketing & Account Management Director
8. **Mr. SC Ding**
Production & Materials Control Director
9. **Mr. Andy Shen**
Operations Director

Management Team



Hana Technologies, Inc. Management

1 2 3 4 5 6 7 8

1. **Mr. Timothy Andel**
Controller
2. **Mr. Paul R Brown, Jr.**
Microelectronics Sales Vice President
3. **Mr. Michael Hetrick**
Sales and Marketing Vice President
4. **Dr. John H Erdmann**
President and CEO
5. **Mr. Matthew Bucholtz**
Operations Vice President
6. **Mr. Steve Gargalianos**
Program Management Senior Director
7. **Mr. D Scott Worthington**
New Product Development Senior Director
8. **Mr. Edward M Stiles**
Quality and Information Technology (IT) Vice President

Management Team



Hana Microelectronics, Inc. Management

1 2 3 4 5 6 7 8

1. **Mr. Ralph Klouda**
Business Development & Account Management Senior Manager
2. **Mr. Thang Bui**
Business Development and Customer Support Senior Director
3. **Mr. Mike Griffin**
Business Development & Account Management Senior Director
4. **Mr. Sanjay Mitra**
President – HMI (USA)
5. **Mr. Mike Graveille**
Business Development & Customer Support Director
6. **Mr. Mark Wadekamper**
Business Development & Account Management Director
7. **Mrs. LeAna Bui**
Account Manager

Management Team



Hana Microelectronics (Cambodia) Co., Ltd. Management

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17

1. **Mr. Chheurn Raksmei**
Production Senior Supervisor
2. **Mr. Thaem Thoeun**
Quality Systems Engineering
3. **Mr. Thol Channy**
Test Engineer
4. **Mr. Narhit Muangnakin**
Quality Assurance (QA) Senior Manager
5. **Mr. Heng Mengloan**
Facility Supervisor
6. **Ms. Houern Monirath**
Programmer

7. **Mr. Prathuang Pankham**
New Product Development (NPD) Manager
8. **Ms. Roth Theany**
Training Senior Supervisor
9. **Mr. Warin Samarnso**
Human Resources Senior Manager
10. **Mr. Insuk Kim**
Vice President & General Manager
11. **Mr. Horn Borey**
Supply Chain Section Manager
12. **Ms. Kim Montha**
Human Resources Senior Supervisor

13. **Mr. Ren Maosheng**
Operation Senior Manager
14. **Ms. Pun Saroun**
Accountant Officer
15. **Mr. Suthep Lafuay**
Senior Engineer
16. **Mr. Keng Siyin**
Process Engineer
17. **Mr. Nuin Komsort**
Logistic Supervisor

2022 Awards and Recognition



Hana has been ranked 5 stars or “excellent” in Corporate Governance Rating (CGR) honored by the Thai Institute of Directors Association (IOD).



Hana has been granted 2021 ASEAN Corporate Governance Scorecard Award in the ASEAN Asset Class with the total score of 97.50 or above from the ASEAN CG Scorecard assessment, initiated by the ASEAN Capitals Market Forum (ACMF) with the support of the regulators in ASEAN.

2022 Awards and Recognition



Hana has been selected as a member of Thailand Sustainability Investment (THSI) for the year 2022, in recognizing our continuous and outstanding achievements in corporate sustainability, thereby benefiting the environment and society.



Hana has been ranked among the top 100 publicly listed companies that are most outstanding in terms of Environmental, Social and Governance performance or ESG100, assessed by Thaipat Institute.

2022 Awards and Recognition



Hana has been granted the Sustainability Disclosure Acknowledgement Award from Thaipat Institute, presenting our outstanding efforts towards sustainability disclosure covering ESG to the benefits of stakeholders and jointly responding to SDG target 12.6.



Hana has been granted the Eco Factory with Eco-Excellent Awards from the Department of Industrial Works in recognizing our development in harmony with society and the environment throughout the entire value chain.

2022 Awards and Recognition



Hana has been granted the Top Performance Award 2023 from the Technology Promotion Association (Thai-Japan), which is the prestigious national award for outstanding organizational quality management and leadership excellence.



Hana has been granted CSR-DIW Awards, the Standard for Corporate Social Responsibility from the Department of Industrial Works (CSR-DIW) in recognizing our factories for continuous development towards sustainable societies and communities.



Content

Business Overview

Hana Group is one of South East Asia's leading independent "Electronics Manufacturing Service" (EMS) producers. The Company's headquarters is located in Bangkok and there are 7 manufacturing facilities in Thailand, China, USA, Cambodia and Korea. There are sales representative offices located in major parts of the world..

1993 HQ BKK, Thailand

1994 Lamphun 1, Thailand

1999 Ohio, USA

1999 Ayutthaya, Thailand

2003 Jiaxing, China

2013 Koh Kong, Cambodia

2014 Lamphun 2, Thailand

2017 Chungcheongbuk-do, South Korea

HANA has been certified by internationally recognized standards: ISO9001, IATF16949, ISO13485, ISO14001, ISO45001, ISO/IEC 27001, etc.



1. Organizational Structure and Operations of the Group of Companies

1.1 Policy and Business Overview

Hana Microelectronics Public Co., Ltd. is the parent company. Initially, the Company was established under the name of Hana Microelectronics Co., Ltd. on 28 February 1978 and then was registered to be a public company limited on 26 July 1993 and the name changed to Hana Microelectronics Public Company Limited.

Overview of the vision, objectives, goals and business strategies

Vision, Mission and Corporate Objectives

In 2022, the Board of Directors annually reviewed and approved the Company's vision, mission and corporate objectives or the long term goals as below.

Vision

To become the electronic manufacturing services' company of choice, by providing world class quality manufacturing through a diverse field or related disciplines.

Mission

To create long-term shareholder value in a manner which minimizes fluctuations in earnings; to develop and promote our employees' wellbeing; to create strong customer satisfaction; to be a good corporate citizen maintaining high corporate, environmental and social practices for the benefit of all stakeholders, and to enable a culture of innovation enhancing business, social and environmental success.

Corporate objectives/Long term goals

1. Develop and foster our human resources base for continuous expansion and in order to meet the ever changing demands of the market and for their own personal career paths
2. Build strong and long relationships with our core customers to foster continuous growth
3. Understand our customers' demands and endeavor to meet them
4. Continuously diversify our customer base, geographic and industry exposure in order to cope with fluctuations in economic cycles
5. Create and grow shareholder value through the distribution of profits and increasing returns

6. Conduct business with responsibilities, maintain integrity through business ethics and respect the rights of all groups of stakeholders
7. Promote innovative ways to enhance employees' creativity focusing on social responsibilities, reducing environmental impacts and challenges adaption while developing business opportunities towards sustainability

Major changes and development of the Company

Major changes and development of the Company and subsidiaries in the past 3 years are as follows.

- | | |
|------|--|
| 2020 | <ul style="list-style-type: none">• Hana Microelectronics Enterprise Co., Ltd., an overseas subsidiary, additionally invested in 45,468,997 ordinary shares of Power Master Semiconductor Co., Ltd., amounting to USD 19.49 million or equivalent to THB 610.95 million, representing 100% of the issued and paid-up share capital of that company. |
| 2021 | <ul style="list-style-type: none">• Hana Microelectronics Enterprise Co., Ltd. additionally invested in 101,706,697 ordinary shares of Power Master Semiconductor Co., Ltd., amounting to USD 43.99 million or equivalent to THB 1,413.65 million, representing 100% of the issued and paid-up share capital of that company. |
| 2022 | <ul style="list-style-type: none">• Hana Microelectronics Enterprise Co., Ltd. additionally invested in 256,959,297 ordinary shares of Power Master Semiconductor Co., Ltd., amounting to USD 103.59 million or equivalent to THB 3,565.50 million, representing 100% of the issued and paid-up share capital of that company.• Hana Microelectronics Enterprise Co., Ltd. additionally invested in ordinary shares of Hana Microelectronics (Jiaxing) Co., Ltd., amounting to USD 65.0 million or equivalent to THB 2,345.68 million, representing 100% of the issued and paid-up share capital of that company. |



1.2 Nature of Business

Revenue Structure

- Revenue breakdown by product segments

(Unit: Million Baht)

Product	Company	Location	% of shareholding by the Company	2022		2021		2020	
				Revenue	%	Revenue	%	Revenue	%
1. PCBA	HM-LPN	Thailand	100%	11,121	41%	10,196	44%	8,617	44%
	HM-JX	China	100%	3,806	14%	3,121	13%	2,581	13%
	HMC	Cambodia	100%	199	1%	108	0%	107	1%
Total PCBA				15,126	56%	13,425	57%	11,305	58%
2. IC	HS-AYT	Thailand	100%	9,038	33%	8,182	34%	6,527	34%
	HM-JX	China	100%	1,319	5%	1,162	5%	764	4%
	PMS	South Korea	100%	345	1%	50	0%	4	0%
Total IC Assembly				10,702	39%	9,394	39%	7,295	38%
3. RFID & Microdisplay	HTI	USA	100%	1,339	5%	962	4%	683	4%
Total Sales Revenue				27,167	100%	23,780	100%	19,283	100%
Dividend and Other Income				456		357		525	
Total Revenues				27,623		24,137		19,808	

Remark:

HS-AYT: Hana Semiconductor (Ayutthaya) Co., Ltd.

HM-LPN: Hana Microelectronics Public Co., Ltd. (Lamphun)

HM-JX: Hana Microelectronics (Jiaxing) Co., Ltd.

HTI: Hana Technologies Inc.

HMC: Hana Microelectronics (Cambodia) Co., Ltd.

PMS: Power Master Semiconductor Co., Ltd.



- Domestic and Export Sales Revenue

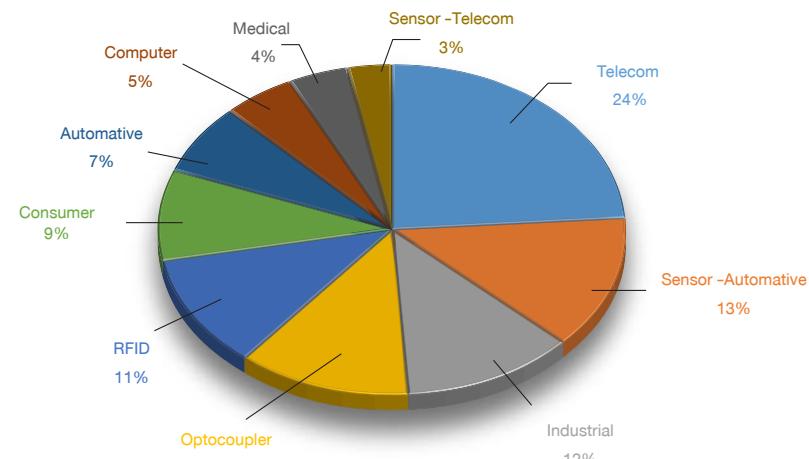
Sales Revenue	2022	2021	2020
Domestic sales	282	280	261
Export sales	26,885	23,500	19,022
Total sales	27,167	23,780	19,283
Ratio of export/domestic sales	99%	99%	99%

(Unit: Million Baht)

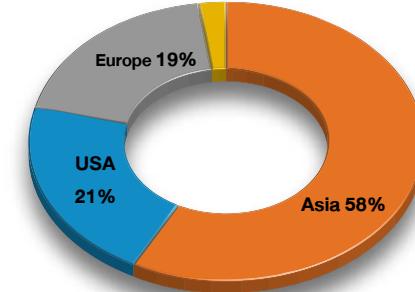
- Sales Revenue by Geographical Customers

Revenue from external customers	2022	2021	2020
SINGAPORE	6,889	3,540	3,067
U.S.A.	5,823	5,088	4,410
CHINA	3,395	2,979	2,268
MALAYSIA	2,930	4,763	3,850
SWITZERLAND	1,333	834	748
HONG KONG	852	635	691
GERMANY	634	789	579
BULGARIA	623	503	334
AUSTRIA	615	867	713
IRELAND	614	596	382
Others	3,459	3,186	2,241
Total	27,167	23,780	19,283

- Sales Revenue by Industry of Product End Application



- Sales Revenue by Continent



■ USA 21% ■ Asia 58% ■ Europe 19% ■ Others 2%



Hana Product Information

Hana Microelectronics Public Co., Ltd. and its subsidiaries provide Electronic Manufacturing Services (“EMS”) to OEM customers and manufactures the products based on the customers’ specifications and designs. Hana Group’s business operations are primarily the assembly of components, sub-assemblies and small electronic finished products. The major product groups are Printed Circuit Board Assembly (“PCBA”), Integrated Circuit (“IC”) assembly and test, and RFID & Microdisplay with our factories currently located in Thailand, China, USA, Cambodia and South Korea providing a wide scope of assembly processes serving a diverse range of electronic industries.

No.	Company name	Manufacturing location	Product Segment	Key product packages	Production floor space & utilization in 2022	ISO Certification
1.	Hana Microelectronics Public Co., Ltd.	Plant 1: Northern Region Industrial Estate (EPZ), Lamphun, Thailand	PCBA	RF (Radio-Frequency Devices), Automotive Sensors, PCB Assembly including High Frequency Telecommunication Devices, Computer Components, Medical Devices, Industrial Box build products	14,953 SQM (84% Utilization)	ISO 9001 ISO 13485 ISO 14001 ISO 45001 IATF 16949
2.	Hana Microelectronics Public Co., Ltd.	Plant 2: Sahapat Group Industrial Park (Free Zone), Lamphun, Thailand	PCBA	Optical Mouse Sensors, Proximity Sensors, Computer Components, Tire Tag, Ink-jet Cartridge, Wafer Probe, RFID	13,652 SQM (69% Utilization)	ISO 9001 ISO 14001 ISO 45001 IATF 16949
3.	Hana Semiconductor (Ayutthaya) Co., Ltd.	Hi-Tech Industrial Estate (EPZ), Ayutthaya, Thailand	IC	Integrated Circuit Assembly & Test, Optical Sensors and Modules, QFN, SOT, SIP, MEMS, LGA, Smart Card Module, Flipchip, OPTO, RF (Radio-Frequency Devices), Open Cavity QFN, Power QFN Cu Clip, Power Package Dual Cool, TO-247TE Dual Cool	24,500 SQM (90% Utilization)	ISO 9001 ISO 14001 ISO 45001 IATF 16949 ISO/IEC 27001 ANSI/ESD S20.20



No.	Company name	Manufacturing location	Product Segment	Key product packages	Production floor space & utilization in 2022	ISO Certification
4.	Hana Microelectronics (Jiaxing) Co., Ltd.	Xincheng Industrial Park, Jiaxing, China	PCBA, IC	PCBA, COB &CIB Assembly, Wireless Radio Frequency Product, Micro Coil Winding, Flexible Circuit Board, Surface Mount Technology (SMT), Integrated Circuit Assembly & Test, LED, DC-DC Converter, OPTO, Power Modules and Power Discrete with IGBT or SiC dies, LED, Power Module	18,000 SQM (98% Utilization)	ISO 9001 ISO 13485 ISO 14001 ISO 45001 IATF 16949 IECQ QC 080000
5.	Hana Microelectronics (Cambodia) Co., Ltd.	Koh Kong Special Economic Zone, Koh Kong, Cambodia	PCBA	Remote Control, Security/Access Control Reader (Secure Reader Box Build, RFID (Radio-Frequency Devices) Reader, Smart Card Reader, USB Token Security, Cable Harness, Telecommunication Devices, Computer Components and Pre-Assembly: Semi-Electronic, Transformer (IPD))	7,400 SQM (55% Utilization)	ISO 9001 TL 9000
6.	Hana Technologies, Inc.	Twinsburg, Ohio, USA	RFID & Microdisplay	RFID (Radio Frequency Identification Devices), LCOS (Liquid Crystal on Silicon), MEMS, HTP	2,229 SQM (98% Utilization)	ISO 9001
7.	Power Master Semiconductor Co., Ltd.	Chungcheongbuk-do, Republic of Korea	IC	SiC MOSFET SiC DIODE HV SJ MOSFET	4,539 SQM (80% Utilization)	ISO 9001 ISO 14001 IATF 16949



Hana Product Segments

1. Print Circuit Board Assembly (PCBA)



Printed Circuit Board Assembly is the ICs and other electronic components assembling on a printed circuit board which holds electronic parts to create a useful electronic circuit. In providing high quality with high precision and high accuracy as the components are getting smaller, we have invested in the up-to-date technology equipment to meet customers' requirement and aim towards zero defect manufacturing approach to provide our customers with PCBA solutions and services worldwide.

The PCBA operations of Hana are located in Lamphun province, Thailand and Jiaxing city, China and Koh Kong city in Cambodia where our business includes PCB manufacturing and electronic contract manufacturing service.

PCBA – HANA LAMPHUN

The PCBA factories in Lamphun, Thailand provides manufacturing services for following products:

A) COB (Chip-on-Board) Assembly

COB is die-assembly onto printed circuit board directly that do not operate die as package before installing which is facilitate to reduce operation step and cost of producing. This method is suitable for less circuitry using products such as automotive sensor products, household products, consumer products, telecommunication devices and medical products, etc.

COB and PCBA are using as the component part of electric appliances and other electronic devices such as:

- Circuit Board in automotive sensors for pressure sensor applications

- Circuit Board in personal computer (PC) and notebook
- Circuit Board for hearing aid to help a wearer hear certain sounds better
- Circuit for adding memory management unit in computer industry

B) Wireless High Frequency Product

The product is high frequency telecommunication device for infrastructures and test accessories. It needs technology for signal check technology, high frequency check equipment and requires high delicate for this assembling operation as material part is very high delicate and costly. Also Professional competency workmanship is crucial required. High Frequency device is received and sending Microwave and Millimeter wave signal of telecommunication device that using for mobile phone network station and all other related infrastructures.

C) Electric part product for Interface Device

Electric part product for Interface Device is the product for supporting of demand transmitting between user and electronic equipment (such as PC, laptop, mini-stereo, mobile phone or safety equipment) which user can touch demand transmitting equipment via computer screen, keyboard for selecting information, changing place for information, signal or option setting.

D) Other electronic devices include:

- Air Pressure and Temperature Control product is electronic device for air pressure controlling of vehicle's brake system, air bag system and electronics device for temperature measurement and controlling including other pressure measurement meter (for water and gas).
- Medical device to assist the hearing aid purpose
- Wireless Sensor Product is equipment for sending and receiving light signal that using with other electronic equipment such as Optical Mouse, printer, mobile phone, etc.





PCBA – HANA JIAXING

The PCBA operation in Jiaxing, China provides manufacturing services for following products:

A) COB (Chip-on-Board) and CIB (Chip-in-Board) Assembly

COB is die-assembly onto printed circuit board directly that has the advantage of lower-cost Die component compare to IC package mounting. The process is quite similar to conventional IC process. The only difference is instead of using lead frame, printed circuit board is used as substrate. This method is suitable for products with moderate circuitry complexity such as consumer electronics e.g. Software Copying Protection Device, Circuit Board in personal computer (PC) and notebook, etc. Aside from using printed circuit board, a flexible printed circuit may also be used. This is highly recommended for products requiring thin and flexible profile not attainable using conventional printed circuit board. Typical application of this is in the area of RF cards, BLE cards, Tags, hearing aid devices and etc.

The Chip-in-Board process has the same technology as above but for those products that thickness is critical, the DIE itself is mounted at the substrate below its surface level.

B) Wireless Radio Frequency Product

Wireless Radio Frequency product from low, high, and ultrahigh frequency telecommunication device. This involves using expensive electronic equipment to perform signal level and data integrity check. The wave-length used can ranged from Millimeter wave to Microwave and the applications are mainly for mobile phone network station.

Not limited to the above, the need for low power consuming electronics had led to Bluetooth Low Energy (BLE) technology that can send and receive signals to multiple devices at short ranges.

C) Electronic devices

- Air Pressure and Temperature Control product is electronic device/MEMS for air pressure controlling of vehicle's brake system, air bag system, air flow and measurements for medical applications, gas and air quality detectors, and electronic device for temperature measurement and controlling including other pressure measurement meter (for water and gas).

- Fiber Optic Device is connector equipment between computer equipment and fiber optic thread which sending and receiving light signal from fiber optic thread and sending to computer equipment.
- Wireless Sensor Product is equipment for sending and receiving light signal that using with other electronics equipment such as Optical House, Imaging sensors, printer, mobile phone, health monitor, base stations/router, Remote Controller for Drones and UAV etc.
- Smart Card Product is using for telecommunication, entertainment, controlling equipment, payment transactions, other electric applicants, employee card, student card, etc.
- LED Assembly product such as LED board for vehicle's rear lighting, truck, traffic LED light board which giving more lightly than ordinary light bulb and electronic backlighting.
- Medical device such as hearing aid and accessories, pregnancy test kits and Dosimeter.
- Card Readers and embedded modules which may include RFID technologies for door entrance/access system for residential, offices, transportation vehicles, manufacturing and government facility, hotel, public areas, asset tracking, etc.
- Bluetooth Low Energy Devices used for child care, mobile phone controlled door access, router/extenders, card readers, programmable cards, Audio/Acoustic Device, Building Administration System and etc.
- System In Module and/or System On Chip are ultra-compact devices/module offers efficient computing core for variety of leading edge IoT applications for professional camera platforms, multi-display, video conferencing, and/or advanced AI drone/robotic, 3D printings, products as provide multiple specialized processing cores for AI Engine, ISP, GPU, and DSP processing needs.
- Power controllers for Power Distribution System operators to offer end-to-end multipurpose intelligent solutions for smart grids and power distributions systems used on rail ways, power grids, EV charging stations, and etc. where remote control is needed.

**D) Flexible Circuit Board**

Flexible Circuit Board product is to assemble IC or other electronic part onto flexible circuit board for more convenience of using such as RFID Tag and low profile dimension products which is adapted for using in commercial work for inventory and selling which is replaced of old bar code system, using in traffic section, transportation, personal identification and building security and asset tracking.

E) Electric part product for Interface Device

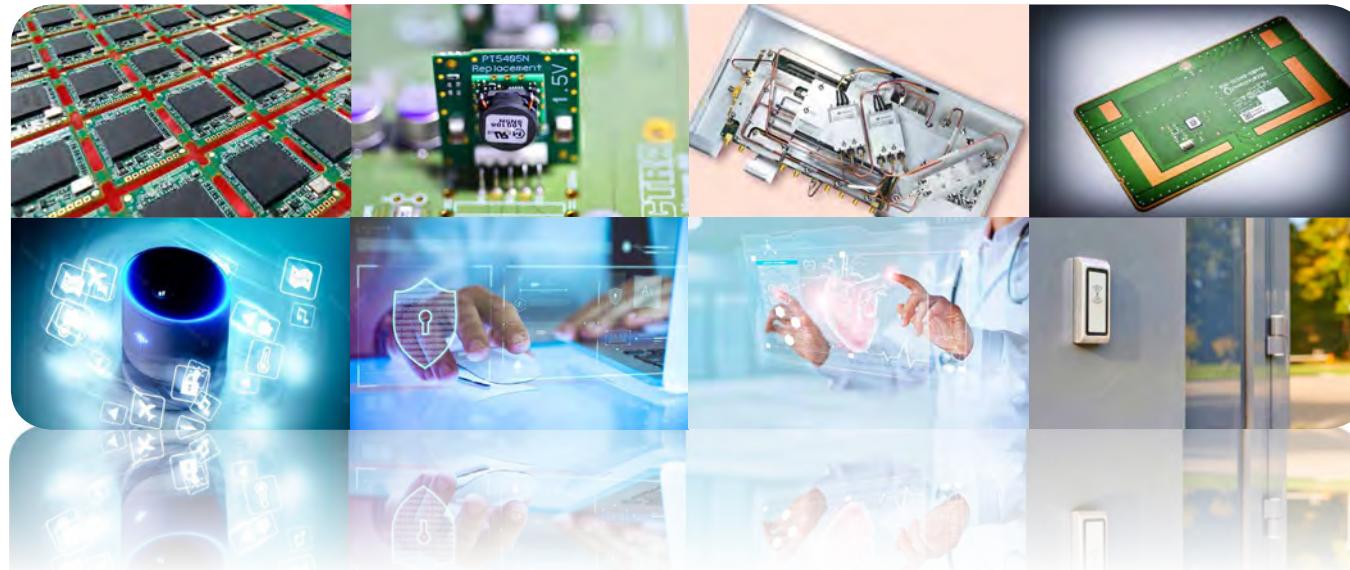
Electric part products for Interface Device is the product for supporting of Data-Transmission Demands between user and electronic equipment (such as PC, laptop, mini-stereo, servers, mobile phone or safety equipment) which users can use the touch screen as transmitting equipment via computer screen, keyboard for selecting information, changing place for information, signal or option setting, either by using wired, RF wireless, or Bluetooth low Energy (BLE) protocol.

F) Micro Coil Winding Assembly

Coil is the key component used in wireless transmission and communication such as Smart Card, RFID card, Security Readers, sensors and etc.

G) Surface Mount Technology (SMT)

SMT is a method for constructing electronic circuits (IC) in which the components are mounted directly onto the surface of printed circuit boards (PCB) or flexible printed circuit boards (FPC) by automated equipment. Applications are mainly in equipment and/or products used in telecommunication, measuring equipment's, industrial, security services, automotive, and medical field of use.





PCBA – HANA CAMBODIA

Hana Cambodia provides manufacturing services for following products:

A) Secure Reader Box Build Assembly

Smart Card Product is using for telecommunication, entertainment, controlling equipment, other electric applicants, employee card, student card etc.

1. RFID (Radio-Frequency Devices) Reader

Contactless RFID Card Readers modules for door entrance/access system for residential, offices, transportation vehicles, manufacturing and government facility, hotel, etc. public areas.

2. Smart Card Reader

Contact Smart Card Readers modules to support demand transmitting between user and electronic equipment such as PC, laptop or safety equipment.

B) Cable Harness

Cable Harness for Secure Reader Box Build, Telecommunication Devices, Computer Components and Automotive Cable Wire Harness.

C) USB Token Security

Multi-Factor Authentication Token with added security in accessing online accounts.

D) Ultra Switch

RF/microwave switches use in a wide variety of signal routing applications for test and measurement systems.

E) Remote Control

Remote control for Cable TV control box and Satellite control box.

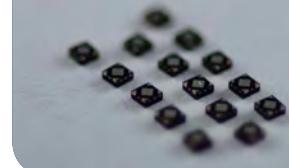
F) Transformer (Integrated passive devices)

RF transmission line Transformer in a low-cost surface mount package, ideally suited for all CATV/Broadband and FTTx application.





2. Integrated Circuit (IC) Assembly and Test



Integrated Circuit (IC) is a semiconductor chip consisting of circuit components such as resistor, capacitor, inductor, transistor, diodes, etc., which are connected with wires. Electronic circuits are developed by getting smaller size but more power and safety to incorporate them into devices. We have invested in the up-to-date technology equipment to meet customers' requirement and aim towards zero defect manufacturing approach to provide our customers with a wide range of integrated circuit solutions.

The IC operations of Hana are located in Ayutthaya province, Thailand and Jiaxing city, China where our business includes IC Packaging and Assembly and electronic contract manufacturing service.

IC – HANA AYUTTHAYA

The IC operation of Hana Ayutthaya, Thailand provides manufacturing services for following products:

A) IC (Integrate Circuit) Assembly

IC is a part of electronic device consisting of Chip IC (Integrate Circuit) that compounding as IC package for assembling to other electronic device parts.

Optical Sensors and Modules	Used in a variety of applications, including mobile, electronic appliance, and retail automation
Leadless Packages: QFN, DFN, Multi row/Routable QFN, MCM on QFN	Used for mobile phones, tablets, industrial/power, electric appliance. & play station
Leaded Packages: VSOP, MSOP, SOIC, SOT, SC70, SOT5x3, SOT9x3, SOD723	Used for telecom industry, note book computer, tablet, electronic appliance/home appliance, mobile phone & quick battery charger

Laminate Packages: SIP, MEMS, LGA	Used for mobile phone, digital camera, DVD reader/appliance & power management
Smart Card Module	Used for RFID card, credit card, security card & consumer tag
Power Packages: Flip-chip, Cu-Clip, Soft solder, Heavy Al wire	Used for home appliances, motor drivers, UPS & power management

B) DC-DC Converter Assembly

DC-DC Converter is one type of IC using for convert low voltage level that assembling in Printed Circuit Board Assembly (PCBA) device of general electronic devices such as computer and medical products.

C) OPTO Couplers Assembly

A broad range of isolation products providing performance features and benefits that is unmatched in the industry for industrial, computing, consumer, communication, and automotive markets.

D) RF, Microwave, Millimeter wave and Optical Component Assembly

RF, Microwave, Millimeter wave and Optical are semiconductor products that are used in satellite, radar, wired & wireless networks, automotive, industrial, medical, and mobile devices.

E) Die Sales

This type of business to support customer who do not have capability on wafer probe, back grind, wafer dicing & die inspection, Hana will service & provide sawn dice put in wafer ring, waffle pack, antistatic chip tray.





IC – HANA JIAXING

IC Division of Hana Jiaxing in China has offered variety of IC assembly and test services as follows:

A) Standard IC products

QFN/DFN/LGA Package	Used for smart phones, tablets, automotive sensors and touch pads
SC, SOT, TSOT, MSOP	Used for mobile phone, digital camera, computer and mobile electronic device

B) Power Modules and Power Discrete with IGBT or SiC dies

Used for industrial welding machine, UPS, EV Charging Station, PV inverter, electrical vehicle, hybrid electrical vehicle and wind turbine.

C) WLCSP

Wafer level chip scale package is driven by a strong push for cost reduction and miniaturization. Hana JX offers wafer level chip scale packaging services for hand held, portable, servers and automotive products.

D) LEDs and LED modules for Automotive Lighting and Projector Light Source

Automotive lighting designers can utilize the small size and distinctive look of LUXEON LEDs to rethink lighting applications and lighting engineers can take advantage of the efficiency, robustness and power savings that the small, light-weight emitters deliver. For example, headlamp, high and low beam, break lights, turn signals, position and marker lamps, etc. High power LED modules are used in light sources for projectors, screenless TV and heads-up display. UV LED modules are used in 3D printing and sterilization.





IC – POWER MASTER

The IC operation of Power Master, Korea provides manufacturing services for following products:

A) SiC MOSFET

The e SiC MOSFET is an advanced Power Master Semiconductor's silicon carbide MOSFET family. This technology includes extremely low switching losses, low FOM [QG x RDS(ON)], no reverse recovery losses of body diode and high ruggedness. The e SiC MOSFET provides design flexibility for high system efficiency, higher switching frequency for system size reduction with higher reliability.

B) SiC Diode

The e SiC Diode is an advanced Power Master Semiconductor's silicon carbide diode family. This technology combines the benefits of excellent low forward voltage and high ruggedness. The e SiC Diode is suitable for applications requiring high power efficiency.

C) HV SJ MOSFET

This new super-junction, eMOS E7 opens the door to power converter designers for targeting high efficiency and ease of use. The eMOS E7 enables

The end application covers system solution especially in Automotive, Cloud, Energy infrastructure and Consumer applications.





RFID & MICRODISPLAY – HANA USA

Hana Technology Inc. in Twinsburg, Ohio, USA manufactures microelectronics products such as Microdisplays, camera modules and RFID (Radio Frequency Identification - RFID) passive tags.

A Microdisplay is a device used for transferring electrical signals to high-resolution visual images that can be highly magnified. These products can be LCOS (liquid crystal on silicon), MEMS, or HTP (high-temperature polysilicon) based devices, and are incorporated in a wide variety of products such as virtual and augmented reality goggles, multimedia projectors, rear-projection televisions, adaptive optics, and telecommunication devices.

An RFID (Radio Frequency Identification (RFID) device is used to transfer information in a fast, wireless mode. HTI manufactures passive tags where these tags can be queried by a reader.

The tags are programmed with identification, security, and other historical information that is of interest in the particular application. The information can also be modified on the tag (write mode)

by the RFID reader. The tags consist of an IC that contains the vital information and an antenna. The antennas that are primarily used are thin conductors that are either printed or etched onto a plastic web so that they can be manufactured in a high-speed, flip-chip manufacturing mode. HTI is the world leading's producer of RFID tire tags.

The new product line of HTI is RFID Inlays comprised of RFID Chip (IC), Tag Antenna and Substrate, typically on a film face. An RFID inlay is the functional part of an RFID label. The inlay can be used alone by simply attaching it to the target asset. RFID inlay becomes the best option particularly for retailers and other small scale users for tracking, identification, and inventory management. RFID Inlays will drive HTI future growth. HTI customers are mainly based in the North America and Europe, with some having product drop-shipped to other countries for post-assemblies.

Product end applications for RFID technology are listed here:

- Inventory tracking
- Asset tracking
- Attach with cloth for thief preventing in shop
- Anti-Counterfeit
- Car parking card
- Supply chain management
- Microchips used in pets
- Movie card
- Anti-thief equipment for car's key
- M-commerce via mobile phone instead using credit card
- For research and study in consumers' behavior
- Logistics
- Tire Tags





Operation processes and technology:



The Company manufactures products based on customer's orders. Our engineers have a high expertise in providing the improvement of electronic circuit boards prior to launching the production. We focus and provide the best manufacturing option for costs competitive as well as increase the efficiency of production and quality. The Company also has high capabilities to design and develop the test system in order to test assembled products and its liability before delivery to our customers. Currently, Hana has the main technology to manufacture the products to the customers as follows.

1) SMT Technology (Surface Mounted Technology) is the main technology which mainly used for most of the company's products. This technology is to connection of electrical circuits and other semiconductor devices onto the surface of printed circuit boards (PCB). The SMT is useful for both design and manufacturing since it can save space in the assembly of electronic components onto printed circuit boards. SMT lines are also covers the technology of BGA (Ball Grid Array), flip chip as well as any other higher technologies of SMD (surface mount devices) with fully integrated with advanced AOI machine (automatic Optical Inspection).

The advance SMT & Flipchip combination technology can support extensive array of print circuit assembly to build automotive high performance sensors. Many of our capabilities are considered proprietary to serve world class automotive customers.

- 2) Through-hole Technology** is a technology for assembling electronic components by inserting into the cavity of the printed circuit board (PCB), and then go through the wave-soldering. In recent years, we upgrade our quality by introducing selective soldering which can reduce the heat effect to other critical area.
- 3) COB (Chip on Board) Technology** is connected to the integrated circuit devices without the chassis (Bare IC) directly to the printed circuit board. This type of technology will be popular for the product which is limited in the area of electronic product assembly. The COB technology enables lower production costs compared to the cost of producing integrated circuit devices have successfully chassis (Package IC) which is part of the larger and higher prices. Moreover, the company also provides the gold wire bonding as an additional technology of aluminum wire bond.
- 4) IC Assembly Technology** is the process of electrically connecting I/O bond pads on the IC to the corresponding bond pads on the lead frame or substrate base. The package can be a single chip package, a multichip package, or a system level board. Such an assembly process involves three interfaces: metallurgical bond pad interface on the IC, metallurgical bond pad interface on the lead frame or substrate, and electrical interconnection between these two interfaces. Company also provides pure Copper, Copper/Palladium & Copper/Palladium/Gold wire bonding as additional technology to our customer achieve both performance & cost objectives.

Promotional Privileges from the Board of Investment (BOI)

The Company and a subsidiary, Hana Semiconductor (Ayutthaya) Co., Ltd., have granted promotional privileges under the Investment Promotion Act B.E. 2520 as approved by the Board of Investment. The significant promotional privileges are disclosed on part 3: Financial Statements Note 27.



Hana core activities are to offer high quality products and services by ensuring customers' satisfaction through relentless improvement activities. Hana places great emphasis on the innovation organization in order to create value to the business, social and environment by creating innovation atmosphere, providing opportunities for everyone in the organization to generate and apply their knowledge, skill, critical thinking or bring in technological know-how contributing to the development and improvement of working processes, equipment or products to foster the vision of innovation culture in the organization.

Our major innovative development is as follows.



• Machine Automation & Industry 4.0

Hana has continuously invested in manufacturing automation projects as to modify the traditional manufacturing process to automation toward industrial 4.0 which can increase the competitiveness advantage of the Company by improving product quality, increasing operating efficiency, reaching lean production, enhancing employees' capability, responding to higher customer requirements, managing labor issues in regards to both labor costs and labor shortages, as well as reducing waste and environmental impact.

HANA 4.0 Roadmap

Manual to Automation

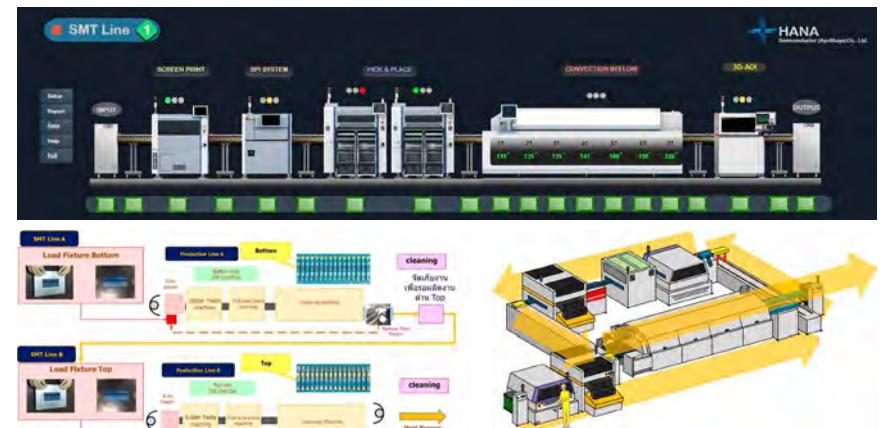
Automate manual processes to achieve continuous quality control (input and output) of zero defect at manufacturing stage



1

Streamline

Implementing the shop floor automation system with streamline manufacturing process for a more efficient, faster and better quality production that resulted in greater productivity and optimal resource utilization



2

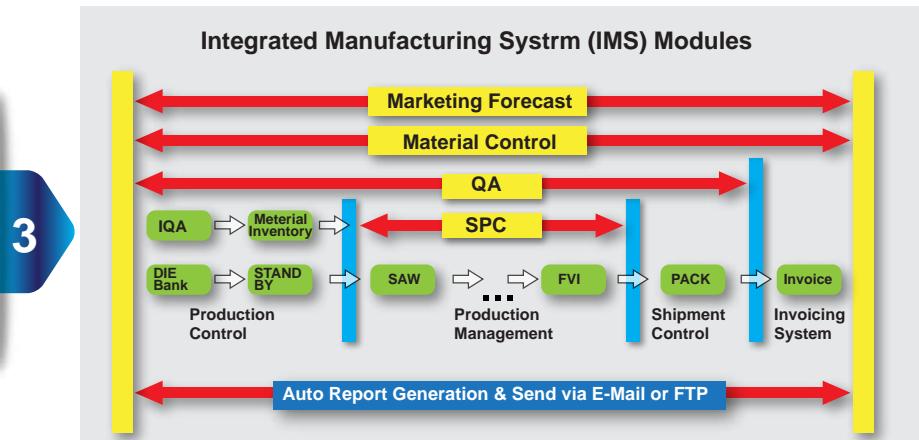




HANA 4.0 Roadmap

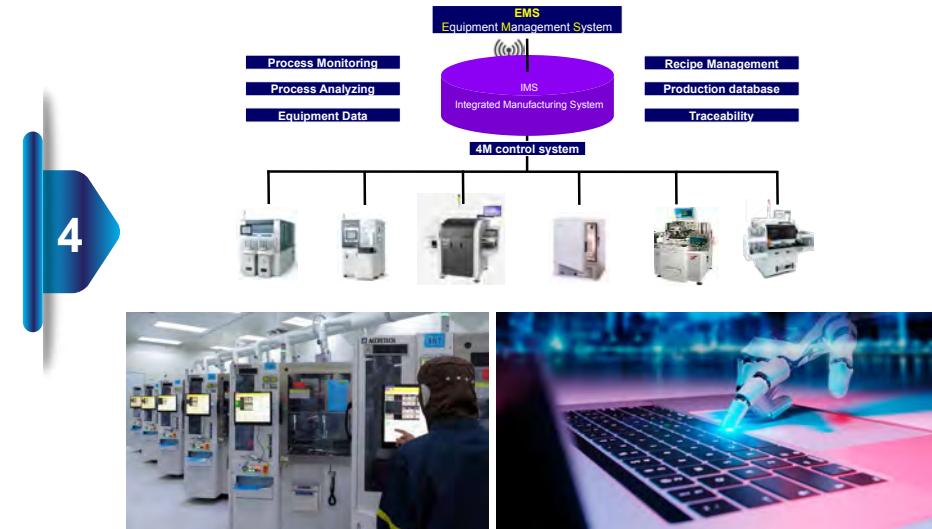
System Integration and Control

Machine-to-machine communication is integrated so allow devices to exchange information with each other.



Big Data Analysis

Use the system applications to control and monitor production process abnormality through data analytics for high-level decision-making



Summary of the consolidated manufacturing automation projects of Hana Lamphun, Ayutthaya and Jiaxing operations in the past 3 years:

Project Implementation	No. of Project			No. of Machine			Cost saving (Thousand USD)			Operator reduction (Person)			Total Investment (Thousand USD)		
	2022	2021	2020	2022	2021	2020	2022	2021	2020	2022	2021	2020	2022	2021	2020
1. Manual to Automation	75	93	71	174	411	137	1,190	1,932	1568	108	189	147	1,622	1,938	977
2. Streamline Process Management	5	7	9	8	16	16	142	411	184	8	52	25	80	382	628
3. System Integration and Control	28	35	25	243	396	445	622	386	180	4	24	22	80	136	149
4. Big Data Analysis	5	5	6	25	141	10	598	70	50	0	0	0	14	13	35
Total	113	140	111	450	964	608	2,552	2,799	1,982	120	265	194	1,796	2,469	1,789



- **Use of Advanced Enterprise Resource Planning (ERP) system:**

Hana Lamphun has implemented the new SAP S/4HANA ERP system which enables the workflow of information more efficient, enabling cost controlling including increased productivity by reducing time and effort employees need for completing their day-to-day activities, eliminating manual processes, and automating new information fast and in real-time planning, execution, reporting and analytics with the integration and streamlining business functions: sales, planning, purchasing, finance, inventory, and logistics into one central database. A modern ERP system helps Hana to enable innovation, optimize resources, and streamline operations.

- **Process Development**

Hana Ayutthaya has developed the technical competency encouraging our customers to load record number of new package development activities in 2021. This bodes very well for the business outlook in 2022 and beyond since all of these development and NPI activities will translate into increased production over of the next 12-18 months. We also continued to file or intellectual property "IP" on some of our custom package developments. Our focus on IP will continue in 2022 and beyond to further differentiate Hana Ayutthaya. Our technology development focus areas on the following:

Optical Sensors:

We focus the sensor development to build the sensor products to be smaller and thinner to sustain our positioning in this area. R&D also focus to enhance the working temperature of the sensor to be higher in order to coverage more market sector. In addition, there is also focus to enhance the light sensing to be higher accuracy and precision for next generation of application in the future.

Power Packages:

We focus on power package development to have more functionality & for thermal improvement. Packages developed to have multi-chip options as well different cooling options like bottom side cooling or top side cooling or both sides cooling called dual cool. In addition, there are improvement on isolation developed especially for future, higher voltage requirements.

Multichip Modules (MCM):

We focus on IC packaging with complex designs to integrate more functionality while trying to reduce also the overall package size. Development in combining different technologies in IC assembly to have multiple systems in a package with multiple active dice, whether stacked die or side-by-side configuration.

SIP/SMT Modules:

Demand for more functionality in a small package size also drives system-in-package (SIP) & SMT modules combining technology for IC packaging for active components & SMT package with passive component. These packages also have some additional requirements for its functionality improvement, for example, metal shield for EMI protection.

Commodity/Standard IC Packages:

The commodity or standard IC package also gets to be improved & developed further using new supplier capabilities to increase leadframe/substrate density, combined with new BOM selection to improve capabilities to support latest customer requirements.

- **Capability Enhancement Projects**

Hana Jiaxing has been established in-house capability instead of outsourcing process so enable to meet the customers' specific requirement. Hana Jiaxing further put in place more advanced equipment to optimize process improvements while reduce any risks of defect that might impact quality (higher productivity) with a new level of efficiencies and responsiveness to customers.



Silicon & Silicon Carbide Power Management Devices

Silicon Carbide (SiC), is a new material, a compound of Silicon and Carbon which can operate at very high temperatures allowing much higher voltage, higher switching frequency with lower power losses than traditional Silicon semiconductors so it is perfectly suited to power applications for smarter power designs in a broad range of high-end consumer electronics, consumer white goods, telecommunications, cloud computing & especially EV-inverter/OBC (On-Board charger) and renewable energy (solar and wind sectors), where faster re-charging speeds are required. Because of these physical properties, SiC is more difficult to manufacture and costlier. However, we will also produce standard Silicon for devices that do not require such high performance levels but are lower in cost to produce as there is high demand for both types.

- Hana has invested the necessary equipment to produce in mass production scale the products of Silicon & Silicon Carbide Power Management devices through its subsidiary Power Master Semiconductor (PMS) in Korea. After installation of equipment, Hana's subsidiary PMS will have the capability to produce Silicon & Silicon Carbide Semiconductors to be sold directly to end customers or further processed at Hana's existing IC Assembly & Test factories in Thailand and/or China into packaged IC or Power Modules.

This will support the growth of Hana's existing IC Assembly & Test business to enter into the fast growing market for EV cars & EV chargers and other uses of Power Management devices.

- Strategic Products and Package Developments (SPPD) in Hana Jiaxing which has been established in July 2021 focusing on power semiconductor packaging solution for emerging renewable energy saving application market like Electric Vehicles (EV) traction module, On-board charger, EV charging station, using SiC MOSFET, Diode and Si IGBT, Diode. This research and development organization is capable semiconductor packages design, predict its electrical and thermal performance by simulation software, as well as thermo-mechanical stress and mold flow, also Hana Jiaxing's pilot line can provide prototype and pre-production samples to customers.

These packages targeted Halogen free EMC, robust delamination solution, heavy Aluminum wire up to 20mil and Clip Bonding capability. These discrete power packages reliability qualification is following AEC-Q101.

Power semiconductor package solution to electric vehicle is most focused activities. For Semiconductor Packaging Research and Development, Hana established Finite Element Analysis (FEA) capabilities. These simulation solutions will predict products and packages thermal, electrical, thermo-mechanical performance by proposed and given design by Hana Jiaxing, also to minimize trial and error, learning cycles, preventing failures, saving customer resource and development cycles.

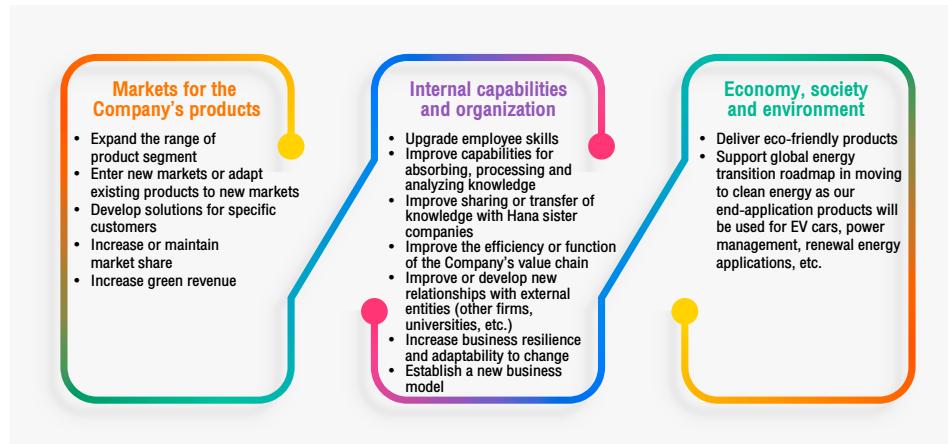
The investment of Research and Development for power semiconductor device technology in the past 3 years:

(Unit: Million Baht)

2022	2021	2020
161.3	94.2	84.4

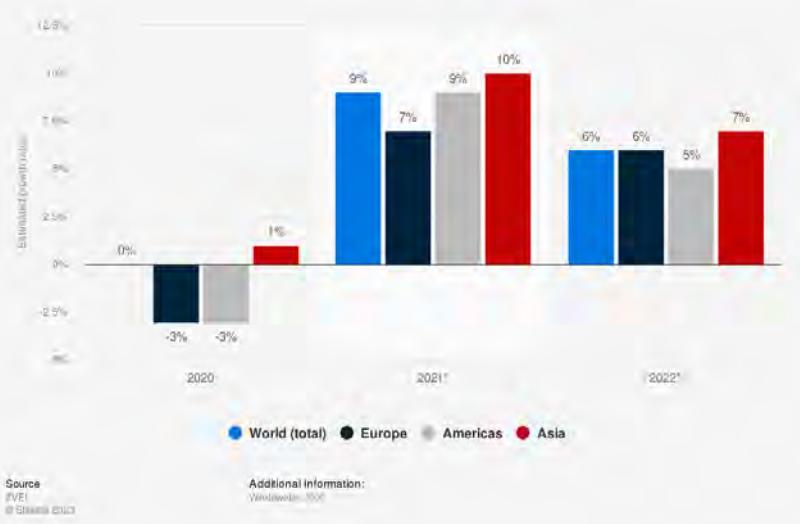


Benefits arising from having Silicon & Silicon Carbide Power Management Devices:



Marketing, Industry Status and Competition

Estimated growth rates for the global electronics industry from 2020 to 2022, by region



Source: ZVEI - Zentralverband Elektrotechnik- und Elektronikindustrie e.v. (www.zvei.org) and Statista (www.statista.com)

Electronics Market

The electronics industry performance in 2022 was a mixed bag with the earlier part of the year showing robust growth and the sentiment then weakening during the second half of the year due to macro-economic issues.

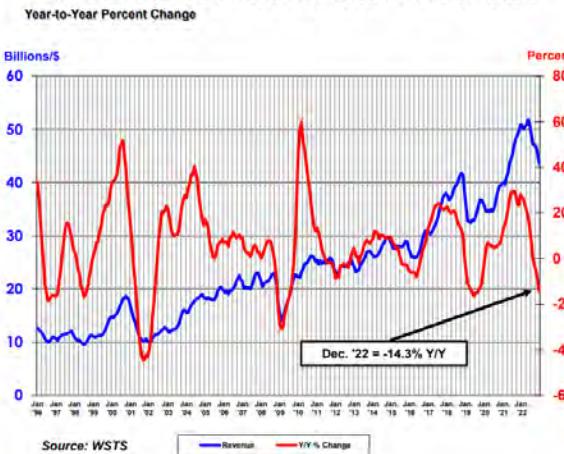
The COVID-19 crisis changed the work-life pattern of people and forced them to adapt to working and spending more time at home which translated to an increased demand for consumer electronics. However, this increased demand coupled with COVID-19 related disruptions of supply chain led to an acute shortage of components.

During the COVID-19 pandemic, the electronics market was on an aggressive upward trajectory as remote work caused personal computer "PC" demand to surge while companies stepped up efforts to develop next-generation electronics for autonomous and electric vehicles, 5G, and IoT systems.

During the second half of 2022 demand stabilized and weakened thus impacting many related markets (processor, memory, displays, etc.). The global conflicts and the COVID-ZERO lockdowns also impacted consumer demand particularly in the cell phone market.

Moving into 2023, industry analysts see an uncertain market for the electronics industry. Component shortages show signs of easing, but suppliers are concerned about waning demand and this is expected to last until the end of the first half of 2023.

Worldwide Semiconductor Revenues



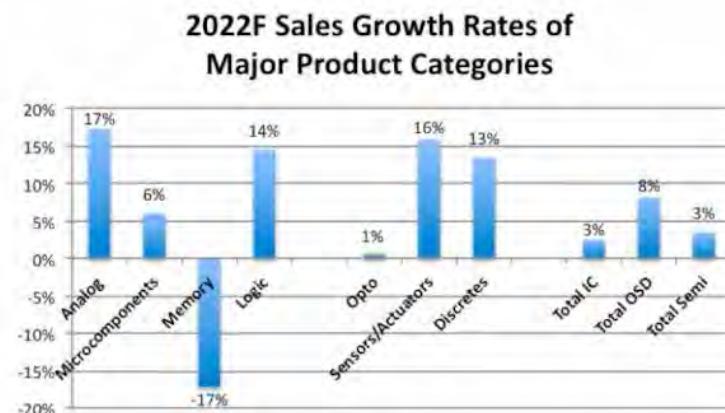
Source: The World Semiconductor Trade Statistics (WSTS) (www.wsts.org) and Semiconductor Industry Association (www.semiconductors.org)



The year 2021 was a period explosive growth of 26.2 percent for the semiconductor industry fueled by the work-life pattern adjustments due to COVID-19.

However, during 2022 the market slowed down due to many macroeconomics and global conflict reasons.

Per semiconductor research company “IC Insights”, in 2022, four major semiconductor product categories are forecasted to post double-digit percentage sales gains. The micro-components and optoelectronics segments are expected to grow by single-digit amounts. Only the highly cyclical memory market is forecast to post a decline – a 17 percent decline.



Source: IC Insights, Inc. (www.icinsights.com)

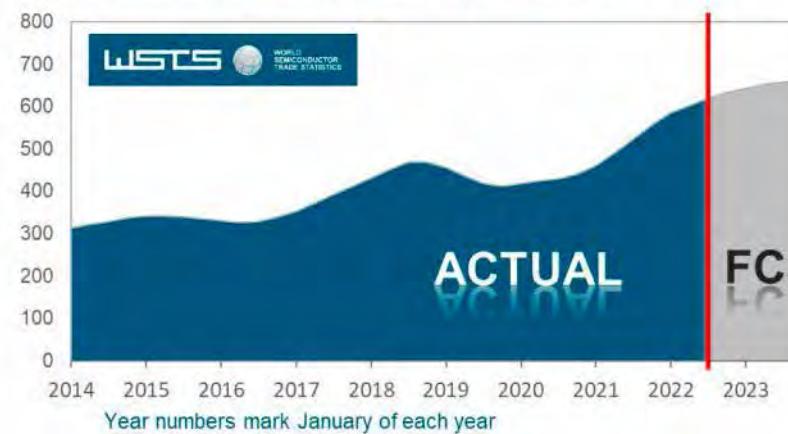
Per World Semiconductor Trade Statistics “WSTS” market forecast in 2022, the global semiconductor market is expected to grow by 4.4% in 2022. All geographical regions are seen to show double-digit growth except Asia Pacific. The largest region, Asia Pacific, is expected to decline by 2.0 percent. The Americas region is expected to show growth of 17.0 percent, Europe 12.6 percent, and Japan 10.0 percent.

Worldwide Semiconductor Market is expected to decline in 2023

Opposite to the flourishing prosperity in the past 18 months, the global semiconductor industry is facing an excess of supply in the second half of 2022. This is because the industry is negatively affected by the low demand for consumer electronics, high inflation, and rising interest rates.

The Worldwide Semiconductor Market is expected to decline of 4.1 percent in 2023.

Global semiconductor billings (billion US\$) – 12MMA



Source: The World Semiconductor Trade Statistics (WSTS) (www.wsts.org)

Per the latest forecast from Gartner, Inc., Global semiconductor revenue is projected to decline 3.6% in 2023, according to the latest forecast from Gartner, Inc. In 2022, the market was on pace to grow 4% and total \$618 billion.

Global semiconductor revenue is forecast to total \$596 billion in 2023, down from the previous forecast of \$623 billion (see Table 1).

Semiconductor Revenue Forecast, Worldwide, 2021-2023 (Billions of U.S. Dollars)

	2021	2022	2023
Revenue	595	618	596
Growth (%)	26.3	4.0	-3.6



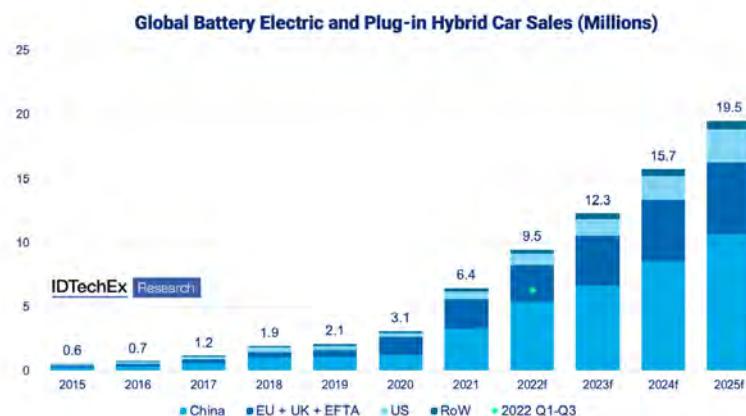
The semiconductor market predominantly supplies consumer-driven markets and enterprise-driven markets. Weakness in the consumer-driven markets is being driven largely by the decline in disposable income caused by rising inflation and interest rates.

On the other hand, the enterprise-driven markets, such as enterprise networking, enterprise compute, industrial, medical and commercial transportation, have, so far, been relatively resilient despite looming macro-economic slowdown and geopolitical concerns.

Automotive Chips Fueling Semiconductor Growth

Contrarily, automotive chips have become the driving force to fuel semiconductor growth. According to McKinsey & Company, "Insights on Semiconductors", this market will grow from USD 42 billion in 2021 to USD 125 billion in 2030, at a high CAGR of 13%. The demand for automotive chips with advanced processes is growing at a CAGR of 24% in the coming ten years, as solid computing power is needed for advanced functions such as self-driving, Advanced Driver Assisted Systems "ADAS", and real-time road monitoring.

Whilst analysts are still gathering information, total EV sales in 2022 looks like exceeding recent forecasts to reach a record 7.8m units which is approximately 10% of all cars and an 68% increase over 2021 (Wall Street Journal).



Source: IDTechEx (www.idtechex.com)

Hana's Marketing Policy:

Hana's Marketing policy is to provide 'best-in-class' assembly services with a focus on quality and attentive customer services.

In the future we will evolve to develop our own products and/or help design a better solution for our customers but we are and will remain a predominantly manufacturing services-oriented company.

We believe in forming trusted relationships with our customers over the entire organization so that all of Hana's operations are well known to our customers with a focus on forming strategic partnerships with customers by providing the turnkey solutions.

This relationship of trust and mutual support leads to a long-term partnership. All of our Top-10 customers have greater than 10 years of history with Hana. The growth of Hana over the years has been organic and hence this further solidifies our core value of building trusted relationships with our customers.

Our customers are electronic component companies, original equipment manufacturers (OEM) and contract manufacturers for printed circuit assemblies and components/ICs that go into a wide range of electronic end applications, such as telecommunication, automotive, computer/cloud computing, mobile phone, medical, RFID, industrial applications, consumer electronics and test and measurement. Our customers range from the largest multi-national global companies to the smallest start-ups. No single customer represents 30 percent or more of the group's revenue.

Hana manufactures all products according to the customers' specification and requirement and ships such products directly to our customers or customers' designated locations. All of Hana's assembled parts are exported to three main regions: USA, EU, and Asia.

Hana's Value Proposition and Competitive Advantage:

Hana focuses on providing our customers an overall competitive cost of doing business and not just focused on price but focusing on quality, capability and flexibility. This remains the corner stone of our long relationship with our customers and leads to a mutually beneficial and symbiotic partnership with our customers. Hana continues each year to increase the technical capabilities at each of our manufacturing facilities. This continuous development is another key attraction for all our customers.



Hana's strategic competitive advantage is to provide a diversified Electronic Manufacturing Service "EMS" to an international customer base. Our diversification includes: Integrated Circuit "IC" packaging and Test, Chip-on-board, Surface-mount assembly "PCBA", Hybrid-assembly, Micro-coil etc., which can provide "One-Stop-Shopping" for most of our customers. This broad range of services is a key competitive advantage for Hana and this integration proves to be extremely useful due to the merging of the semiconductor device and module level assembly.

Our competitors:

In the contract manufacturing industry, Hana is now classified as one of the top 50 world EMS companies. In Thailand, there are only few companies doing similar business as Hana. The major competitors outside Thailand in the EMS sector are IMI, Flextronics, Solelectron, Plexus, and Pemstar. Whilst they are competitors, Hana avoids direct competition with these competitors by focusing on the manufacturing of microelectronics component and sub-assembly, while most competitors focus on box build assembly.

In terms of the Semiconductor sector, the major competitors outside Thailand are Unisem, Carsem, Amkor, MPI and ASE.

Inside Thailand, companies in the PCBA field include Benchmark, Fabrinet, SVI and SMT. However, we focus at different business sectors. In the IC assembly and Test semiconductor segment, there are UTAC and SMT as our direct competitors.

To compete with our competitors:

1. Hana (Thailand) is positioned towards higher technology and better infrastructure than those in the more labor-intensive countries, such India and Vietnam. Even with the recent wage increase, Thailand can still remain competitive.
2. The US/China trade conflict benefits Thailand industries.
3. The COVID-19 crisis and the resulting disruptions have led to many customers looking for alternate sources who have the ability to scale and meet their demands. Hana's solid balance sheet allows us to expand and support the needs of our customers.

4. Hana (China) also provides a competitive geographic location but with more corporate technical and administrative support to distinguish them from local competitors. This also strengthens our domestic market inside China.
5. Hana through its Cambodian facility targets labour intensive work.
6. Hana provides a wide range of products and processes in various locations to distinguish itself from other competitors who also have multiple factory sites but a smaller product range.
7. Even with the recent fluctuations in the worldwide economy, Hana has maintained a strong cash flow.
8. Hana has multiple sites which provide alternative production facilities in case any one site has difficulty.

Future Projects in Plan

In 2023, expansion will be based on the industry momentum and customer needs. We will however continue to support investments in capability and technology.

In the semiconductor divisions in both China and Thailand, we continue to focus on high value-added opportunities by leveraging our technical competency and enhanced quality performances. We will also keep our focus on developing next generation packaging technologies to help capture more opportunities and continue our growth.

In the microelectronics division in Lamphun, we shall continue to broaden our capabilities and increase automation to maintain a competitive cost structure. Overall Hana will increase our investment in capacity, facility and capability at all locations to keep up with evolving customer needs and demands.



Procurement of products or services

Production capacity

(Unit: Million pieces/ year)

Manufacturing Plants	2022		2021		2020	
	Production Capacity	Actual Production	Production Capacity	Actual Production	Production Capacity	Actual Production
A) PCBA						
• Lamphun plant*	1,200	800	1,400	1,190	1,400	1,100
• Jiaxing plant	42	35	39	25	39	29
• Cambodia plant	10	6	5	3	22	4
B) IC						
• Ayutthaya plant	6,344	6,050	5,767	5,072	5,522	4,887
• Jiaxing plant	2,766	1,073	2,241	1,722	1,783	1,439
C) RFID & MICRODISPLAY						
• USA plant	800	350	500	180	151	114

*Remark: The production capacity and actual of 2022 was lower from prior years due to product mix changes and different sizes of PCBs for different products.

Product distribution and raw material

Hana manufactures all products according to the customers' specification and requirement and sells such products directly to our customers. The major raw materials come directly from suppliers and/or are consigned by our customers. Our Thailand and Cambodia operations imported most of our major raw materials used in production either directly or through distributors with the ratio of values 95% from overseas and 5% domestic suppliers, whereas our China operation imported from overseas 80% and 20% localize sourcing. For US operation, 15% domestic suppliers and 85% from overseas. Hana group has more than 1,300 suppliers of raw material and no purchase of raw materials from any one supplier valued more than 30% of the total purchases. Our major suppliers, who are the approved vendor list, have the long term relationship with Hana ranged from 7 to 20 years.

The Company orders materials in relation to our customers' orders using planning software systems to match the customer demand. The raw materials are mainly for industrial use and most of them are common in the market. Our major raw materials are Die/ASIC, Leadframe, PCB, capacitor, connectors, gold/copper wires, epoxy, metal parts and plastic parts. The major raw materials are imported from Singapore, Malaysia, Belgium, Hong Kong, China, Japan, Taiwan, USA and etc. For most of our customers, wafers are consigned by the customers with their proprietary design but are used solely on their own products.

Some materials are based on world prices market such as gold, copper, steel prices which may fluctuate. The Company has managed various ways to cope with the price fluctuation such as finding second source of substitute raw materials, advanced planning for material ordering in conjunction with our suppliers and customers.

Hana values the importance of product quality and standard as priority, we employ rigorous testing procedures for all incoming materials before releasing them to the assembly lines in order to ensure that production high standards will be maintained in accordance to international standard requirements.

Assets used in business operating

The property, plant and equipment of the Company and subsidiaries as of 31 December 2022 are presented as below.

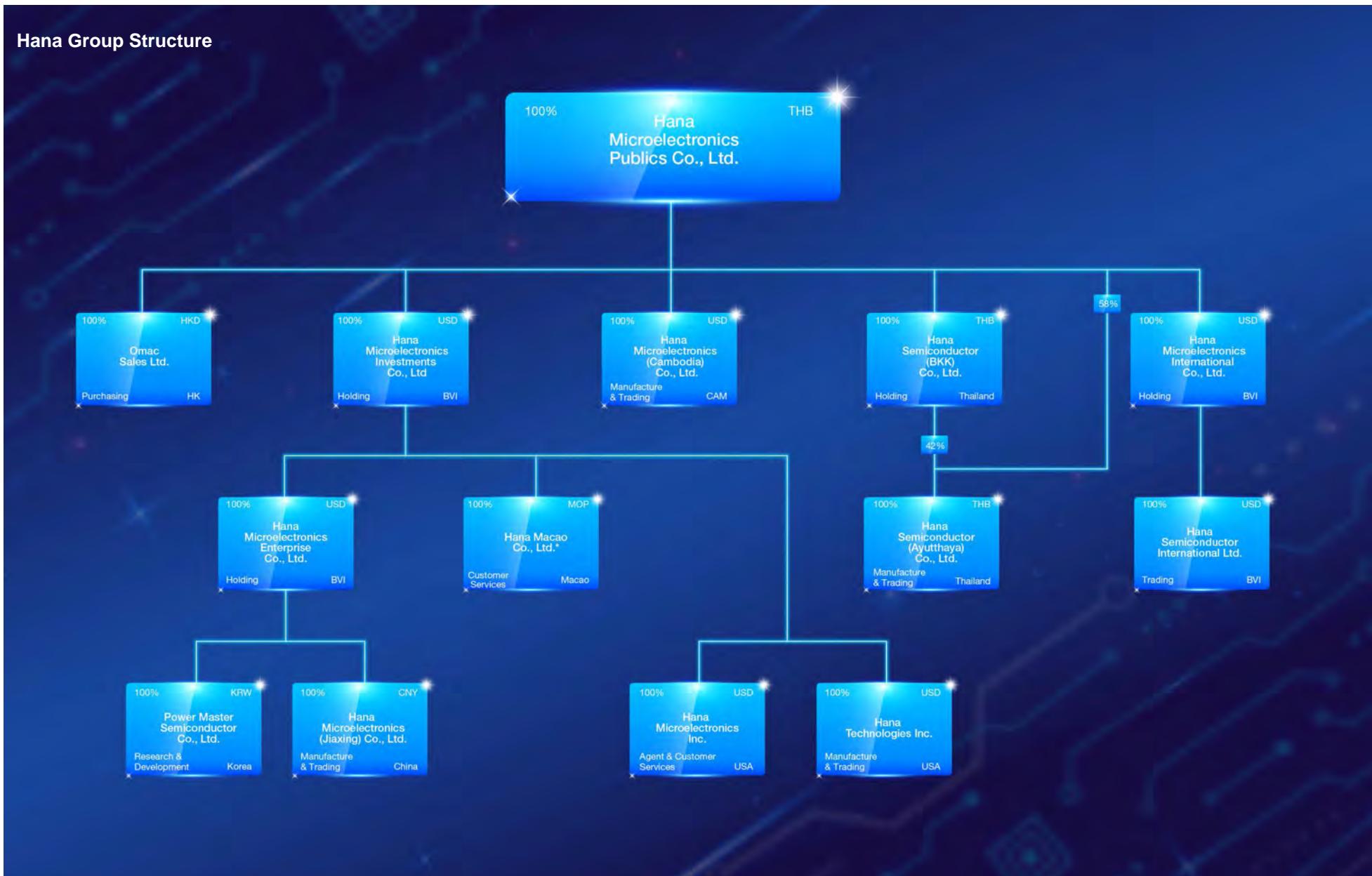
(Unit: Million Baht)

No.	Description	Net Book Value
1.	Land*	480
2.	Building*	2,237
3.	Leasehold improvement*	29
4.	Fixtures	338
5.	Machinery and equipment*	6,843
6.	Office furniture and equipment	169
7.	Vehicles	15
8.	Construction in progress and machinery under installation	743
Total		10,853

*For further detail reference, it is provided in the attachment 4.



Content



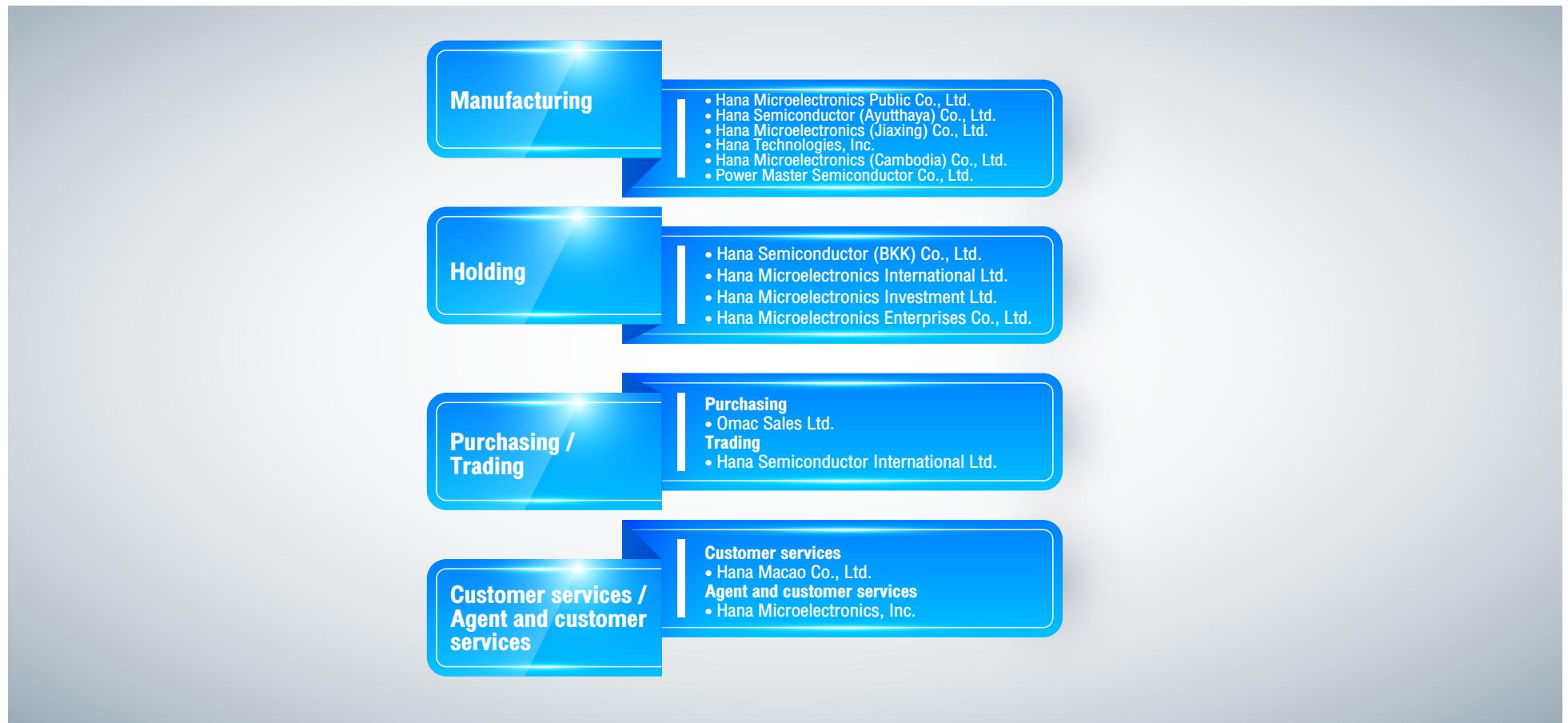


1.3 Shareholding Structure

Business operating policy

Hana has the policy to diversify its business to multiple manufacturing locations strategically based in low-cost country wherever possible and setting up the necessary companies for customer service, purchasing center, trading and holding companies to serve the group requirement.

The list of subsidiaries categorize by business type is as follows:





Shareholding in subsidiaries which the Company holds shares of them directly and indirectly 10% up:

Holding shares by the Company directly:

Company	Address	Business Type	Paid-up shares	Registered shares	Type of stock
Hana Semiconductor (BKK) Co., Ltd.	65/98 Soi Vibhavadi-Rangsit 64 Junction 2, Kwang Talad Bangkhen, Khet Lakxi, Bangkok 10210, Thailand	Holding	THB 99,999,994	THB 100,000,000	Common stock
Omac Sales Ltd.	Unit B1, 10/F, Block B, HK IND. Centre 489-491 Castle Peak Road, Lai Chi Kok, Kowloon, Hong Kong SAR, China	Purchasing of electronic components and equipment	HKD 100,000	HKD 100,000	Common stock
Hana Microelectronics International Co., Ltd.	Vistra Corporate Services Centre, Wickhams Cay II, RoadTown, Tortola, VG 1110, British Virgin Islands	Holding	USD 2	USD 2	Common stock
Hana Microelectronics Investment Co., Ltd	Vistra Corporate Services Centre, Wickhams Cay II, Road Town, Tortola, VG 1110, British Virgin Islands	Holding	USD 2	USD 2	Common stock
Hana Semiconductor (Ayutthaya) Co., Ltd.	100 Moo 1, T. Baan Lane, A. Bang Pa-in, Ayutthaya Province 13160, Thailand	Manufacturing and trading of electronic components	THB 69,999,993	THB 120,000,000	Common stock
Hana Microelectronics (Cambodia) Co., Ltd.	Neang Kok Village, Pakkhlong Commune, Mondul Seyma District, Koh Kong Province Cambodia	Manufacturing and trading of electronic components	USD 5,000,000	USD 5,000,000	Common stock



Holding shares by the Company's subsidiaries:

Company	Address	Business Type	Paid-up shares	Registered shares	Type of stock	Shareholding by
Hana Semiconductor International Ltd.	Rua De Pequim No. 126 EDF. Commercial I TAK C18 Macao	Trading of electronic components	USD 1,851,283	USD 10,000,000	Common stock	Hana Microelectronics International Co., Ltd.
Hana Technologies, Inc.	29000 Aurora Road, Solon, Ohio 44139, USA	Manufacturing and trading of electronic components	USD 437,752	USD 437,752	Common stock	Hana Microelectronics Investment Co., Ltd.
Hana Microelectronics, Inc.	3140 De La Cruz Blvd., #107, Santa Clara, CA 95054, USA	Agent and customer services	USD 1,000	USD 1,000	Common stock	Hana Microelectronics Investment Co., Ltd.
Hana Microelectronics Enterprise Co., Ltd.	Vistra Corporate Services Centre, Wickhams Cay II, RoadTown, Tortola, VG 1110, British Virgin Islands	Holding	USD 2	USD 2	Common stock	Hana Microelectronics Investment Co., Ltd.
Hana Macao Co., Ltd.	Rua De Pequim No. 126 EDF. Commercial I TAK C18 Macao	Customer services	MOP 1	MOP 1,000,000	Common stock	Hana Microelectronics Investment Co., Ltd.
Hana Microelectronics (Jiaxing) Co., Ltd.	No#18, Hengnuo Road, Xingcheng Industrial Zone, Ziuzhou district, Jiaxing City, Zhejiang Province, 314000 P.R. China	Manufacturing and trading of electronic components	USD 65,000,000	USD 65,000,000	Common stock	Hana Microelectronics Enterprise Co., Ltd.
Hana Semiconductor (Ayutthaya) Co., Ltd.	100 Moo 1, T. Baan Lane, A. Bang Pa-in, Ayutthaya Province 13160, Thailand	Manufacturing and trading of electronic components	THB 50,000,001	THB 120,000,000	Common stock	Hana Semiconductor (BKK) Co., Ltd.
Power Master Semiconductor Co., Ltd.	79-20, Gwahaksaneop 4-ro, Oksan-myeon, Heungdeok-gu, Cheongju-si, Chungcheongbuk-do, Republic of Korea	Manufacturing and trading of electronic components	KRW 256,959,297	KRW 256,959,297	Common stock	Hana Microelectronics Enterprise Co., Ltd.



Policy of supervision of subsidiary and associated companies

The Company has authority to manage and oversight the subsidiary and associated companies. Operating section of each subsidiary shall be responsible by General Manager which shall report to the Chief Executive Officer. Capital expenditure and financial control management shall be handling by the Executive Committee which is reviewed by the Board of Directors.

Persons who may have conflicts of interest in shareholding in subsidiaries and affiliated Companies

- None-

List of major shareholders

The first top 10 shareholders and shareholding proportion of the Company as of the latest closing registration book on 30 November 2022 is as follows:

No.	Shareholders	No. Of Shares	% Holding
1.	Omac Limited, Omac (HK) Limited, Rainbow Joy Limited		
	1. Omac Limited	40,939,360	5.09%
	2. Omac (HK) Limited	172,480,000	21.43%
	3. Rainbow Joy Limited	40,000,000	4.97%
	Total Same Group	253,419,360	31.49%
2.	LGT Bank (Singapore) Ltd	89,214,400	11.08%
3.	Thai NDVR Company Limited	49,920,292	6.20%
4.	South East Asia UK (Type C) Nominees Limited	21,621,260	2.69%
5.	State Street Europe Limited	13,986,628	1.74%
6.	N.C.B. Trust Limited-Norges Bank 1	13,077,100	1.62%
7.	The Bank Of New York Mellon	13,016,071	1.62%
8.	Miss Anchasa Yeesonkaew	12,161,100	1.51%
9.	SCB Dividend Stock 70/30 Long Term Equity Fund	9,375,600	1.16%
10.	BNP Paribas, London Branch	8,600,700	1.07%
	Others	320,486,349	39.82%
	Total	804,878,860	100.00%



Remark:

- No. 1 are the related companies under Section 258 of the Securities and Exchange Act (No. 4) B.E. 2551
- Han Family hold shares in Omac Limited which is a holding company, equivalent to 66.66%. The shareholders of the company consist of:
 - Ms. Janine Margaret Han holds 120,000 shares or equivalent to 33.33% of the total issued shares.
 - Ms. Alyna Sylvie Han holds 40,000 shares or equivalent to 11.11% of the total issued shares.
 - Mr. Oliver Edward Han holds 40,000 shares or equivalent to 11.11% of the total issued shares.
 - Mr. Rupert George Han holds 40,000 shares or equivalent to 11.11% of the total issued shares.
 - Mr. Richard David Han takes a position of the director of Omac Ltd., Omac (HK) Ltd. and Rainbow Joy Limited. These 3 companies engage in holding business.

These foreaid 3 companies are the same group of shareholders in accordance to Section 258 of the Securities and Exchange Act of Thailand (No. 4) B.E. 2551

Relationship with the Business Group of Major Shareholders

The major shareholders of Hana Microelectronics Public Co., Ltd. are Omac Limited, Omac (HK) Limited and Rainbow Joy Limited, all of 3 companies holding shares total of 253,419,360 shares, equivalent to 31.49%. Those companies have no relationship or related to any other businesses with the Company.

Amount of registered capital and paid-up capital

As of 31 December 2022, the Company has a registered capital of THB 974,403,900 and the paid-up capital is THB 804,878,860, divided into 804,878,860 ordinary shares with par value of THB 1.00 per share. The Company has no preferred shares.

Issuance of other securities

The Company does not issue any other securities besides ordinary shares as stated above.

Dividend Policy

The Company's dividend policy to pay shareholders is approximately 30 - 100% of its consolidated net income after deduction of all specified reserves, subject to the Company and its subsidiaries' cash flow and investment plans, including justifications and other considerations as deemed appropriate. The dividend policy of the subsidiaries to pay the Company is 0 - 100% of appropriated earnings.

Dividend payment	2022	2021	2020
Interim Dividend (Baht/share)	0.50	1.00	0.65
Annual Dividend (Baht/share)	0.50	1.00	0.75
Total dividend payment (Baht/share)	1.00	2.00	1.40
Total amount paid (Baht)	804,878,860	1,408,538,005	1,126,830,404
Earnings per share (EPS)	2.61	1.92	2.37
Payout ratio	38%	104%	59%



2. Risk Management



2.1 Risk management policy and plan

The Risk Management Committee has formulated risk management policies as following purposes:

- To enable the Company to manage any probable risks in an efficient manner, with such management procedures implemented in a sound and systematic manner.
- To promote preventive risk management procedures to be carried out in a swift, transparent, accurate, and complete manner on a systematic and consistent basis.
- To encourage and develop all employees and management members at all levels to have thorough understanding and recognition of the significance of risk management procedures, while promoting participation in said risk management system throughout the organization.
- To facilitate risk management procedures to be implemented in an appropriate manner well conforming to the Company's mission and policy.

As part of good corporate governance, the Board of Directors is to ensure the appropriate systems of risk management in line with the Company's objectives and strategies and intend to identify, control and promote the mitigation of risks. The risk management framework is to

identify risks, assess and prioritize those risks, set up a proactive monitoring process that will focus on mitigating risks and regularly report to the Board of Directors.

Risk Management Structure: With due recognition by the Board of Directors of the various risk factors posing as possible threats to the Company's business operations, the Board therefore assigned the Risk Management Committee to be responsible for formulating policies and guidelines for risk management, overseeing risk management to ensure that the risk management process is appropriate, adequate and effective.

The Risk Management Committee consists of 4 members which composed of independent directors as the majority. The Risk Management Committee is responsible for performing duties and report to the Board of Directors. The Executive Committee led by CEO has the direct duties and responsibilities to manage risks, determine risk management direction for the organization, plan, and monitor important risks. The Corporate Risk Officer has been assigned the duties to gather, analyze, assess risks, and report risk management profiles to the Executive Committee and the Risk Management Committee. Each Hana business unit as the risk owner is responsible for risk assessment in their respective areas of responsibility including manage and report the mitigation and internal control measures.

Risk Culture: Risk management has been put in our Quality System Management Manual. The Company's policy risks and opportunities are analyzed in each process by using risk analysis tools such as SWOT, PESTLE, Process Approach, Risk-Based Thinking, Turtle Diagram, Failure Modes and Effects Analysis (FMEA), etc. to be used as a strategy for risk management as a major part of the occupational health, safety and environmental system including the environmental management system.

Business Continuity Plan: The Company has a business continuity plan to deal with significant risks particularly reducing the impact on disruption of production and delivery. With crisis management and communication plans, there are various execution measures to reduce damage to production buildings due to natural disasters, correct conditions that cause storage warehouse and finished goods damage, prevent loss of production capacity due to failures of machinery and/or human errors, ensure raw material supplies, and keep utilities operated. The Company has prepared emergency plans to support those various situations by requiring a Crisis Management Team to manage and communicate in such crisis.



2.2 Risk factors on business operation

Those risk factors likely to have impacts on the group operations could be summarized as follows:

2.2.1 Risk Factors which effect to the Company Group's Business

A) Strategic Business Risk

- Change in Major Customers Risk

The largest risk management perceived is significant changes within our major client base which may be brought about due to any number of external factors such as a change in their ownership, or a change in their product program. Whilst Hana's key strategy is to maintain a diverse base of customers with different industry exposures; significant changes from any one of our major clients can affect the group's performance. Market conditions resulting from changes in economic growth rates of economies will also affect prices and demand for the Company's services.

Managing risks: To minimize the impact of customer risks, the Company has a broad spread of customers selling into a spread of end user markets, with the largest major customer contributing not more than 20% of the group's sales revenue.

- Global Economic Risk

The Company's selling prices and demand for products and services can be affected from economic condition of global markets derived from the impact of Covid-19 outbreak, trade war, inflation, interest rate, recession, and global energy crisis which lead to the weakness in global demand.

Managing risks: The Company maintains a diverse base of customers and wide product portfolio to minimize the impact of global economic downturn. The Company and tries to maintain a low cost structure and adequate cash reserves to enable it to compete and survive within possible difficult environments. Change in US trade policy entails the business disadvantage for our China manufacturing base; however, the trade war created an opportunity for Thailand, Cambodia and South Korea. The Company and subsidiaries stand ready to make timely adjustments in response to possible changes.

B) Operational Risk

- Supply Chain Disruption

The electronics component market in 2022 persisted with some shortages, particularly IC components for Printed Circuit Board Assembly "PCBA", ICs for RFID Inlays, and lead frames and customer's IC dies, for Integrated Circuit "IC" production. These shortages were less than 2021 but still continued, impacting customers in a number of specific sectors. The factors of Russian-Ukrainian war led to trade sanctions, energy crisis, including US-China decoupling would also pose the risks impacting the global supply chain as well as the Company for material sourcing and logistics in particular.

Managing risks: To minimize supply chain disruption, each Hana division worked closely with our long-term suppliers/distributors while placing orders in advance for assurance of supply, negotiating extra capacity allocation from our customers by signing long term purchase orders with the customers and suppliers which are backed up by material liability agreements. Stocking more weeks of inventory of material based on customers' forecast which is once again covered by material liability agreements, as well as aggressively using spot component markets to fill the gaps. We also worked with customers on alternate sources with shorter lead times or multi-sourcing options, and localise sourcing of alternative parts to overcome the shortages. Hana Lamphun has enhanced Systematic EDI/B2B Integration including evaluating alternative inbound logistics options, booking shipping space in advance and preparing for potential delivery channel shifts. For RFID Inlays, normally each design format includes only one IC option. Hana Technology Inc. (HTI) in USA qualified a minimum of two, and sometimes more, IC alternatives for each design format. This allowed HTI's customers to have the best chance of having product available. HTI increased its supplier base to have two or more qualified component suppliers on all non-customer-specified materials. Stocking programs were established for all critical materials internally. Stocking programs at supplier locations are in development.



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- **Workforce and Labor Risk**

Hana Group employs more than 9,000 people worldwide with the majority of whom are employees who work directly in production. The Company may face skilled labor shortage or unable to manage to get enough workforce to meet the demand. The increase in labor costs from the minimum wage adjustment will also contribute the challenge resulting in the high turnover rate, higher production costs and the competitive disadvantage. In the US, nearly 50 million left their jobs. Some left the workforce entirely, some for higher pay because of inflation, and others to pursue remote working opportunities. All of these factors caused higher turnover rates than Hana USA has ever experienced.

Managing risks: The Company promotes the integration approach by improving production's automation along with human capital development to upgrade labor skills along with technology innovation as to reskilling and upskilling the future-ready workforce for Industry 4.0. In addition to provide educating and training to employees, the Company encourages our personnel at all levels to participate in Continuous Process Improvement Programs by giving opportunities for them to practice the analytical thinking process, working as a team for process improvement and send them to exchange their development on the competition stages as their pride so encouraging a culture of collaboration and teamwork by recognizing and rewarding team contributions and successes. As the Company continues to improve labor relations and labor welfare in various forms, Hana Lamphun has received the Outstanding Establishment in Labor Relations and Welfare in 2022 as the 2nd year. The award was granted by the Department of Labor Protection and Welfare, recognizing the collaboration of the employers and employees on building a positive relation workplace to improve quality of work and quality of life. HTI added multiple recruiters to gain access to a limited supply of quality workers. When necessary, HTI increased its base onboarding pay rates. To combat the growing problem of existing employees leaving to test the market for higher-paying jobs, HTI offered retention benefits to critical groups of employees, and also worked to enhance its employee welfare benefits to further entice and retain employees.

- **Cybercrime**

Cybercrime is a potentially high impact risk from which part of the Company's IT software and data could be compromised. The Company could be affected by cyber-attacks affecting hardware, systems, network, customer data and intellectual property that can cause damage to our business, affect our bottom line, business disruption as well as our reputation as a reliable supplier and customer trust.

Managing risks: The Company has developed the Cyber Security Policy and Cyber Attack Guideline Information Technology System including Personal Data Protection Policy covering security incident response plan and security incident respond team, which have been approved by management. Our Hana Ayutthaya has been awarded ISO 27001 certification which is the international standard for information security management which is a risk-based approach to corporate information security risk management that addresses people, processes and technology. Further, we have the expert review and assess the associated risks with our cyber security control along with proper management actions to reduce identified risks.

- **Hazard Risk**

A factory could be partially or wholly destroyed by fire, flood or earthquake. Whilst the Company has multiple factories, there would be a loss of customers and a period of months to years to install new equipment and recover customer orders.

Managing risks: The Company mitigates this risk through having multiple production sites in multiple countries. The Company further reduces facility risks at each factory with numerous measures to minimize the risk of a facility being damaged by such events. The management regularly reviews and audits the measures taken to minimize fire and flood risk. Furthermore, the Company has insurance for property damage and business interruption to further mitigate the risk from facility damage. However, insurance cover for flood risk at the Ayutthaya factory is limited due to the 2011 floods. At the group's major facilities in Thailand the Company has additional flood protection to reduce the risk of damage from flood and has been re-assessed by insurance experts on a yearly basis.



- Key Management Risk

The Company employs a number of expatriate management in key positions. Whilst the Company does not have any individual staff or management who are key to the survival of the business, loss of senior management and the Company's ability to replace key management could affect the Company's market value and business performance.

Managing risks: The Company minimizes management risk through not having key man issues and sufficient management depth to be able to continue to operate the Company in the event of management turnover. The Company also has a succession plan at executive level which focuses on replacing the incumbents of key positions particularly at the senior management and executive level.

C) Financial Risk

- Foreign Exchange Rate Risk

In 2022, the Group had loss on exchange rate amounting to THB 319,832,105 and gain on derivatives amounting to THB 30,253,082.

Below is the summary of the past 3-year of gain (loss) on exchange rate and derivatives.

(Unit: Million Baht)

	2022	2021	2020
Gain/(loss) on exchange rate	(320)	(274)	127
Gain/(loss) on derivatives	30	(35)	8
Total	(290)	(309)	135

The main risk of financial impact is the exchange rate movements of the Thai Baht and Chinese Yuan compared to the US dollar. However, both the Company's sales revenues and material costs are almost wholly in USD which provides a natural hedge. Capital expenditure is also in USD for machinery which is mostly imported.

All of the Company's sales revenue are in foreign currency (primarily USD) and USD currency costs are 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% of change in the average Baht/USD and CNY/ USD rates (i.e. (1- 0.60) x Sales Revenue x 10%).

Managing risks: To reduce the risk of volatile exchange rate, USD 120 million is hedged using foreign exchange forward contracts to buy THB and sell USD on a rolling 1 to 6 months basis.

The Company currently has no net interest bearing borrowings and therefore is not negatively affected by potential interest rate increases.

- Group Financial Investment Risk

As at 31st December 2022, the group had THB 3.6 billion in cash and short term investments. Part of the cash reserves are invested in corporate bonds and short term debt funds to provide investment income return. The chance that an outcome or investment's actual gains may differ from an expected outcome or return.

In 2018 and 2019 the Company invested a total of USD 35 million in SICAV-SIF-Credit Suisse (LUX) Supply Chain Fund. The fund was to provide supply chain funding for companies which were backed by sales invoices of those companies and the payment risk was to be insured by AA grade insurers. In March 2021, Credit Suisse Asset Management (Switzerland) AG, announced the termination of Supply Chain Fund, in which the Group had the investment of USD 37.3 million or equivalent to Baht 1,169.8 million as at date of termination. During 2021, USD 24.6 million was repaid leaving a balance of USD 12.7 million outstanding. As there is no independent fair market valuation of the balance outstanding of the fund the Company's management as decided that it is prudent to write down to zero the balance of the Credit Suisse Supply Chain Fund. This resulted in a charge to the 2021 Financial Statements of the Company of THB 421 million (USD 12.7 million).



Managing risks: The financial investments risk is mitigated through investing in investment grade financial instruments such as deposits, bonds and similar funds which are investment grade at the time of purchase. The financial investment portfolio invests in a diversified range of corporate bonds and short term debt in a diversified range of industries and countries which minimizes the risk if a country and/or industry is impacted by certain economic events.

D) Compliance Risk

- Regulatory risk

As Hana group operates its businesses in different countries, our compliance with wide array of regulations and laws both local and in new foreign business locations could have the possibility of violating such laws.

Managing risks: In regard to the statutory compliance, the Company and its subsidiaries recognize the importance and the need to adhere to local laws and regulations when entering a foreign market, and will not intentionally violate those rules. Ongoing adherence to local rules are regularly assessed and monitored.

E) ESG Risk

- Environmental Risk

Our manufacturing business activities will have an impact on the environment through the pollution, using natural resources and greenhouse gas emissions.

Managing risks: The Company promoted the renewal energy. Solar panels (totaling 3MWP output) have been installed on the roof of the Companies' facilities in Lamphun and Ayutthaya. In 2023, the additional phase of solar panels with 0.9 MWP will be installed on the roof of Lamphun facility. The use of renewable energy will reduce the use of electricity that comes from burning fossil fuels and reduce greenhouse gas emissions.

The Company ensures the quality of wastewater before releasing into the treatment system. There is a project to change the aeration pump of the aeration system in

the wastewater treatment system in order to increase the efficiency by receiving consultations and funding from the Ministry of Energy. The Company ensures the air treatment system regularly checked along with a maintenance system to be able to operate continuously and efficiently. Waste management to reduce the volumes of waste and control waste streams according to the hierarchy for different methods of treatment has been executed. The Company has been implementing various projects to reduce the use of electricity and organize campaigns for all employees to realize the conservation of the environment by strengthening the culture of environmental preservation and provide knowledge and training to staffs on the environment and various activities in accordance with the specified policies and plans.

- Human Rights Risk

Our business activities can infringe human rights of our employees, customers, our supply chains, communities if not manage properly.

Managing risks: The Company employs only legally qualified persons in each country that it operates and has assessed human rights risk. The Company has been regularly assessed by the customers to ensure compliance with the Electronic Industry Coalition (RBA) Code of Conduct which covers labor and human rights, self-assessment audits done by the internal auditors where the findings and corrective actions are reported to management and to the Audit Committee regularly. In addition, the Company has been certified the ISO 45001 Occupational Health and Safety standard. The Company has required our Suppliers to sign compliance with the Supplier's Code of Conduct. In addition, Hana Lamphun received an award from the Department of Industrial Works for the fifth year in a row in recognition of the Company's commitment towards sustainable corporate social responsibility. The Company also provides an open channel for employees and the third party to filing compliant/suggestion for areas that need improvement.



- Corruption Risk

The potential risks of corruption may vary among different locations and operating units of Hana Group, which could incur higher costs as well as reputation of the Company if not properly manage and monitor.

Managing risks: The anti-corruption policy and program have been implemented and monitored. The key internal controls are in place by having proper work flow establishment for key risk activities and ensure compliance with legal requirements, requiring the concerned management to confirm that the anti-corruption policy, putting in place the monitoring through the internal audit plan, etc.

2.2.2 Shareholder Concentration Risk

- Risk from the Company having a major shareholder of more than 25%

As at 30 November 2022, the Company's major shareholder was the Han family with a shareholding ratio of 31.49% of the total number of shares issued. As a result, they can exercise their right to object or disapprove the resolutions of the shareholders' meeting on matters as specified in the Company's Articles of Association or related laws requiring a vote of not less than three-fourths of the shareholders' meeting who attended the meeting and voted.

Managing risks: In order to ensure transparency and in compliance with the principle of good corporate governance, we have an organization structure consisting of competent management and have clearly defined the scope of powers and duties including the Audit Committee comprising of independent directors to ensure that stakeholders are treated fairly according to their rights and the right balance of management and transparent leadership. The company's Board of Directors comprises 50% independent directors and the Chairman of the Company is an independent director.

2.2.3 Risk of Listing in Foreign Securities Markets

Hana does not have any securities listed in foreign markets.

2.2.4 Emerging Risks

- Climate Change

Climate change and its associated impacts are an operational risk. Climate change brings warmer temperatures from the greenhouse effect, resulting in more frequent and extreme weather events such as floods and storms which may cause severe impacts to our business including loss of customers, pressure on energy costs, carbon tax implications, and government regulation in our countries of operation and our customer's countries.

Managing risks: The Company therefore emphasizes on the management and control of risks toward climate change with both short and long term actions as well as monitoring the emerging climate related risks. To prepare and manage of climate change, the Company and its subsidiaries are pursuing a range of adaptive practices to identify, respond to, and stay ahead of current and expected legislation. We are endeavor to reduce consumption of, and reusing, resources. The Company has been investing in automation technology transformation for to make changes in production and resource consumption to create environmental improvements compared with the processes used in the past. The Company supports the investment in renewable energy projects and investment to reduce GHG emissions and we shall regularly assess new areas for innovation and collaboration to help fight climate change.

- Technological Development and Cybercrime

The Company identifies advances in technologies which enable machines to talk to other devices at rapid speed, presenting opportunities for automation manufacturing transformation. However, technology innovation also creates opportunities for cybercriminals to find loopholes and to commit crimes. Threats and cyberattacks are likely to increase in severity.

Managing risks: The Company continue to implement and upgrade security software and procedures to minimize cybercrime risks and adhere to Personal Data Protection Act and applicable laws and regulations while enhancing cyber



security management to strengthen information security system including enhancing employees' information security awareness to ensure users can do their jobs as well as keep the organization secure.

- **Pandemic Risk**

The Covid-19 and possibly future pandemic crises may persist where the effects will be the threat to global economic and the Company's business.

Managing risks: The Company has learned from experiences and prepared an emergency response plan to prepare for future crisis. The outbreak management includes tracking news, government policy, guidelines from the Ministry of Public Health, outbreak control measures, outbreak communications within organization and with customers and partners to lay down measures to cope with business operations that must be performed in accordance with various policies and measures strictly, including preventive measures and taking care of the safety and well-being of employees in order to avoid business interruption or suffer with minimal impact.

- **Geopolitical Risks**

Trade friction between USA and China will lead to a separation of the global supply chain for electronics as USA and China want to reduce reliance on each other throughout the supply chain. Geopolitical risks of the Russia-Ukrainian led to the increase the costs of global supply chain and impact the global trade structures.

Managing risks: Hana has pursued a diversification strategy to have multiple production bases in various countries: China, Thailand, USA, Cambodia and South Korea as to serve customers covering business sectors. Hana has also adapted its business model whereby our factory in China is focused on serving local or domestic demand which shall be less reliance on foreign demand while other factories will support the needs of customers outside China. The Company has monitored the situation on-going to view the business implication and prepare for adoption with close coordination with customers and our business partners.





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3. Business Sustainability Development





3.1 Policy and objectives of sustainability management

Hana recognizes that our long-term success depends on our ability to manage our operations soundly, efficiently in an increasingly complex environment, to create value for our stakeholders and to further contribute to society whilst minimizing the impact to the environment.

Policy: The Board of Directors commits that Hana shall conduct its business with respect to Environmental, Social and Governance (ESG) responsibilities, as well as for all group of stakeholders. It is the board policy that we endeavor to conduct the business with high professional and ethical standards under the principles of good corporate governance for continuous and sustainable growth. We shall uphold the importance of protecting human rights, consumer rights, environmental management, compliance with applicable laws, regulations and to contribute to community development for long term success of the Company, society and stakeholders. Our commitments focus on creating long-term shared value for the environment and our stakeholders.

Sustainable business development goal: Hana aims to grow the business while balancing between economic growth, environmental care and social well-being and integrating the United Nations Sustainable Development Goals (SDGs) into the organizational sustainability practices.

Vision: To operate our business in harmony with society and environment for the mutual benefit of our stakeholders, community and our planet

Our move: Hana's business environment is highly competitive. The Company seeks to grow and to continually improve the capabilities and productivity of its production processes. Whilst doing so the management and staff are mindful of sustainable development and review each change to ensure compliance with the sustainability objectives with regards to the economic, social and environmental impacts. The Company has established Corporate Governance and Sustainability Committee with the sub-committee representatives from different departments to deploy the Company's policy, goals and action plans and practices.

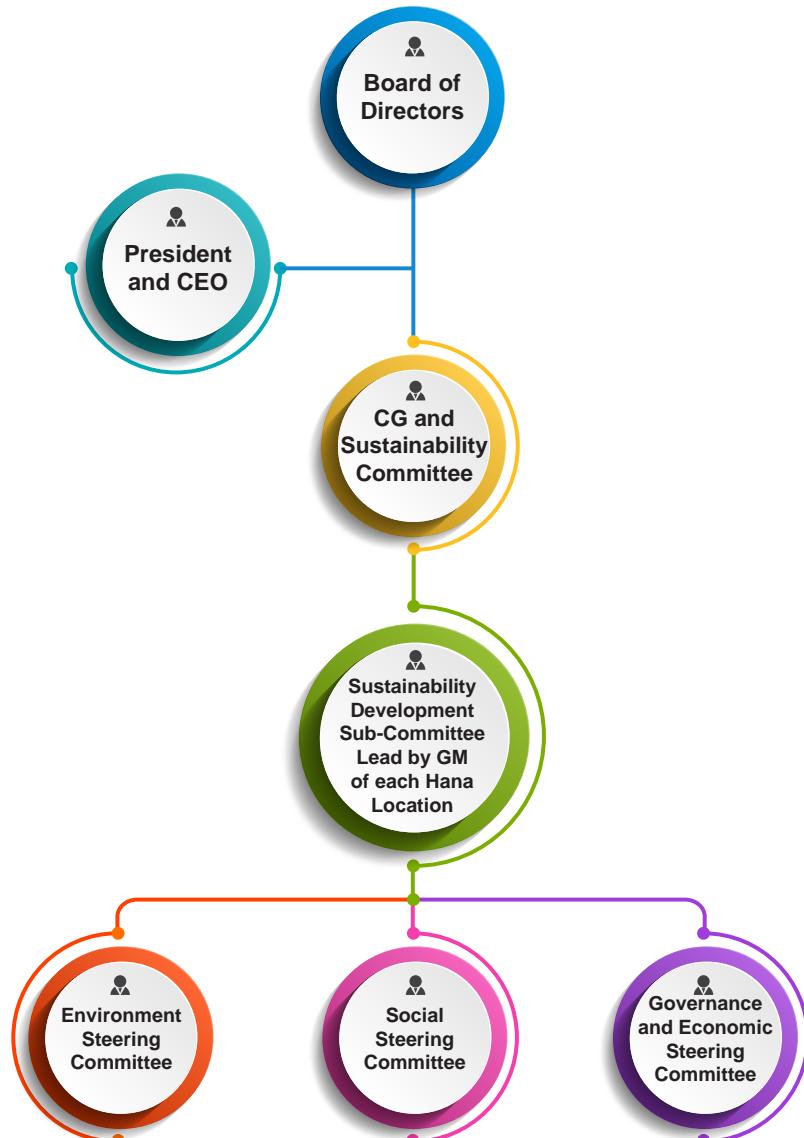
Strategy and framework:



A responsible business of the future — conducting business with good governance, integrity and accountability, managing business performance with profitable growth and shareholders return, and innovation for efficient process, product quality and service as well as making positive contribution to the organization towards sustainable development

A society for our future — Respecting human rights, non-discrimination, developing human capital with knowledge and skills, creating a healthy and safe workplace, social and community engagement.

A better environment with a future — Managing greenhouse gas emissions, improving resource usage efficiency, preventing pollution, protecting and improving ecosystems



Sustainable Development Structure

A board-level Corporate Governance and Sustainability Committee has been established with the majority of independent directors to help the board discharge their responsibilities by delegating to the Committee to set the Company's sustainability policy, framework, goals, strategy and oversee the implementation and monitor the progress. The activities of the Committee are managed by each GM of each Hana operating units along with ESG working groups.



UN Sustainable Development Goals (SDGs)

The 17 UN Sustainable Development Goals are the fundamental goals continuing an ongoing effort in working towards a sustainable future for economically, environmentally and socially. Hana promotes the stakeholder participation through its various activities by integrating the United Nations Sustainable Development Goals (SDGs) into the organizational sustainability practices. We have reviewed our progress on the SDGs and our strategy in actions which lately cover 12 goals as follows.



Content

**Goal 3: Good health and well-being**

Promote employees' health and safety in the workplace: drug-free workplace program, disease-free workplace program, healthy workplace happy for life program

**Goal 4: Quality education**

Scholarship program with the aim to enhance educational opportunities for the child of low-income employees, internship program for students to promote practical learning and knowledge to enhance their skills necessary for future careers by ensuring application and training provided equally to all women and men

**Goal 5: Gender equality**

Hiring, employee development and promotion that take into account the individual's abilities, gender equality, no discrimination, which is contributed to the stability of the staff career

**Goal 6: Clean water and sanitation**

Implementing improvements in water quality by reducing pollution and control water quality, reducing water consumption by increase the reuse of wastewater from production processes

**Goal 7: Affordable and clean energy**

Increase the proportion of renewable energy, increase energy and technology efficiency

**Goal 8: Decent work and economic growth**

Respect human rights, fair treatment of employees, promote safe and secure workplace including promote career development for people with disabilities





9 INDUSTRY, INNOVATION AND INFRASTRUCTURE 	Goal 9: Industry, innovation and infrastructure <p>Industrial trend toward automation and industrial 4.0, promote staff at all levels to participate in innovation and improvement projects through Kaizen and Quality Control Cycle (QCC) group activities</p> 	10 REDUCED INEQUALITIES 	Goal 10: Reduce inequality within and among countries <p>Promote social inclusion policies for all employees regardless of age, gender, disability, race, ethnicity, origin, religion, and economic status</p> 	11 SUSTAINABLE CITIES AND COMMUNITIES 	Goal 11: Sustainable cities and communities <p>Green industry initiative, eco-factory, eco-excellent, CSR-DIW aiming for sustainable development towards ESG</p> 
12 RESPONSIBLE CONSUMPTION AND PRODUCTION 	Goal 12: Responsible consumption and production <p>Managing the efficient use of natural resources, reducing landfilled waste, reduce the emission of toxic chemicals and waste into the nature with waste management principles: Reuse, Reduce, Recycle (3Rs) including green procurement</p> 	13 CLIMATE ACTION 	Goal 13: Climate action <p>Continuously improve the efficiently use of internal resources within the organization, implement renewable energy project to drive a low-carbon society as part of climate change mitigation</p> 	16 PEACE, JUSTICE AND STRONG INSTITUTIONS 	Goal 16: Peace, justice and strong institutions <p>Anti-corruption certification and the implementation of the principles of good corporate governance</p> 



3.2 Management of impacts on stakeholders in the business value chain

Hana Business Value Chain

Hana is an EMS provider where the Company's activity mainly focuses on product manufacturing serving to customers around the world whereby we shall strive to operate sustainability across the value chain which is classified as primary activities and support activities to ensure responsible business practices and to meet the expectations of stakeholders inside our own organization and across our entire value chain.





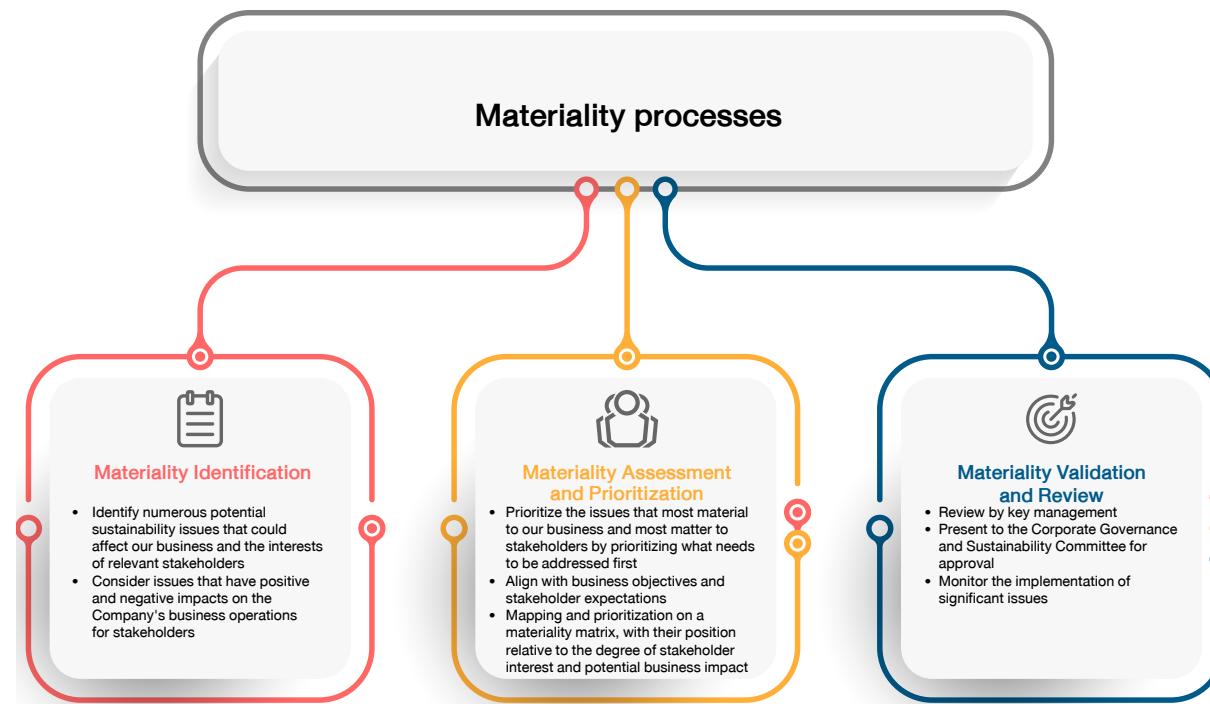
Stakeholder Engagement

The Company has the policy to provide opportunities for stakeholder involvement with those who are affected by or may affect from the business activities of the Company. The stakeholder feedbacks are used to assess key issues in order to find ways for mutual benefits.

Stakeholders	Engagement Approach	Expectation/Concerns	Implementation
Internal stakeholders			
Shareholder/Investor	<ul style="list-style-type: none"> Analyst meeting Annual General Meeting of Shareholders 56-1 One Report, Press Release ESG questionnaire 	<ul style="list-style-type: none"> Consistent dividend payment Steady growth Environment, Social and Governance 	<ul style="list-style-type: none"> Dividends paid each year based on the Company's cash flow Company vision for constantly strives to grow and be competitive Corporate governance scorecard Environmental management
Employee	<ul style="list-style-type: none"> Employee's satisfaction survey Orientation, exit interview Training and workshop Complaint channels Operation meeting Risk assessment 	<ul style="list-style-type: none"> Appropriate compensation and welfare Occupational health, safety, and environment Career development 	<ul style="list-style-type: none"> Employee Relation Committee Occupational health, safety and environment Career development program
External stakeholders			
Customer	<ul style="list-style-type: none"> Customer audits Customer's satisfaction survey Customer visits Risk assessment 	<ul style="list-style-type: none"> Quality products with on time delivery and competitive product pricing Ethical and environmentally responsible Occupational health, safety and environment 	<ul style="list-style-type: none"> Quality management system Supply chain management Code of conduct and The Responsible Business Alliance (RBA) Version 7.0 Occupational health, safety and environment Green product Productivity improvements Cost reduction programs Working to grow with new and existing customers



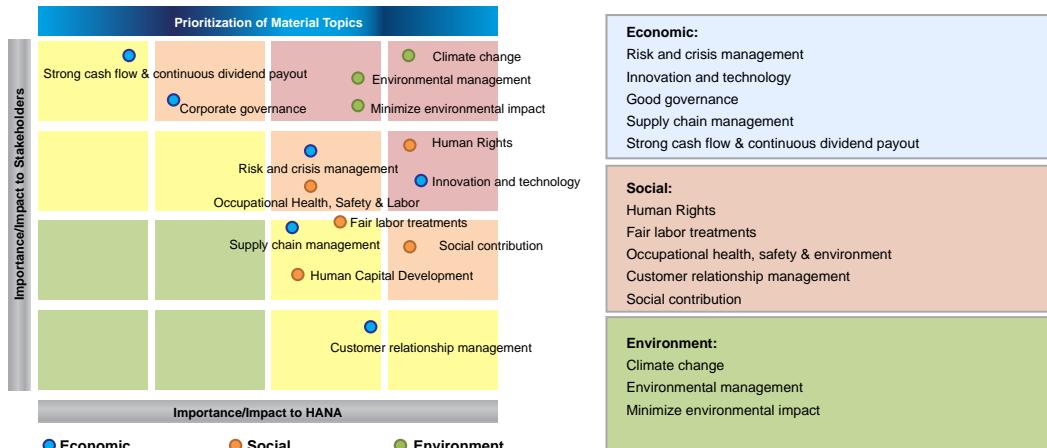
Stakeholders	Engagement Approach	Expectation/Concerns	Implementation
Business Partner/Supplier	<ul style="list-style-type: none"> Supplier audit Supplier quality management Risk assessment 	<ul style="list-style-type: none"> Fair and transparent supplier selection Payment on time Supply chain management 	<ul style="list-style-type: none"> Code of conduct Treatment of creditors Supply chain management
Community	<ul style="list-style-type: none"> Activities conducted outside the Company Advice/feedback from Industrial Estate Community visit program Recruitment Procurement 	<ul style="list-style-type: none"> Operate with no impact to the environment Support low-income and disadvantaged communities Employment opportunities for local people Support local business 	<ul style="list-style-type: none"> Environmental management CSR to support community project Hiring local people when qualified Products and services purchase from local business when qualified





Materiality Prioritization

Prioritize material topics based on the strategic importance to the business, importance to stakeholders and the economic, social and environment impact of each topic in the value chain were reviewed and approved by the Corporate Governance and Sustainability Committee as follows.



Status towards sustainable goals in 2022





3.3 Management of environmental sustainability

3.3.1 Environmental Policy and guidance

Hana's environmental policy is approved by management to suit the context and support the strategic direction of the organization in showing its commitment to protect the environment, use resources efficiently, reduce the impact on the environment including complying with legal requirements and continuously promoting employee participation in environmental management initiatives.

Hana's Occupational Health, Safety and Environment Policy

Hana is committed to preserving the environment, caring for our employees regarding occupational health, safety and environment as well as adhering to the social and labor accountability with respect to the business. We aim to:

- Provide safe and healthy working conditions for the prevention of work-related injury and ill health according to OH&S risks and opportunities Eliminate hazards and reduce OH&S risks
- Support OH&S consultation and participation of workers and workers' representatives
- Protect environment for sustainable resource use, enhance applicable technology to reduce negative environmental aspects of our business, prevent pollution
- Fulfill and comply with related OHS&E legal and other specific commitment/ obligations(s) relevant to the context of organization (e.g. The Responsible Business Alliance (RBA) Code of Conduct)
- Enhance the Continual improvement of Environmental and OH&S management system and activities

The main content of this policy has been communicated to employees at all levels through the Company's noticeboard, the intranet website, and guidelines for employees to perform their work. In addition, the Company's policy has been released to the public by posting in front of the factory and communicating to business partners outside the Company.



2030 GOALS

Hana is committed to take actions to improve the environmental impact and actions that can help slow the rate of climate change. The United Nations Sustainable Development Goals (SDGs) serve as a framework for our development in regard to an environmental dimension with a focus on protecting and preserving natural resources and climate for the next generation of global citizens (Planet) whereby Hana Thailand has set the targets within 2030 from the base year 2020 as follows:

SDGs	6 CLEAN WATER AND SANITATION	7 AFFORDABLE AND CLEAN ENERGY	12 RESPONSIBLE CONSUMPTION AND PRODUCTION	13 CLIMATE ACTION	16 PEACE, JUSTICE AND STRONG INSTITUTIONS
Environment Management	Energy Management	Water Management	Waste Management	GHG Emission	
Hana Lamphun and Hana Ayutthaya	40% Energy intensity reduction	45% Water intensity reduction	40% Waste generation intensity reduction	40% GHG emissions intensity reduction (scope 1&2)	
Navigating the Roadmap	Synergies between renewal energy and energy efficiency	Taking a sustainable and holistic approach to water management	Waste-to-Energy and waste management improvement projects	Clean and energy efficiency innovation including carbon credit projects	

3.3.2 Environmental operating results

Energy management

Major focus areas of energy consumption reduction projects are as follows:

- **Energy-efficiency programs:** The Company has assessed the energy conservation potential of its major machinery and equipment; undertaken actions by investing in projects to upgrade the operational efficiency to save energy. The Company also has implemented energy conservation projects each year to reduce electricity consumption. Electricity reduction projects in 2022 of more than 26 projects such as reducing energy consumption in compressed air systems by reducing pressure while the machines can run at the standard performance, controlling the speed of the Air Handling Unit, split system air conditioners, control the operation of the Make-up Air Units, reduce the flow rate of the Chilled Water System, heat pump installation for DI water to automatically adjust the output according to heating needs boosting the system's efficiency, high efficiency motor replacement, variable speed drive installation on number of mechanical equipment resulting in energy and cost savings when the motor speed is allowed to modulate in response to demand, and etc. resulting in a total annual energy savings of 7,315,522 kWh, which can reduce greenhouse gas emissions 3,124 Ton CO2-eq and saving electricity cost to the Company amounting to Baht 23,572,905 per year.



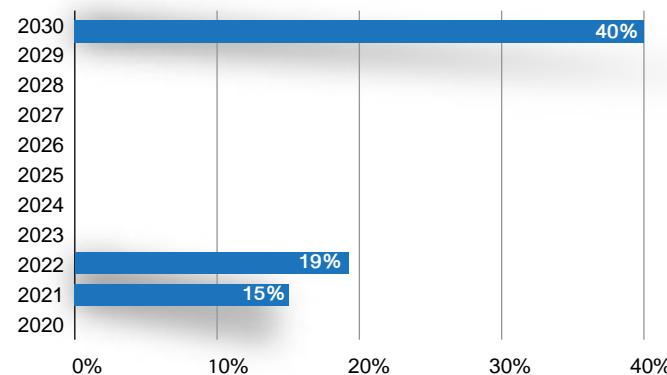
- Renewable energy strategy:** The Company recognizes the importance of renewable energy as one of the strategies necessary to make our environment sustainable and help mitigate climate change. Solar panels were installed on the roofs of three factories of Hana in Lamphun and Ayutthaya provinces in 2020. These three solar plants have total 3 MWs capacity. The renewable power generation result in energy consumption reduction as follows:

Energy saving from installing solar roof panels	2020 (base year)	2021	2022
Units of energy reduction (kWh)	1,420,485	4,215,712	4,171,324
Electricity cost reduction (THB per year)	2,107,508	6,354,895	6,954,554

Energy consumption performance in 2022 compared to the base year of 2020 of the Company (Hana Lamphun) and its subsidiary (Hana Ayutthaya) for short and long term targets:

Year	Energy intensity (kWh: Million THB of Sale Revenue)			Target	Performance
	Hana Lamphun	Hana Ayutthaya	Total		
2020 (base year)	5,859	13,966	19,825		
2021 (restated)	4,749	12,121	16,870	-5%	-15%
2022	4,332	11,631	15,963	-10%	-19%

**Status to the target
(% Energy Intensity Reduction)**





Water management

Water quality measure - The Company records water consumption, the amount of wastewater, Water Balance, Water Use Intensity and Wastewater Intensity by having waste water continuously improved every year. The operation of the wastewater system is monitored on a daily basis including checking the quality of the effluent that is discharged from the factory each month to ensure that the wastewater treatment is under control and better than the government standards.

Water resource management – The Company has implemented the 3R's of water conservation: Reduce, Reuse, Recycle as to reduce water supply consumption and minimized wastewater discharge.

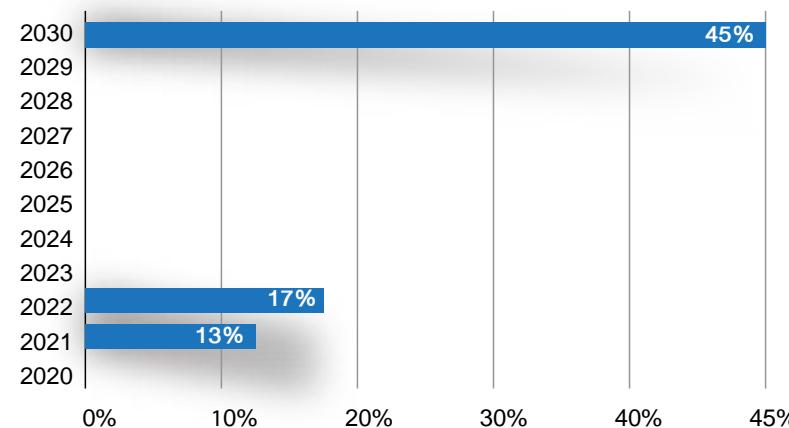
- Water “Reduce” by removing excess water usage from machines and flow back by adjusting the pressure, “zero chemical usage project” to reduce the drainage of the Cooling Tower system as well as the project to upgrade the Chiller system to reduce the use of water supply
- The additional solution in 2022 is to utilise waste water from Air Handling Unit (AHU) and Fan Coil Unit (FCU) to make soft water (which is water that has been filtered to remove the mineral hardness), for further use in the cooling system with the goal to recycle water which reduces water consumption.
- Water “Reuse” by reusing waste water from RO (Reverse Osmosis) and DI (Deionized Water) supply system, reusing RO and DI reject water from production lines, reusing the water in the gutter around the factory, installing heat pump in waste water system to reuse waste water to reduce the use of tap water
- Water “Recycle” by improving waste water quality through Reverse Osmosis System and flow back to the Chilled water loop, Wet Scrubber System and planting watering systems, recycle waste water from RO Braine and retreat through Reverse Osmosis (RO) for reuse, including the use wastewater from Sawing production process and re-treated through Ultra-Filtration System to be reused in the air-conditioning Cooling Tower System.



Water consumption performance in 2022 compared to the base year in 2020 of the Company and its subsidiary for short and long term targets:

Year	Water consumption (Cubic meters per Million THB of Sale Revenue)			Yearly target	Performance
	Hana Lamphun	Hana Ayutthaya (restated)	Total		
2020 (base year)	48.72	130.30	179.02		
2021	32.30	123.57	155.87	-5%	-13%
2022	28.46	119.32	147.78	-10%	-17%

Status to the target
(% Water Intensity Reduction)





Waste management

Hana is committed to sustainable waste management for resource-efficient consumption both in the production process and the supporting departments, by promoting awareness among those involved both inside and outside organization as well as the campaign to raise awareness among employees to effectively reduce waste and promote better waste management. The Company has the waste inventory, waste profile, waste flow diagram including the waste management and hazardous waste separation where the waste is collected separately from the production building and is disposed of by a licensed company authorized by the Ministry of Industry. The Company has implemented its waste management system in accordance with the 3R's (Reduce, Reuse, Recycle) principle as a guideline for managing unused materials in the factory, hazardous substances control towards environmentally friendly production processes, projects to reduce the amount of waste and create value-added as well as contribute to the most efficient use of resources.

Waste management guidelines:

- Waste sorting procedure to segregate waste for reuse or recycle Process improvements to minimize the amount of waste generation
- Improve waste management and minimize waste disposal to reduce landfill waste
- Hazardous substances control and the production process to be environmentally friendly production and increase the disposal value by converted to the new products (Recycle) as much as possible and reduce the type of hazardous waste of electronic equipment

Waste management performance in 2022:

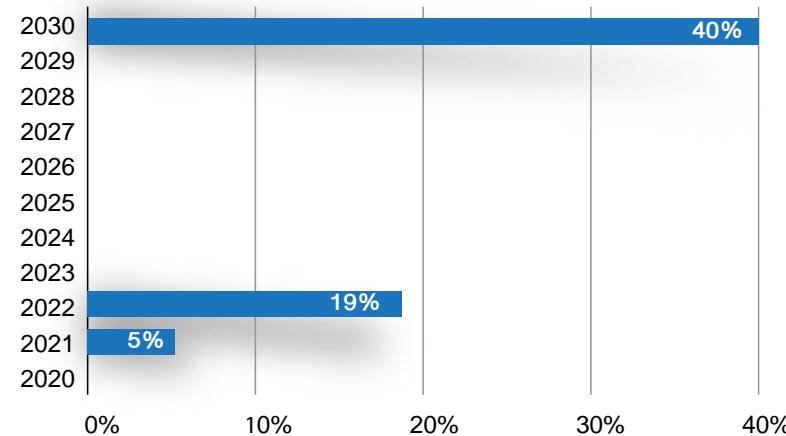
- The amount of waste that can be recovered for reuse is 84% of the total waste from the target of 80%.
- Received Green Industry Certification Level 4, reflecting a green culture organization which emphasizes on the cost-effective use of resources as well as the systematic supervision and management of waste
- Zero oil and chemical spill



Waste management performance in 2022 compared to the base year in 2020 of Hana Lamphun and Hana Ayutthaya for short and long term targets:

Year	Waste generation (Weight in Kg per Million THB of Sale Revenue)			Yearly target	Performance
	Hana Lamphun	Hana Ayutthaya	Total		
2020 (base year)	57.32	231.66	288.98		
2021	61.38	214.12	275.50	-5%	-5%
2022	43.29	189.36	232.65	-10%	-19%

**Status to the target
(% Waste Generation Intensity Reduction)**





Content

Greenhouse Gas Emissions (GHG) Reduction

To reduce the carbon footprint of operations and the value chain, Hana has focused on mitigation solutions and projects to reduce its contribution to global warming and environmental degradation. Here is an overview of our ways to reduce greenhouse gas emissions for a low-carbon economy in 2030.





The major activities of the business generated greenhouse gas emissions are from the use of electricity in the production process and supporting functions. In 2020, Hana factories in Thailand had installed renewable power capacity for the solar panels on the roof at 3 Hana factories as part of our mitigation to reduce the negative environmental impacts and continue to achieve our long-term goals for low carbon society. In 2023, the investment has been approved to increase the proportion of renewable energy by installing additional solar rooftop at Hana Lamphun factory. The Company continues to place the important of energy conservation by improving production process technology to be more efficient according to the Hana 4.0 strategy, as well as joining the greenhouse gas reduction network with the Industrial Estate Authority of Thailand (IEAT) with the aim towards carbon neutrality in line with the policies of the nation that have expressed their intentions to the United Nations Framework Convention on Climate Change, and also participate in pilot project "GHG reduction for Net Zero Emissions" of the Thailand Greenhouse Gas Management Organization (TGO).

To reflect the commitment and ensure reliability of GHG emission data, the Company and its subsidiary in Thailand have prepared the carbon footprint reports according to the standard of the Greenhouse Gas Management Organization (TGO) in 2022 as the second year, which is the data from 1 January 2022 – 31 December 2022 and have been verified by the reviewers who are registered with the TGO. Our carbon footprint covers the emissions of 7 GHG gases: Carbon Dioxide (CO₂), Methane (CH₄), Nitrous Oxide (N₂O), Hydrofluorocarbons (HFCs), Perfluorocarbons (PFCs), Sulfur Hexafluoride (SF₆) and Nitrogen Trifluoride (NF₃) with the purpose to be used in determining effective ways to reduce the organization's greenhouse gas emissions. The Company's greenhouse gas emissions are prepared covering three scopes: Scope 1 (Direct Emissions), Scope 2 (Indirect Emissions from Use of Purchased Electricity) and Scope 3 (Other Indirect Emissions).

In 2022, the Company and its subsidiary have 3 manufacturing plants in Thailand with the greenhouse gas emissions as follows.

GHG Protocol	Greenhouse Gas Emission (Ton CO ₂ eq)			
	2021 (Verified)		2022 (Verified)	
	Hana - LPN	Hana - AYT	Hana - LPN	Hana - AYT
Scope 1 - Direct emission	533	3,139	502	1,125
Scope 2 - Indirect emission	23,332	40,644	23,271	42,992
	23,865	43,783	23,773	44,117
Total ESG emission of Hana Thailand factories	67,648		67,890	

Remark: The GHG reporting scope covering 3 Hana factories.

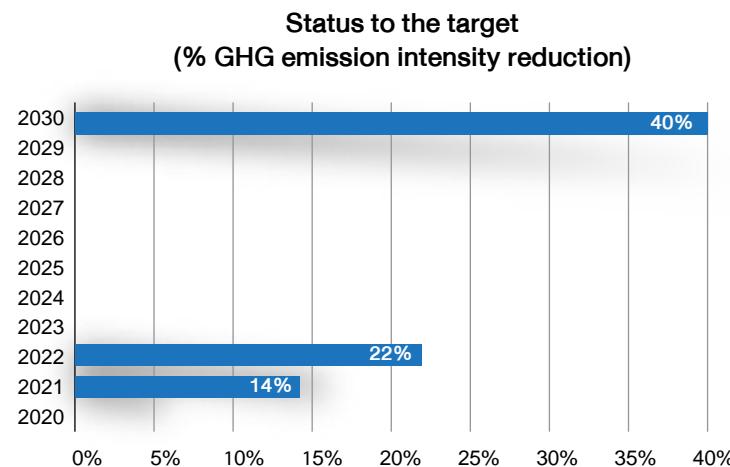
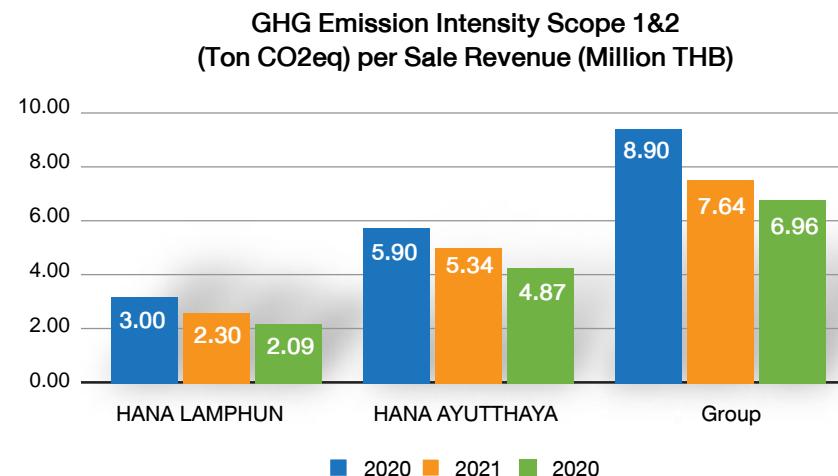
1. Two factories located at Northern Region Industrial Estate and Saha Group Industrial Park, Lamphun Province (combine)
2. One factory located at Hi-Tech Industrial Estate, Phra Nakhon Si Ayutthaya Province



Name list of the qualified consultants and the reviewers of the carbon footprint preparation who registered with the Greenhouse Gas Management Organization (TGO) for the carbon footprint reports of the Company and its subsidiary in 2022 are as follows.

Company	Qualified consultant	Qualified reviewer
Hana Lamphun	Mr. Wasan Puttiput	Asst. Prof. Dr. Nathiya Kreetachat and Dr.Wanawan Pragot SEEN School of Energy and Environment University of Phayao
Hana Ayutthaya	Mr. Samart Sukman	VGREEN Faculty of Environment Kasetsart University

Greenhouse Gas Management (Scopes 1 and 2) Performance in 2022 (verified by the reviewers) vs 2020 base year (reviewed by the consultants):





3.4 Social Sustainability Management

3.4.1 Social policy

Hana conducts the business with social responsibility to reduce the impacts arising from the business activities by adhering to the principles of accountability, transparency, ethical, respect for human rights and focus in the needs and expectations of stakeholders throughout the value chain.

The Company endeavours to meet sustainable development goals by providing high quality products and services to meet customer satisfaction whilst contributing to community development and the promotion of the well-being of society, as well as improving the environment and complying with applicable laws, regulations and relevant international guidelines.

Social Sustainable Goals

Hana is committed to operating a socially responsible business which works towards the Sustainable Development Goals (SDGs) to serve as a direction for the development of the social dimension.





3.4.2 Social operating results

Respect Human Right

Hana aims to conduct its business with ethics holding on to our responsibility to society and all groups of stakeholders based on the corporate governance principles and the code of conduct. For human rights protection, the Company has complied with laws and international standards especially giving support to and complying with Universal Declaration of Human Rights: UDHR, United Nations Global Compact: UNGC, United Nations Guiding Principles on Business and Human Rights: UNGP and the International Labor Organization Declaration on Fundamental Principles and Rights at Work: ILO. The Company recognizes and has put in place labor practices by respecting human rights in regard to the fairness, equality and non-discrimination both in terms of employment, compensation, promotion, training and development without discrimination of gender, age, educational institution, race and religion, as well as supporting employment for disadvantaged groups in order to create opportunities, career path and a more income with the goals achieving the Sustainable Development Goals (SDGs).

Child Labor – Hana has a policy of prohibition of employment of children below the legal age in each country we operate and do not support child labor within our supply chain which is in line with the Responsible Business Alliance (RBA) Code of Conduct in the Electronics Industry (EICC), which has set standards to ensure that working conditions in the electronics industry or industries in which electronics is a key component and its supply chain are safe for employees. Child labor is not to be used in any stage of manufacturing, and Hana has been audited by our customers annually where we have never come across child labor. For our suppliers/contractors, the Company requires all suppliers to sign an acknowledgment of the business code of conduct policy which covers anti-child labor. The construction contracts also address a provision not to use child labor or forced or involuntary labor to oblige our suppliers to follow these standards through contracts. In addition, the screening check is to ensure their validity before coming to work in the company's premise. In 2022, the Company has not received any complaints or detected the use of child labor.

Conflict-free minerals sourcing - Hana supports the responsible sourcing of minerals from such conflict-affected or high-risk areas by providing mineral due diligence support and continue to collaborate with customers and suppliers to implement measures such as mineral identification within the supply chain including supporting the use of mineral resources that meet the requirements under the supervision of the Responsible Business Alliance (RBA/EICC) to uphold human rights across our supply chain. In 2022, the raw material suppliers are required to sign to participate in responsible sourcing of minerals.

To ensure the Company's business is free from human rights violation, the Board of Directors has approved the Human Rights Policy to prevent violation of human rights in every activity of the Company's business including the Company's business partners. Employees' training, risk assessment, and measure to monitor on the complaint related to human rights violation has been implemented.

In 2022, the Company has not received any complaints or reports of human right violations from employees, business partners, or local communities.

Empowering Human Capital

Employees

Employees as internal stakeholders within the organization play an important role in contributing to the long-term success and performance of the corporation. Our key focus is to retain deserving and talented employees while employees' satisfaction is important for them to remain happy and also deliver their level best.



Fair Labor Treatment

Employment/termination - Hana supports the principles of equal opportunities in employment, promotion or termination and is opposed to all forms of discrimination, including those on the grounds of nationality, color, race, religion, gender, age, disability, marital status, political affiliation, union membership, or any other status protected by the country laws. All employees will be treated as individuals solely according to their ability to meet job requirements. The Company has implemented the procedure starting with the recruitment process by not having on the employment application form any requirement for candidates to complete the specific information of age, religion, gender, nationality, and disability in order to avoid discrimination in hiring.

Women in the workplace - Hana promotes women's human rights and no gender-based discrimination in terms of employment, compensation, promotion, training and development of employees. Information gender disclosure of employees classified by level in the past years is as follows.

Level	Hana Microelectronics Public Co., Ltd.		Hana Semiconductor (Ayutthaya) Co., Ltd.		Total	
	Female	Male	Female	Male	Female	Male
Executive	1	2	1	5	2	7
Management	43	52	38	74	81	126
Employee	2,290	937	2,635	1,382	4,925	2,319

Disability inclusion at work - Hana supports projects of the government to protect the rights of disabled persons to provide them with employment opportunities. The Company employs persons who are disabled and arranges the appropriate job matching to their capability. The Company also improved workplace environment to enable employees with disabilities easier access to the Company's facilities. Furthermore, Hana also arranges a place for disabled persons to open shops in the factory compound at no cost, which gain the good support from employees.

According to Empowerment of Persons with Disabilities Acts, the number of hiring persons with disability of the Company and its subsidiary in Thailand greater than the hiring ratio (1 disabled person to every 100 non-disabled employees – 1:100) stipulated by law as follows.

Number of disabled employees per total workforce (as at the report date to the Department of Empowerment of Persons with Disabilities)				
Hana Thailand	2022	2021	2020	Pay money to the Fund for Empowerment of Persons with Disabilities during the past 3 years
Hana Microelectronics Public Co., Ltd.	35 : 3,327	40 : 3,767	42 : 4,032	-
Hana Semiconductor (Ayutthaya) Co., Ltd.	60 : 4,292	56 : 4,116	54 : 4,467	-
Total hiring people with disabilities	95 : 7,619	96 : 7,883	96 : 8,499	



In addition, our Hana Jiaxing in China has continued hiring people with disabilities to suitable their job positions even no legal obligation. In 2022, Hana Semiconductor (Ayutthaya) Co., Ltd., a subsidiary of the Company, received a prize of "The excellent organization that supports persons with disabilities" given by General Prayut Chan-o-cha, Prime Minister as being recognized by the Ministry of Social Development and Human Security as a business organization that supports people with disabilities for 10th consecutive years. This represents our commitment to promote and create opportunities for hiring people with disabilities and improving their well-being.

Employee remuneration: The Company has a policy on remuneration and welfare for employees. The employee performance appraisal is used as a method for regular review of an employee's job performance evaluation with specified criteria and feedback on their work taking into account the duties and responsibilities, economic conditions, living conditions, legal wage rate to justify employees' remuneration. Compensation paid to employees is compliant with all applicable wage laws, including those relating to minimum wages, overtime payment, and legally mandated benefits.

The Company has provided the long-term welfare benefits that retain and motivate employees, particularly for the retirement benefits and the provident fund to help employees to save a portion of their salary in the event of retirement, disability, sickness or unemployment. The Company's provident fund is an alternative saving scheme for retirement where employees contribute a portion of their salaries and the Company makes the contribution equal to the rate of the employee's savings. Employees will benefit from the savings provided by the provident fund management in the form of investment. In summary, the Company has provided various welfare programs for employees to provide them with better life, to make them happy and satisfied, to keep the moral and motivation of employees high, and to raise their standard of living so as to retain our employees for longer duration.

Summary of welfare program provided to employees:

Economic betterment	Healthcare improvement	Family support	Amenities and others
<ul style="list-style-type: none"> • Retirement benefits • Provident Fund • Social Security Fund • Hana Cooperative Fund • Shift allowance • Attendance allowance • Incentive for employees who contribute to CIP (Continuous Improvement Program) • Long Service Award • Outstanding employee awards 	<ul style="list-style-type: none"> • Life and accident insurance • Annual physical check-up and specific test in case the work environment can affect health • Influenza/Covid-19 vaccination • Medical benefits • Nursing room for first aid clinic • Fitness center and stadium • Health promotion programs such as employee training on hypertension and high cholesterol, cancer in women, pulmonary tuberculosis, and training for pregnant and child care • Provide helmets to employees for safe driving 	<ul style="list-style-type: none"> • Right to leave for vacation, sick leave, maternity leave, etc. • Employee assistance program i.e., maternity benefit, employee death benefit, disaster victim, etc. • Child education support 	<ul style="list-style-type: none"> • Uniform • Canteen and low-price consumer goods • Dormitory • Transportation • Recreation activities



In addition, the Company provides the compensation to employees in line with their performance in both the short term such as bonuses and the long term performance through Career Development Program which has been continuously provided to employees in order to define the development of skill sets and identify how individuals move through the organization. The career development process has considerable benefits from both an individual employee and an overall organizational perspective. The Company has set the policy and the committees to assess potential candidates, identify the core competencies and perform assessment to verify candidates' abilities and determine strengths and weaknesses to match with currently holding position and the readiness for advancement of each candidate, and plan for training and other development tools.

Employee training and development: Hana has always recognized the need to develop its employees as the most important asset in the organization through employees' development program and employees' training program.

Human Resources Development Policy - Hana is committed to equal opportunities and to ensure that individuals are treated equally and fairly based on the assessment of employee's development needs, competencies, organizational needs irrespective of their sex, age, marital status, disability, race, color, ethnic or national origin or sexual orientation. Employees are expected and encouraged to take ownership and responsibility for their personal training and development including training evaluation/effectiveness monitoring in relation to their works, within the framework of support provided by organization. This is to ensure that the employees have the competences to perform their jobs effectively and to encourage the employees to maximize their potential and contribution supporting the overall strategic business plan and objectives in short and long term. Besides, the Company has provided the employees of all levels the understanding of their future career opportunities. This leads to increased motivation, morale and job satisfaction among the employees.

Career Path Development Program: To ensure sustainable business growth, the Company has continued the development program called "Career Path Development Program" or CPDP Program since 2011 and Talent Program since 2016. Employees reaching senior staff level (M1/T1 up) have equal chance to undergo the development program which includes the assessment and development activities. The participants have the opportunities to share their expertise, interests and perspectives with management. The program aims to align between the Company's expectation, goals and strategies, and the employee strength and contribution. Since start the programs, total 580 employees have been selected for training and development whereby 36 employees participated in the program, representing 32% of total employees at M1/T1 level.

Management Development Program: The Company realizes the importance of developing the employees who will become the future managerial successors. Our Management Development Program established in 2022 has the main focus of developing the pool of effective Hana's future leaders. The program is to identify high potential staff at all levels, within departments and cross-functional, and develop them to support our growth per 20-year roadmap according to the needs of the Company; as well as minimizing the risk losing good employees, by rewarding and recognizing high potential employees. In 2022, 10% of monthly employees are qualified in MDP participating program.

Competency-based development: The Company has provided training to employees both daily and monthly employees at all levels, including operators, staff and managers. The training focuses on short-term and long-term development, consists of new employee orientation in order to familiarize the employees to new organizational culture and environment, and other training needed for work such as quality system, health and safety at work, 5S, Code of Conducts, etc. from internal and external instructors to upskill and reskill the employees to effectively perform current job functions and to be prepared for future changes and work opportunities. In addition to external training from outside professional trainers, the Company also encourages expertise across departments by turning our employees into trainers with the goals to promote learning organizational culture including enhancing the competency of personnel in the organization. In 2022, there were 94 internal instructors who provide in-house knowledge sharing.



E-learning - Hana e-learning website is available to provide essential e-materials, VDO clips and self-test evaluation as options and opportunities for employees to learn at their own pace. The Company also supports a combination of virtual webinar and small class coaching to customize special training for groups of employees and departments.

Internal Instructor

Money management course for employees' wealth management

By Hana Lamphun VP and GM



The Company places the importance on financial strength both the firm and employees for financial sustainability. This course is organized to encourage employees to save and manage their money with effective discipline program.

Cyber security course

By MIS Team



Technology has fundamentally changed the modern world, making it easier to connect computer technology with internet network both in manufacturing and office areas. The Company recognizes the importance of cyber security to reduce the risk of cyberattacks and protect sensitive information. Hence, the in-house training was organized for employees to realize the importance of information security systems and how to protect data and various cyber security measures.

Training and People Development: The Company arranges the annual survey of training wishes from the opinion survey of management and supervisors in consideration of both internal and external factors. The internal factors are job positions, performance assessment according to the competency of each job position, project evaluation such as CPDP Program and MDP Program and business strategic plan. The external factors are customers' requirements, technological advancement, requirement of legal and international standards and etc.

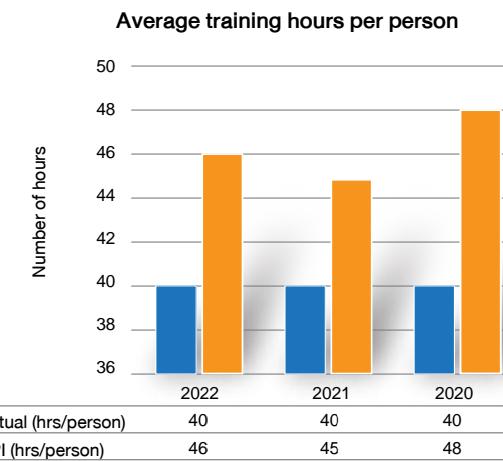
In addition, the Company provides opportunities for employees to participate in the introduction of useful training courses through the suggestion box and employee satisfaction survey forms. The result of the surveys will be considered and carried out for annual training plan as well as individual development plan (IPD).

The average training per person per year for monthly and daily employees versus the KPI in 2022.



Hana Lamphun and Hana Ayutthaya have organized a variety of training courses that are in line with business plan and strategies along with the needs and requirements of our customers including taking into account the needs of supervisors and individual training needs. In 2022, a wide range of courses was provided to employees, which can be broken down into the following categories:

Training courses	Number of Training Hours			%
	Daily employees	Monthly employees	Total hours	
Professional re-certification	39,135	7,521	46,656	31.07
Technical skills	22,588	17,187	39,775	26.49
Quality	12,818	9,582	22,400	14.92
Management skills	897	14,460	15,357	10.23
Safety & EMS	2,574	3,821	6,395	4.26
General	5,555	8,222	13,777	9.18
Computer skills	775	3,017	3,792	2.53
Multi-Skills	1,427	10	1,437	0.96
Job transfer	555	3	558	0.37
Total	86,325	63,824	150,148	100





Benefits of Employee Training and Development: The Company evaluates the benefits that employees and the Company obtain from our human resource development which are important to both employees and the organization such as:

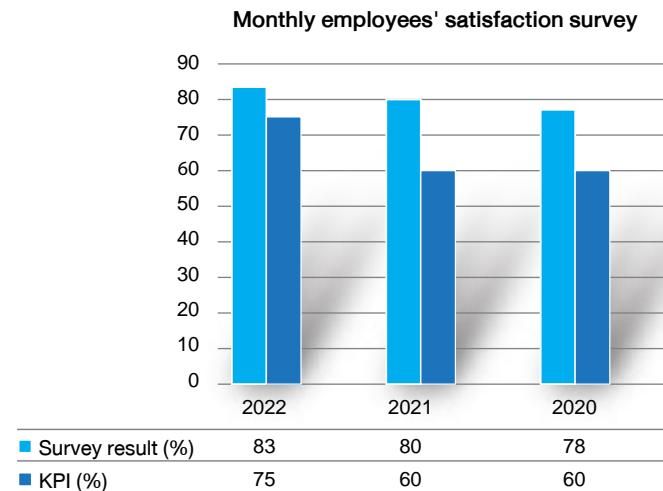
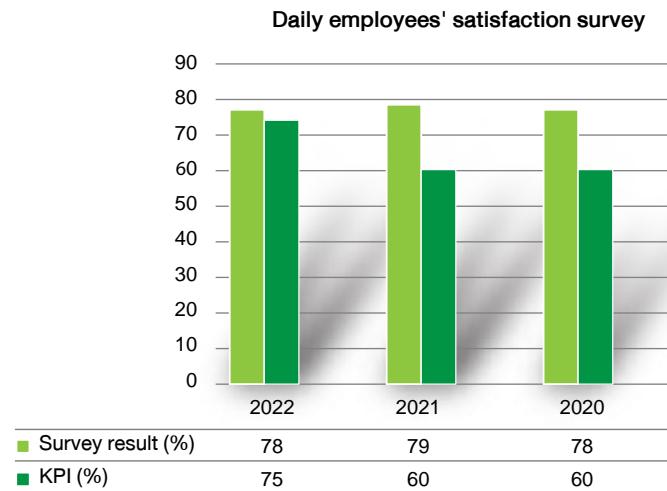
Training/Development Program	Objective	Value to the organization	Value to employees
Management Development Program	<ul style="list-style-type: none"> • Identify, select, and develop key employees to assume critical roles and prepare the organization for the future • Attract and retain high potentials in the organization • Career path development 	<ul style="list-style-type: none"> • Facilitate smooth and efficient internal promotion development plan • Reduce turnover rate of target employees to 0.1% out of monthly turnover rate of 0.49% • Growth rate of target group average 2% per month 	<ul style="list-style-type: none"> • Develop skills, abilities and expertise necessary to align with individual career goals • Job stability and economic security encouraging opportunities to develop oneself along with the company's growth
Sharing expertise across departments by internal trainers	<ul style="list-style-type: none"> • Enhance employees' knowledge and skills to perform relating to their roles and responsibilities • Improve employees' level of awareness, expertise, experiences 	<ul style="list-style-type: none"> • Boost cross-team collaboration which support a culture of collaboration • Cost-effective training method • Can connect training to organizational goals, culture and challenges better than outsider trainers 	<ul style="list-style-type: none"> • Enable trainers to build their skill sets from sharing knowledge and experience with colleagues • Enable employees to understand insight with more tailored implementation

Labor relations – Hana's Welfare and Employee Relations Policy is committed to social responsibility and adheres to the good labor practices: listen to every voice of employees fairly, strengthen culture and working atmosphere, encourage teamwork, and realize that every employee is important and valuable to the Company's success and sustainable growth. The Welfare and Labor Relations Committee is to facilitates collective bargaining at the workplace including employee benefits and privileges, provide opportunities for executives and employees to discuss, make suggestions, file complaints, and suggest ideas with management for decision-making and problem solving. In 2022, the Company did not have any significant labor disputes.

Employees' satisfaction survey – Hana realize the importance of employees' satisfaction. The Company conducts the employee satisfaction surveys for both daily and monthly employees twice a year to encourage them to provide comments and suggestions as to improve the organization in various areas covering wages and welfare, work environment, job assignment, career advancement, supervisor, colleague, etc.



Employee satisfaction survey vs. KPI of year 2022 compared with the previous years:



The result of employee satisfaction survey has been summarized and communicated to employees through public relation boards, canteen bulletin boards, radio communication and the Company's intranet.

Employee satisfaction survey results - The Company has analyzed the employee satisfaction survey results for further improvement plans. The improvement project from employees' feedback in the latest year was for work environment related comment by installing additional hot-cold water dispensers for employees to have access to drinking water at their areas. In addition, a freshly brewed coffee machine was installed in the office.



Social protection: Our compensation policy is fair and reasonable according to employees' capability by considering the packages with the same industry and in accordance with their position, experience and their performance in the Company as well as the economic and social situation. Moreover, the Company provides various employees' welfare for example annual vacation, overtime with the consent of employees, medical treatment, employees' cooperatives and other welfares such as group life and accident insurances, annual health check, special vaccination such as Influenza vaccine, Employee Fitness Center, library at certain location, etc. More importantly, the Company provides the children education allowance for children of low income employees.

Long Service Award - The Company recognizes the importance of employee engagement. There are also long service awards are held annually to promote the morale and pride of employees who are dedicated to working with the Company for long time and are the important part of the success and growth of the Company. In 2022, the group of companies, both domestically and internationally, has a total of 655 employees who received awards, classified by service years as follows:

Service years	Number of employees
30 years	28
25 years	87
20 years	91
15 years	147
10 years	302
Total employees	655





Safety, health and environment at the workplace: The Company gives priority for employee development and focus on their wellbeing both physical and mental health. The Company was certified for both OHSAS 18000 and TIS 18001 which was an international and Thai's occupational health and safety management system since 2005 and changed to a new ISO 45001 since 2019. The Company is committed to developing environmental and safety, health of employees and those involved, as well as uphold social responsibility and labour, along with operating the business and making continuous improvement.

Improving health and safety at work: A workplace health and safety plan and its program has been set and approved by management on a yearly basis for managing the prevention of work-related injuries and diseases in the workplace including creating a healthy organization. In 2022, specific activities undertaken by improving employees' health and well-being included the training and awareness-raising about health and safety in the workplace, the implementation, monitoring and evaluation.

Provide training to promote employees' well-being : In 2022, the Company provided health and safety training for newly hired and existing employees, including our partners and subcontractors, to ensure full awareness of occupational hazards, to encourage and promote safety in the workplace as follows.



Safety, health and environment training for new hired employees – The Company aimed to equip new hired employees with the basic knowledge to ensure they have the skills, knowledge and attitudes to make them competent in the safety and health aspects of their work. There were 254 new hired employees attending the training in 2022. Their level of knowledge regarding health, occupational health and environment was measured by means of a questionnaire distributed before and after the session.

Safety, health, and environment training for contractors – The Company provided training to 749 people for suppliers, contractors in 2022, as well as other related personnel to ensure the primary stage of the effective working conditions and safe working environment in reducing the risk of injuries and accidents at work.

Prevention of musculoskeletal disorders in the workplace - The Ergonomics training was provided to 228 employees that help lessen muscle fatigue, increases productivity and reduces the number and severity of work-related musculoskeletal disorder such as office syndrome.

Publishing information to promote well-being – The Company provided health and nutrition information/news on the bulletin boards to promote health care and good nutrition.

Health and safety implementation – The Company has provided a safe and healthy workplace that is suitable for our employees such as quality of light, sound/noise level, air, temperature to be in accordance with the standards and requirements. The Company further supports the good health of employees both physical and mental health. Hana Sport Complex has been available as a gym and/or fitness related activities for employees to get greater health benefits and reduce stress. In addition, the Company provides flexibility of working hours and workplace (e.g. female employees able to work at home along with taking care of kid). Pregnant employees are not allowed to work overtime or work on holiday. Work from home and flexible working arrangement during Covid-19 has been implemented to help provide a quality work-life balance for employees and reduce the risk of spreading infection in the workplace.



Workplace environment measurement – The Company regularly monitors the extent to which employees are protected from work-related hazards and risks by measuring physical, chemical & biological hazards present in the workplace that may affect employees' well-being such as the noise level, temperature, light intensity, humidity, ventilation, concentration of substances to ensure employees working in a safe and healthful environment. In 2022, the result of work environment measurement is as follows.



Workplace environment measurement	Total areas checked	Results
Light	988 areas	All areas met the standards by law.
Sound/noise	35 areas	There were 4 areas greater than 85 dB(A) over the standards.
Heat	2 areas	All areas met the standards by law.
Chemical	49 areas	All areas met the standards by law.

Managing excessive noise level in the workplace: There are certain areas exposed to noise level above the standard due to the running of equipment whereby has been arranged to locate in isolated areas. The Company took the control measures and preventive measures by implementing a hearing conservation program with the warning signs are posted and workers in posted noise hazard areas must wear hearing protection throughout the working hours, providing hearing test for new employees and all employees exposure to noise on an annual health check-up in order to monitor and follow up to evaluate the impact of their health including regular maintenance of equipment and machinery. The level of noise that exceeds the standard is limited to specific areas in the factory and have no impact to the community.

Workplace accidents or injuries: The accident statistic report is posted on the bulletin board by detailing the target and accident statistics and being updated every day. In 2022, there were totally 2 accidents with 2 cases of small accident that an employee took leave less than 3 days and no accident death. When an accident occurs, a report describing the circumstances is submitted, and steps are taken to identify the cause and implement necessary improvements. With the trend of accident in working increasingly during the past years, the Company further reviewed the safety risk management, improvement of accident prevention processes and monitoring mechanism enhancement in order to prevent accidents at work and reduce the number of accidents that could occur in the future. The Safety Management Program has been established to reduce work-related accident risks which is led by the safety officer to review and investigate to correct and prevent accidents to meet the target.

Workplace accidents or injuries (case)	KPI	2022	2021	2020
Total number of injury (case)	0	2	4	4
Total number of lost-time injury (case)	0	2	2	1



Customer Responsiveness

The products and services that Hana provides are safe and not harmful to consumers and related parties. The Company, in addition to being a Sony Green Partner and approved for ITAR products, is accredited with following international standards.

- ISO 9001 is a quality management system where the Company can demonstrate procedures to consistently provide products that meets customer, applicable statutory and regulatory requirements.
- IATF 16949 is a quality management system for automotive industry which focuses on the technical production of high quality automotive parts.
- ISO 13485 is a quality management system used in the medical device industry which mostly focuses on the products' quality and safety for the consumers and related personnel.
- ISO 14001 is the environmental management system (EMS) as part of the management system used to manage environmental aspects, make businesses strive beyond environmental compliance by focusing on pollution prevention and environmental preservation.
- ISO 45001 is an occupational health and safety management system emphasizing the importance of preventing accidents and occupational diseases to reduce the risk in the workplace and create safe working environment for employees and those who are involved.
- ISO/IEC 27001 is an international standard to manage information securing emphasizing requirements for establishing, implementing, maintaining, and continually improving information security management systems.





Quality improvement program: Hana is committed to sustainable growth in recognizing the importance of the “quality” of our products supplied and services rendered as to meet customer expectations and satisfactions as well as end-consumer product safety by ensuring the quality put in place throughout the value chain starting from raw material procurement, production process until delivery and after-sales service. By integrating people development and continuous improvement, the Company continues its efforts towards Continuous Improvement Program (CIP) as a fundamental framework to achieve improvements of processes and product quality. Quality Control Circle (QCC) by small group activity is a systematic and step-by-step process for solving problems whereby create an effective incentive program for employees. In addition, the Kaizen principle has been implemented to continuously develop and improve to their own work processes efficiency. This is a clear policy and concrete support from the management that results in the success of Hana. Our quality improvement programs have been continuously developed and recognized by both internal and external organizations.



Internal recognition: In order to promote quality awareness mindset to all employees, the recognition aim to honor those with quality awareness that emphasizes quality at all stages of their works to produce products to meet the standards and customer requirements.





National recognition: Our employees participated in group activities for Thailand Quality Prize organized by Technology Promotion Association (Thailand-Japan). Hana Microelectronics Public Co., Ltd. received various awards from 2009 to 2022.



In 2022, the Company received totally 13 prizes consisting of the Top Performance Award 2023, 4 diamond awards of Thailand Quality Award (QCC) and 2 golden and 4 silver awards for Thailand Kaizen Award (Kaizen). Those are the performance of small groups of staffs working together to contribute to the improvement of production processes aiming for waste reduction or zero defect enabling the cost reduction to the Company more than Baht 104.37 million per year. The group activity program leads to employees' involvement and participation at all levels working toward common goals for continuous quality improvement as an approach to identify, investigate, analyze and solve their work-related problems so enhance productivity and quality while achieving customer satisfaction. CIP program is also a tool to increase the morale of employees, promote human relations, reduce accidents at work, improve two-way communication with the management and encourage both employees and management at all levels to focus on continuous improvement of our manufacturing processes.

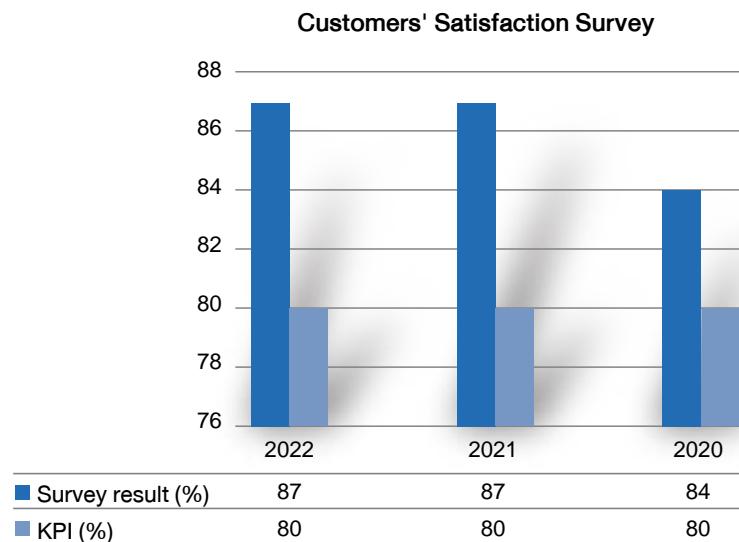


The “Top Performance Award” is an award that warrants the organization with the outstanding organizational performance management and honors an executive who realizes the importance of applying management system philosophy across the organization by setting a policy and implementing quality management system across the organization through various quality activities such as QCC and Kaizen whereby have been received 92 awards of Thailand Quality Prize and Thailand Kaizen Awards since 2009 – 2022 with long journey of striving for excellence, efficiency and sustainable growth.



Customer relationship management: Customer satisfaction surveys are conducted annually to improve the Company's products, services and other business processes in order to meet or exceed the customers' needs and requirements enabling the Company to maintain and expand its customer base in the long term. Our guiding principle to our customers is to operate our business in compliance with applicable laws, rules and regulation as well as compliance with Responsible Business Alliance (RBA) which is the code of conduct for electronic industry best practices.

Customer satisfaction surveys vs. KPI of year 2022 compared with previous years.



The results of customers' satisfaction survey are evaluated so we can provide further improvement on the key items our customers find important. The continuous improvement metrics we use to increase our customers' satisfaction are as follows.





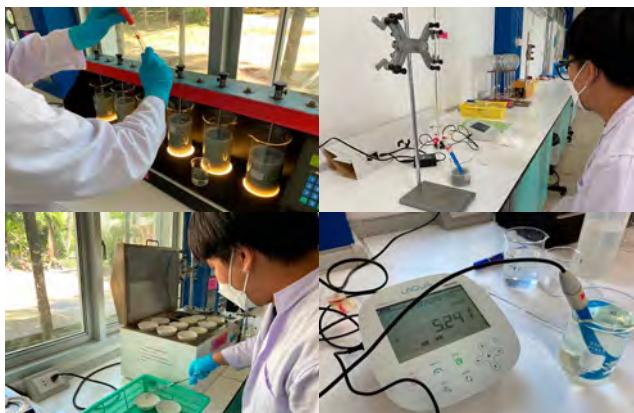
Social and Community Development

The Company engages employees for all levels to participate in the community and social activities and promote the volunteer spirits to realize the importance of caring for the environment both internal and external and to improve better quality of lives with social contribution.

Our sustainable development strategies continue to focus on self-reliance as one of approaches of effective social and community development by increasing academic ability through education, developing careers, improving the quality of life of those in need in society, and protecting natural resources and environment. In 2022, the Company supported employee involvement in community and social development activities as follows:

Empowering education

- **Employee Scholarship Program** – To develop professional skills and career advancement of our employees and to support Hana 4.0 strategy in line with Thailand 4.0 development plan, Hana Lamphun has granted scholarships to 20 employees worth of Baht 2.2 million to study electronic engineering and automated-process engineering for the bachelor's degree at Faculty of Engineer at Rajamangala University of Technology Lanna, Chiang Mai. The Company has signed a memorandum of understanding (MOU) with the Faculty of Engineer aiming to achieve sustainable development goals in education.
- **Child Scholarship Program for low-income employee** – Hana has supported scholarships to children from low-income employees. In 2022, the Company has granted 1,130 scholarships amount to Baht 1.7 million.
- **Internship program** – Hana recognize the importance of education and career exploration for college and undergraduate students. Our internship program gives students the opportunity to apply knowledge from their fields of study and gain real work experience in preparation for future work. In 2022, Hana Lamphun and Hana Ayutthaya granted a total of 231 internships from undergraduate and college students.



Internship Add Value

In 2022, the interns and a team of faculty advisors from Chiang Mai University (CMU) jointly set up a project to improve wastewater treatment system in the Module Polishing Process of production lines at Hana Lamphun factory 2 with the purpose of study and experiment to design a wastewater treatment system that is suitable for the production process in order to improve the wastewater treatment to meet the wastewater quality standards required by the Sahaphat Group Industrial Estate and the Department of Industrial Works. From their analysis, experiment and development, they can success in solving waste water pollution so enable the Company to save cost of waste disposal approximately Baht 800,000 per year.



- **Scholarship funding project for equipment education** – Hana Ayutthaya made the donation to Kantharalak Technical College and Kalasin Industrial and Community Education College in order to support for education equipment.



Career advancement

The Company promotes social engagement and development with the strategy aiming the communities to be self-reliant in a sustainable manner as follows.

Support Project “Careers for persons with disabilities under Act Section 35” - The Company made the donation and necessary items to persons with disabilities including their families in Lamphun to develop their careers and sustainable income totally 4 projects: motorcycle repair shop, fish and cow farm, oil vending machine, and sewing shop. Those 19 individuals were granted and expected to raise their income by Baht 102,100.

Smart Farm for Sustainable Community – The Company has organized the smart farm to sustainable community for Wat San Pa Sak School and nearby communities in Lamphun by renovating the old school building and providing materials and equipment to create a learning center within the school. The Company has organized training on the application of solar energy systems and automation in agriculture, mushroom care, fish farming and laying hens to practice vocational skills, enabling 150 people benefit to this project with expect to generate extra income for students and communities by Baht 83,000.



Smart Mushroom Farms for Sustainable Community - The Company jointly with Ban Nong Chang Khen Community in Lamphun to build a smart mushroom farming learning center for the community and provide knowledge sharing on solar energy system innovation and automation to increase the efficiency of farming for the community. This project can support school lunches, promote food sustainability including energy sustainability by using renewal energy from solar. The project can create jobs to 207 people and additional income for the community about Baht 112,620.



Promoting quality of life and well-being community

- **Disease-free community** - As 2022 the situation of Covid-19 was still severe so the Company foresaw the need to protect the public health by providing vaccines to employees given by Lamphun Hospital along with influenza vaccines to provide to employees and their families.
- **Financial support for hospitals** – The Company provided financial support for the purchase of medical equipment and medical development for Lamphun Hospital and Sansai Hospital, Chiang Mai for treating and helping people.
- **Women's quality of life** – Hana executives and employees participated in the “CSR and Charity Day” at the Association for the Promotion of the Status of Women under the patronage of Her Royal Highness Princess Maha Chakri Sirindhorn by renovating the playground and arranging the garden including donation of consumer goods to be used to help women and children in emergency homes.
- **Employee initiative projects** – Hana Lamphun arranged “Happy Garden” and “Smile Relaxation” areas from the survey of their needs. The Company has prepared organic vegetable plots for employees, allowing them to bring vegetables to consume at home including improving the landscape for employees' rest areas in order to promote their quality of working lives, increase morale and make them happy by using the available space within the factory to maximize benefit and increase green areas as well as bring greater connection between employees and management in doing activities together.



- **Community volunteers** – The Company organized activities with employees to renovate bathrooms for the elderly and improved playgrounds for remote communities in Kanlaya Niwattana District in Chiang Mai.



Promoting environmental conservation

- **Solar rooftop sharing knowledge within community** – Industrial Estate Authority of Thailand: IEAT hosted the visit to Hana Ayutthaya along with other 20 companies including teachers, students and local leaders totally 30 people as Hana Ayutthaya has successfully installed solar rooftop which is renewal energy helping reduce the impacts on the environment and communities, particularly reduce costs and greenhouse gas emissions such that the visitors could take detailed information for further study and application.



- **SET environmental conservation project** - The Company seeks to contribute to improve the quality of life and reduce inequities for the underprivileged in society. Mr. Terrence Philip Weir, an executive director, made the cash donation and 1,053 old desk calendars which were donated by employees from Hana HQ, Lamphun and Ayutthaya, to the Foundation for the Blind of Thailand under the Royal Patronage of His Majesty the King. For those old desk calendars, the Foundation will use them to produce Braille word cards as well as educational materials for students of the Bangkok Blind School. This project is one of the projects that help reduce waste in the organization with the principles of 3Rs - Reduce, Reuse, Recycle, in line with the Stock Exchange of Thailand environmental project.
- **SAY NO TO FOAM & NO PLASTIC PROGRAM** - The Company joined the government sector in signing a Memorandum of Understanding Ceremony for reducing or banning foam food. The Company has further enhanced the project "HANA NO PLASTIC PROGRAM" along with awareness raising and communication campaign including training provided to all employees to reduce plastic consumption such as plastic cups, plastic bags and switch to use reusable cups/bags/bottles to promote a healthy and safe environment.
- **General waste management project** - The Company promotes the waste and energy reduction to increase green spaces and reduce greenhouse gas emissions by raising awareness to employees to realize the environment is not far away and is a matter for everyone. All must take care of the globe for sustainability. Throughout 2022, we have enhanced the process of bringing waste to recycle disposal and other non-recyclable materials turn into fuel.
- **Tree planting:** Employees participated in volunteer activities by planting forests to restore moisture and green space to the community in Nam Phrae Subdistrict, Chiang Mai.
- **Build a natural dam:** The Company together with the Office of the Industrial Estate Authority of Lamphun and the Makhua Chae Municipality joined the activity to build natural dam according to the Royal Initiative Project.





Engaging employees in sustainability

Employee engagement in the organizational innovation towards Hana 4.0 roadmap - This program has been initiated to allow employees at all levels to support Hana 4.0 strategy sustainable business growth by promoting continuous improvement across the organization, develop analytical thinking skills in a systematic way, conscious of cost and quality teamwork, applying technology and innovation to improve work process efficiency (process innovation) which supports the Hana 4.0 strategy to sustainably develop the production process to be friendly to the environment and society (eco process).

From aligning employees with the Company's strategic goals, their level of commitment and passion to the projects with solutions designing a new system, method, tools in meaningful to the organization, environment and community as seen by examples as follows:

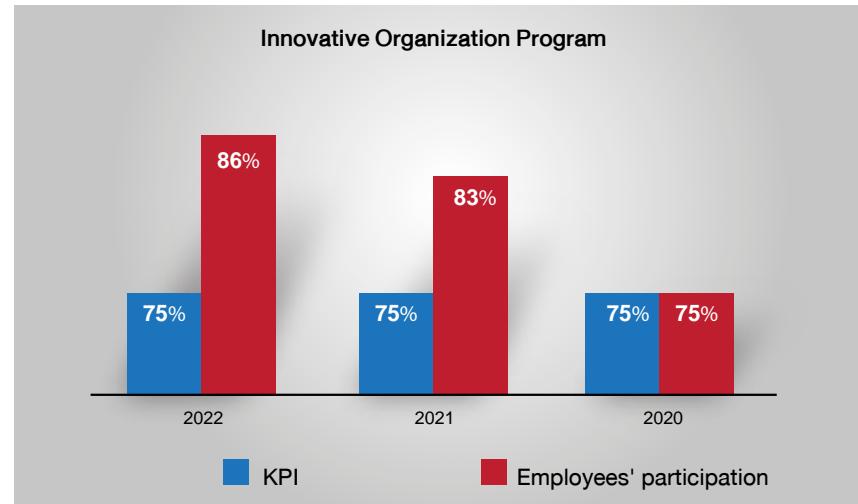
- **Paperless Solution** - An innovation that brings the organization into digital transformation, enhance work efficiency by transition from paper-based processes to paperless both in the office and production. The responsible team consists of management, staff of each department and concerned departments played a key role in supporting and driving the paperless initiative. This made the working process more clear because all workflows are systematic including improve speed and increase efficiency and most importantly saving costs to the Company while reducing the use of natural resources resulting in the reduction of greenhouse gases, as follows.

Paperless project	2022	2021
Cost reduction:		
Labor cost	1,840,704	1,120,247
Print/copy fees	735,785	298,317
Paper cost	27,860	11,350
Total cost savings (baht/year)	2,604,349	1,429,914
Reduce greenhouse gas emission (kgCO2e)	2,008	818

- **Sustainable waste disposal improvement** – Certain packaging waste was non-reusable from the production process. Before improvement taking place, a method of landfill waste disposal in Saraburi incurred negative factors i.e., transportation costs, landfill disposal costs, labor costs, and pollution. A group of employees has then analyzed to find ways for improvement by design and selection of waste compactor machine that can compress large quantities of waste enabling environmentally friendly disposal. As a result, the Company can save costs by 50% compared to prior method and can create value for waste to be reused as fuel and cement components so reduce emissions from landfills and reduce the impact on the community. The project initiative by our staffs is part of our goal towards zero landfill waste.



In summary, the Company has set the main goal for sustainable growth through innovative organization by aiming employee engagement in the Hana 4.0 strategy with the goal and performance as follows.



External knowledge sharing – The Company continued to empower employees to transfer knowledge to the community. The quality management system and organizational management under the Hana 4.0 strategy has been provided to the teachers and students of Rajamangala University of Technology Lanna. In addition, knowledge sharing regarding to environmental management and eco-factory was also arranged to the visitors under the Eco-Industrial City Development Project, Lamphun led by the Lamphun Provincial Industrial Office.





Summary of social and environmental performance in 2022



The Company received the Eco-Factory award for Eco-Excellence level which honors industrial factories that focus on business and industry development to grow together with the community and the environment by adhering to environmentally friendly business operations for sustainable development covering 5 dimensions: physical, economic, social, environment and management.

Hana Lamphun and Hana Ayutthaya received the Green Industry Award Level 4 (Green Culture) from the Ministry of Industry as a result of environmentally friendly operations in all aspects of business operations towards green industry and sustainable development.

The Company received the IEAT Green Star Award in recognition of outstanding performance on environmental management, safety, and social responsibility.



The Company received CSR-DIW Continuous Award from the Department of Industrial Works for sustainable development for the sixth consecutive years by adopting the CSR-DIW (Corporate Social Responsibility: Department of Industrial Works) 7 standards composed of corporate governance, human rights, labour practice, fair operating practice, consumers issue, environment and lastly the community involvement and development, including prepared the CSR report in accordance with the CSR-DIW Reporting Initiative which is in line with the industry context in Thailand and is recognized internationally.



The Company received the gold awards for excellent Safety, Occupational Health and Environment in the workplace at a country level, given by the Ministry of Labor for the fifth consecutive years which demonstrates the systematic management of Safety, Occupational Health and Environment in the workplace to international standard level.



The Company received the “Good Labor Practices” certificate given by the Ministry of Labor presenting the importance and cooperation between an employer and employees in compliance with laws as part of social responsibility for labor resulting in improving the quality of life of employees, increase productivity and promote collaboration in the workplace.

The Company received the certificate for “The National Award for Safe, No Disease, and Happy Workplace” from the Department of Disease Control, the Ministry of Public Health, which is valid for 3 years as for the honor by passing the assessment criteria to reduce disease, increase happiness, promote and support well-being, reduce illnesses from chronic non-communicable diseases and injuries with good environment workplace as well as create mental health for employees.



The Company received the award for achievement of Outstanding Establishment in Labor Relations and Labor Welfare from the Department of Labor for the second consecutive years which is demonstrating the importance and cooperation between employers and employees in the development of labor relations and welfare to improve the quality of life of our employees. The Company also received the award for the prevention and solution of drug problems in the workplace. This award is achieved by cooperation from all departments both management team that provides policies and supports in all dimensions, including employees complying with the drug preventive measures.





4. Management Discussion and Analysis (MD&A)



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 Q421.

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 Jiaxing 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:

	2022	2021	2020
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%
Total	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)

Trade Receivables	2022	2021	2020
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 Q2/22, interim dividend Q4/22 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 Q2/21, interim dividend Q4/21 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 Q2/20, interim dividend Q4/20 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 groups funding is from the shareholders equity.

Tax Payment

The corporate tax policy of Hana group has been set as a framework for tax management and practices to be in accordance with legal, rules and regulations governing the taxes of each country in which the business operates. Below is the tax reporting for local and overseas operations of Hana group.

Description	Thailand operations	Overseas operations	Total
Total revenues (Million Baht)	20,638	7,017	27,655
Profit before income tax expenses (Million Baht)	2,650	(441)	2,209
Normal income tax rate (%)	20%	0 - 25%	
Income tax expenses per normal tax rate (Million Baht)	530	(100)	430
Actual income tax expenses (Million Baht)	25	82	107
Actual income tax rate (%)	1%	(19%)	

Hana operations in Thailand have paid the corporate income tax expenses lower than the normal tax rate as received the promotional privileges for tax exemption under the Investment Promotion from the Board of Investment (BOI) while the overseas operations have paid lower than the normal tax rates due to the operating loss.

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.



Rising labor cost and energy cost

Our direct labor cost for the group accounted for 6% (of sales revenue) and the electricity cost was 3%. Thailand labor costs increased in October 2022 for an average of 5.5% due to the minimum wage increase affecting our main factories in Thailand. The impact of minimum wage increase for Hana operations in Thailand was lower at 3% - 4% due to the scale adjustment of the wage structure for workers, as such the increase was less for those employees already receiving wages above the minimum wage.



The increase of the electricity price, in Thailand, in the fourth quarter of 2022 from the fuel tariff (FT) increase resulted in the record-high electricity cost per unit. In order to cope with the labor cost and energy cost increase, the Company has continued our actions towards sustainable development related to ESG as follows.

- Focusing automation efforts**

Hana has continued to invest in automating the manufacturing processes towards industrial 4.0 standard that offers numerous benefits such as reduce human dependency, reduce costs, remain competitive, and increase customer satisfaction. Taking advantage of these advances will ensure that the Company remains at the forefront of innovation and remain competitive.

- Investing renewal energy and energy saving measures**

In 2023, the investment in additional solar roof installation has been approved for Lamphun factory number 1, with the cost saving of THB 6 million per year, reducing GHG emission by 610Ton CO₂e which can reduce GHG emission scope 2 by 4.5%. The Company also continues its efforts for various energy saving programs through the internal initiatives and the greenhouse gas reduction network collaboration with the Industrial Estate Authority of Thailand, Thailand Greenhouse Gas Management Organization (TGO) for the pilot project "GHG reduction for Net Zero Emissions", etc.

- Increasing labor productivity and improve quality**

We continue to optimize our operations to increase productivity, improve quality, and reduce costs through Quality Improvement Programs: QCC (Quality Control Circle), Kaizen, etc. as we believe that efficient manufacturing processes consume less energy, use fewer resources, and produce less waste. One of the best ways to improve operational efficiency is to directly tie it to an incentive program. Rewards give employees a stake in the outcome of project or task. Awards also enable our employees' participation to be a key path of the Company's and their career growth.

- Development and retention of human capital**

Human capital is the most important for the organization's innovation and future growth. The

Company continues to focus on our human capital development to attract and retain skilled workers along with career development opportunities and employee recognition programs.

Navigating the post-COVID next normal:

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.

In 2022, Hana has pursued its initiative in increasing localization of the supply chain for certain raw materials in minimizing the risk of global supply chain issues, reducing costs, achieving faster delivery times, improving customer satisfaction, developing a long term partnership with local suppliers, promoting local hiring workforce and improving the domestic economy.

Major Factors that Could Affect Business

Economic shifts

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.

Economic markets can transform rapidly: inflation, recession and periods of prosperity can influence business variables. 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.

Exchange rate volatility

The groups' sales revenues 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 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.

Public health events

Pandemic risks such as the continuing severity, magnitude and duration of the pandemic, including impacts of the pandemic, of businesses' and governments' responses to the pandemic the extent to which the pandemic and related impacts particularly global supply chain disruptions. The post pandemic may change public and social norms. Social changes might be the change factors for the business where certain products may rise or fall in popularity.

Other factors

There are other factors which may affect operating performance of the company are (but not limited to): 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 including product liability risks in the event of product failures, suppliers price and consistent supply of raw materials to agreed specifications, and regulatory environment compliance risks.

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



CONSOLIDATED STATEMENT OF EARNINGS

	(Unit: Thousand Baht)							(Unit: Thousand Baht)									
	Year 2022		Year 2021		Year 2020		2022-2021	% 2022- 2021		Year 2022		Year 2021		Year 2020		2022-2021	% 2022- 2021
Revenues									Expenses								
Sales	27,167,163		23,780,179		19,282,520		3,386,984	14%	Cost of Sales	23,506,161	87%	20,492,977	86%	16,734,326	85%	3,013,184	15%
consisting of:									Selling & Admin. Expenses	1,533,298	6%	1,329,088	6%	1,126,805	6%	204,210	15%
PCBA (Lamphun, Thailand)	11,121,073	41%	10,195,977	44%	8,617,065	38%	925,096	9%	R&D Expenses	161,295	1%	94,223	0%	84,417	0%	67,072	71%
PCBA (Jiaxing, China)	3,806,134	14%	3,120,701	13%	2,581,014	17%	685,432	22%	Other Expenses	-	-	-	-	-	-	-	-
PCBA (Cambodia)	199,088	1%	108,126	0%	107,461	0%	90,962	84%	Total Expenses	25,200,754	93%	21,916,287	92%	17,945,549	91%	3,284,467	15%
IC (Ayutthaya, Thailand)	9,038,404	33%	8,182,304	34%	6,526,515	34%	856,100	10%	Operating Earnings	2,422,249	9%	2,218,648	9%	1,725,137	10%	203,601	9%
IC (Jiaxing, China)	1,318,488	5%	1,161,537	5%	763,655	6%	156,950	14%	Dividend Income	2,252		2,066		1,992		186	
HTI (Ohio, USA)	1,339,247	5%	961,680	4%	682,908	5%	377,567	39%	Interest	93,696		113,953		139,610		(20,257)	-18%
IC (Korea)	344,730	1%	49,854	0%	3,902		294,876	591%	Finance Expenses	(12,509)		(7,492)		(9,066)		(5,017)	67%
	27,167,163	100%	23,780,179	100%	19,282,520	100%	3,386,984	14%	Earnings Before Income Tax	2,505,688	9%	2,327,175	10%	1,857,673	11%	178,513	8%
Other Income	455,839		354,755		388,166		101,084	28%	Corporate Income Tax	(107,380)	4%	(52,708)	2%	(60,127)	5%	(54,671)	104%
Total Operating Revenues	27,623,002		24,134,935		19,670,686		3,488,068	14%	Earnings before Exch. & Exceptional Items	2,398,308	9%	2,274,466	10%	1,797,545	11%	123,842	5%
									Revaluation of Financial Instruments	(6,657)		526		-		(7,183)	
									Exchange Gain (Loss)	(289,579)		(308,655)		135,706		19,076	
									Exceptional Items	-		(421,023)		(25,511)		421,023	
									Net Earnings For The Period	2,102,072	8%	1,545,314	6%	1,907,741	13%	556,758	36%



Consolidated Balance Sheet

						(Unit: Thousand Baht)							
	'000 Baht	Year 2022	Year 2021	Year 2020	2022-2021	% 2022-2021		'000 Baht	Year 2022	Year 2021	Year 2020	2022-2021	% 2022-2021
ASSETS								LONG TERM LIABILITIES					
CURRENT ASSETS								Long Term Loans					
Cash in Hand & at Banks	2,374,708	3,304,173	5,400,261	(929,465)		-28%		Other Long Term Liabilities	813,929	765,895	760,407	48,034	
Financial Investments	1,259,383	2,694,695	4,266,901	(1,435,312)		-53%		TOTAL LIABILITIES	5,841,266	4,794,873	3,566,520	1,046,393	22%
Accounts Receivable - trade	4,981,041	4,552,783	3,460,920	428,258		9%		SHAREHOLDERS EQUITY					
Amounts due from Related Companies	-	-	-	-				Share Capital	804,879	804,879	804,879	-	
Inventories	9,456,928	6,856,572	4,496,142	2,600,355		38%		Unrealised gain(loss) on change in investments	-	-	-	-	
Other Current Assets	171,171	161,613	95,709	9,559		6%		Share Premium	1,723,219	1,723,219	1,723,219	-	0%
TOTAL CURRENT ASSETS	18,243,231	17,569,835	17,719,932	673,396		4%		Retained Earnings	-	-	-	-	
Long Term Financial Investments	152	154	97	(2)		-1%		Appropriated Statutory Reserve	536,313	514,958	456,463	21,355	4%
Investments In Associated Company	-	-	-	-				Unappropriated & Treasury Share Reserve	20,234,096	19,343,953	19,239,560	890,144	5%
FIXED ASSETS (net)	10,925,757	9,734,970	7,010,560	1,190,787		12%		Translation adj. & Investment revaluation	563,635	671,085	(610,508)	(107,450)	-16%
OTHER ASSETS	534,268	548,008	449,543	(13,740)				Treasury shares	-	-	-	-	
TOTAL ASSETS	29,703,408	27,852,967	25,180,132	1,850,441		7%		Excess Cost over Net Book Value of Subsidiary Investments	-	-	-	-	
LIABILITIES								TOTAL SHAREHOLDERS EQUITY	23,862,142	23,058,093	21,613,612	804,049	3%
CURRENT LIABILITIES								TOTAL LIABILITIES & SHAREHOLDERS EQUITY	29,703,408	27,852,967	25,180,132	1,850,441	7%
Bank Overdrafts & Loans	-	-	-	-									
Accounts & Notes Payable	4,160,841	3,505,876	2,354,747	654,965		19%							
Short Term Provisions	345,624	334,199	300,371	3,460		1%							
Corporate Income Tax Payable	68,761	20,528	12,338	(20,528)		-100%							
Accrued Expenses	-	-	-	-									
Other Current Liabilities	452,111	168,375	138,656	360,462		225%							
TOTAL CURRENT LIABILITIES	5,027,337	4,028,978	2,806,113	998,359		25%							



CONSOLIDATED Summary Statement of Cashflows

'000 Baht	(Unit: Thousand Baht)				'000 Baht	(Unit: Thousand Baht)			
	Year 2022	Year 2021	Year 2020	2022-2021		Year 2022	Year 2021	Year 2020	2022-2021
Cashflow from Operating Activities									
Net Earnings before Tax	2,209,452	1,598,022	1,967,868	611,430	(Increase) decrease in short term investment	1,306,046	1,187,610	(333,929)	118,436
Adjustments to reconcile net earnings to net cash provided by operating activities					Increase in property, plant and equipment	(2,491,395)	(4,129,321)	(1,200,505)	1,637,926
Non Cash items					Proceeds from sale of fixed assets	20,852	32,693	33,546	(11,841)
Depreciation & Amortisation	1,629,827	1,301,418	1,175,279	328,409	Increase (decrease) in translation adjustment	116,110	1,355,725	191,894	(1,239,438)
Unrealised (gain) Loss on exchange	93,392	81,982	4,428	11,409	Decrease in short term loans to related parties			-	
Change in other provisions	65,060	492,210	(26,762)	(427,149)	Other	(4,463)	(30,368)	(59,789)	25,905
	1,788,279	1,875,610	1,152,945	(87,331)		(1,052,849)	(1,583,661)	(1,368,783)	530,989
Working Capital (increase) decrease									
Trade accounts receivable	(536,317)	(1,092,088)	(117,081)	555,771	Cashflow from Financing Activities				
Inventories	(2,666,004)	(2,402,126)	(45,845)	(263,878)	Payment of principal portion of lease liabilities	(10,079)	(11,385)	(22,822)	1,130
Trade accounts payable	598,177	1,065,268	(15,246)	(467,090)	Cash received from increase in share capital & overdraft	(935)	-	(502,038)	(935)
Other	(51,871)	(137,189)	(37,375)	85,317	Dividend paid	(1,207,318)	(1,408,538)	(1,046,343)	201,220
	(2,656,015)	(2,566,135)	(215,546)	(89,880)	Net cash (used in) from financing activities	(1,218,332)	(1,419,923)	(1,571,203)	201,415
Net Cashflow from Operating Activities	1,341,716	907,497	2,905,266	434,219	Net Cash, equivalents and short term liquid investments increase (decrease)	(929,464)	(2,096,087)	(34,719)	1,166,622
					Cash and Equivalents at the beginning of the period	3,304,174	5,400,261	5,434,980	(2,096,087)
					Cash and Equivalents at the end of the period	2,374,710	3,304,174	5,400,261	(929,465)



Financial Ratios

	'000 Baht	2022	2021	2020	2022-2021
Profitability Ratios					
Gross Profit Margin (%)		13%	14%	13%	-1%
Operating Profit Margin (%)		10%	9%	9%	
Net Profit before Exceptional Margin (%)		9%	10%	9%	-1%
Net Profit after Exceptional Margin (%)		8%	6%	10%	2%
EBITDA margin (%)		15%	15%	15%	
Return On Equity (%) pa		9%	7%	9%	2%
Return On Assets (%) pa		7%	6%	8%	1%
Return On Operating Capital Employed (%) pa		12%	12%	14%	
Efficiency Ratios					
Working Capital turnover		3	4	3	(1)
Account Receivable days		64	62	64	2
Inventory days		127	101	98	26
Accounts Payable days		60	52	50	8
Liquidity Ratios					
Current Ratio		3.6	4.4	6.3	-0.8
Quick Ratio		1.7	2.6	4.7	-0.9
Financial Capital Ratios					
Debt / Equity		0.2	0.2	0.2	
Net Debt to Equity		0.1	-0.1	-0.3	0.2
Interest Coverage		n/a	n/a	n/a	



5. General Information and Other Important Information



5.1 General Information

Name:	Hana Microelectronics Public Co., Ltd.
Symbol:	HANA
Company registration number:	0107536000773
Contact address:	
Headquarter:	65/98 Soi Vibhavadi-Rangsit 64 Junction 2, Kwang Talad Bangkhen, Khet Laksi, Bangkok 10210, Thailand Tel.: 66 2551 1297-8, 66 2521 4935-9 Fax: 66 2551 1299, 66 2552 4906
Branch 1:	101/2 Moo 4, EPZ Northern Region Industrial Estate, Chiangmai - Lampang Road, T. Baan-Klang, A. Muang Lamphun, Lamphun province 51000, Thailand Tel.: 66 5358 1567 - 73, 66 5355 2361 Fax: 66 5358 1573 - 4, 66 5358 1290

Branch 2:	123 Moo 5, T. Pa Sak, A. Muang Lamphun, Lamphun province 51000, Thailand Tel.: 66 5309 0254, 66 5309 0210 Fax: 66 5353 7629 www.hanagroup.com Electronics Manufacturing Service "EMS" Producer 974,403,900 ordinary shares at par value of THB 1 per share 804,878,860 ordinary shares at par value of THB 1 per share None
Auditor:	EY Office Limited 33rd Floor, Lake Rajada Office Complex, 193/136-137 New Rajadapisek Road, Bangkok 10110 Thailand Tel.: 66 2264 0777 Fax: 66 2264 0790
Solicitors:	Civilian Co., Ltd. 63 Soi 8 (Soi Preeda), Sukhumvit Road, Wattana, Bangkok 10110 Thailand Tel.: 66 2255 2550-2, 66 2653 1133-4 Fax: 66 2653 1135, 66 2253 3427
Registrar:	Thailand Securities Depository Co., Ltd. 93 Rachadapisek Road, Dindaeng, Dindaeng, Bangkok 10400 Thailand Tel.: 66 2009 9000 Fax: 66 2009 9991

5.2 Other Important Information

- None -

Investors can get more information of the Company at www.hanagroup.com

5.3 Legal Disputes

- None -

5.4 Secondary Market

- None -





6. Corporate Governance Policy

The long-term success of a company is largely determined by the support we earn from our employees, customers, business partners, investors, local community and other stakeholders. Hana believes that good corporate governance will enhance the credibility and reputation of the Company as well as promoting and safeguarding the interests of shareholders and other stakeholders. Hana is committed to good corporate governance by compliance with the best practices of corporate governance wherever possible and practical for the Company. We will continue to seek improvements to our solid foundation in good corporate governance to achieve sustainable long-term growth.

6.1 Overview on Corporate Governance Policy and Guidelines

The Board realizes and commits to conduct the Company's business with the good corporate governance in conformance with the principles of corporate governance in making an organization more efficiency, transparency, enhancing the credibility and strengthening sustainable growth. The Board has established and approved the corporate governance policy and the corporate code of conducts as the guidelines for the directors, executives and employees in discharging their duties.

The Company has established the corporate governance policy based on the 5 Principles of Good Corporate Governance for Listed Companies of the Stock Exchange of Thailand 2012, and annually review the application of the Corporate Governance Code for Listed Companies 2017 (the "CG Code"), developed by the Securities and Exchange Commission, by means that are suitable for the Company's business towards 8 Principles as follows.

SET CG Principles Compliance with the SEC CG Code

SET CG Principles	Compliance with the SEC CG Code
Principle 1: Rights of Shareholders	Principle 1: Establish Clear Leadership Role and Responsibilities of the Board
Principle 2: Equitable Treatment of Shareholders	Principle 2: Define Objectives that Promote Sustainable Value Creation
Principle 3: Roles of Stakeholders	Principle 3: Strengthen Board Effectiveness
Principle 4: Disclosure and Transparency	Principle 4: Ensure Effective CEO and People Management
Principle 5: Responsibilities of the Board	Principle 5: Nurture Innovation and Responsible Business
	Principle 6: Strengthen Effective Risk Management and Internal Control
	Principle 7: Ensure Disclosure and Financial Integrity
	Principle 8: Ensure Engagement and Communication with Shareholders



The Company's Corporate Governance Policy has been disclosed both in Thai and English on the Company's website www.hanagroup.com under the subject Investor Relation > Sustainable Development > Governance > CG Related Policies on the subject: Corporate Governance Policy.

6.1.1 Policy and Guidelines relating to the Board of Directors

The Board is responsible for the corporate governance, management and strategic direction of the organization and for delivering accountable corporate performance in accordance with the organization's goals and objectives. The Board has a fiduciary duty with respect to the shareholders and must act in the best interest of the Company.

The Board of Directors of Hana consists of 8 directors of whom four are executive directors and four are independent directors which is accounted for 50% of the Board. The Chairman of the Board is not the same person who holds the Chief Executive Officer position and the Chairman is an independent director. The Board of Directors has appointed 5 sub-committees which are Executive Committee, Audit Committee, Nomination Committee, Corporate Governance and Sustainability Committee and Risk Management Committee. Those consist of directors with knowledge, ability and experience in the performance of duties in accordance with the responsibilities. All directors have freedom to express their opinions on the Company's operations. The roles and responsibilities of the Board and management are clearly defined so as to ensure independence and ensure that business is efficiently, accurately and transparently administered by the management. The Board shall annually review the structure in terms of size, composition, the proportion of independent directors and the board diversity to ensure its leadership role in achieving the Company's objectives.

Director selection and remuneration

For the director nomination, a director shall be a person whose qualifications are complete pursuant to the Public Limited Companies Act and other qualifications not contrary to any regulations of the Securities Exchange of Commission (SEC) or the Company's policies. The Company also considers the Board's skill matrix by having the Nomination Committee to review and ensure the Board selection process and qualified candidates before proposing to the board and/or shareholders for approval.

The Company's succession plan on the key executive position has been set up and review by the Nomination Committee and propose to the Board annually to ensure the proper transition planning of the Company.

The director remuneration (except for the executive committee who receive the remuneration as employees of the Company) is considered and approved by the shareholders' meeting annually. The basis of the remuneration is based on the Company's performance, the director's responsibility, whereby the remuneration shall be benchmarked with other listed companies in the same industry and to be sufficient to attract, retain, and motivate qualified directors to bring the organization achieve both short-term and long-term goals.



Board diversity

The Company is open wide to the diversity of the structure of the Board of Directors. The diversity policy has been adopted to promote a diverse and inclusive membership on the Board. The person who will serve as a director should provide complementary qualification to the existing directors for the necessary skills which are still lacking on the Board as well as professional areas of expertise, specialized experiences, gender diversity, age, regardless of nationality. The increase proportion of female member is the ultimate goal in terms of gender diversity, with a commitment to have at least 2 female representation on the Board.

Service on Other Boards

In order to give proper attention and contribution to the assigned responsibilities, the Board has the policy that the directors including the CEO shall limit their services to not more than 3 boards of publicly traded companies with no exception.

Director development

The Board development policy is to ensure the directors gain more understanding and enable them to fulfill their roles. The Company support the director development in forms of orientation, undertaking specific training for continual improvement, updating best practices/director manual, providing access to relevant papers and reports, annual evaluation and factory tours. The Board promotes the directors to receive training through seminar/webinars/forum/workshop/events that enhance the effectiveness of the board roles on an annual basis.

Performance assessment

The Board realizes that the good corporate governance requires effective boards and to evaluate their performance and appraise directors at least once a year. The self-evaluation is the board approach to evaluate each director's contribution on an individual basis, as a team member and as a member of committees. Reporting on the board and committees' evaluations shall allow the Board to view individual director performance and potential additional contribution.

Supervision of subsidiary and associated companies

The Board has its mechanisms to manage and oversight the subsidiary and associated companies. The Board has delegated to the Executive Committee to oversee and responsible for the operations of its subsidiaries and associates include appointing the representative to be a director or a controlling person and shall report to the Board accordingly. From the Board's resolution No. 6/2013, the Board has resolved that the appointed person must be approved by the Board prior to vote on important matters in the same approval levels of the Company that has to approve by the Board. This includes the connected transaction and the acquisition or disposition of assets by the rules relating to the disclosure of information and the transaction is in line with the rules of the Company. In addition, the maintenance of information and accounting records of the subsidiaries can be verified and financial statements can be consolidated within timelines.



6.1.2 Policy and Guidelines Related to Shareholders and Stakeholders

1. Rights of Shareholders

Hana recognizes the importance of shareholders' rights and treats all shareholders either individual investors or institutional investors equitably, fairly and in line with relevant laws where no actions shall be taken to materially diminish shareholders' rights. The Company shall not obstruct or cause obstacles for communication opportunities among shareholders. If any shareholder agreement is to be executed by any shareholder, the Company shall endeavor to ensure that such shareholders agreement will not materially affect the Company or other shareholders.

- **Rights to attend the shareholders' meeting and vote**

One of the basic rights of shareholders is the right to attend and vote at shareholders' meetings. To encourage shareholders to exercise their rights in shareholders' meeting, the Company takes following actions.

Before the meeting day:

The Company sets the date, time and place of the meeting by taking into consideration the convenience of shareholders in attending and encouraging shareholders, including institutional investors, to attend the meeting. The Company holds the Annual General Meeting of Shareholders (AGM) within 4 months after financial year ends. In 2022, the Company held the AGM on 29 April 2022 at 14:00 hrs. at its head office located at 65/98 Soi Vibhavadi-Rangsit 64, Junction 2, Kwang Talad Bangkhen, Khet Laksi, Bangkok making it convenient for shareholders including institutional investors to travel and attend the meeting. The Company arranged with the Thailand Securities Depository Co., Ltd. or "TSD" which is the Company's securities deposit registrar send the notice of shareholders' meeting by posted mail on 7 April 2022 which was 21 days prior to the meeting date in order to provide sufficient time for shareholders and institutional investors to review the details of information disclosed in the notice of meeting. The notice of meeting expressly indicated the matters to be tabled at the meeting, whether for acknowledgement, approval or consideration, including the Board's opinion on each agenda. Other supporting information and documents were also attached to the notice. In addition to the direct delivery, the notice of meeting was made available to the shareholders through the Company's website (www.hanagroup.com) on 30 March 2022 which was 30 days in advance and the notice of meeting was published through SET's information system or "SET Link" in both Thai and English versions, which were the same as the original notice mailed to shareholders.

The Company also provides opportunities for shareholders to submit questions or enquiries in advance prior to the meeting with the procedures enclosed in the notice of meeting and available in the Company's website. Further, the Company encourages the exercising of voting rights by shareholders who cannot attend the shareholders' meeting by appointing their proxies to participate in the meeting or appoint the Company's independent directors on their behalf to attend the meeting and vote by providing the proxy form B on which shareholders are able to specify their votes, with the notice of meeting. Each shareholder has one vote for each share and a resolution passed by a majority of votes, except where it requires otherwise in accordance with the Company's Article of Association. In case of directors and/or shareholders who have interests in any particular agenda, the interested directors in aforesaid agenda shall leave the meeting room and the votes are not allowed for shareholders who have interests related to any particular agenda item.

**On the meeting day:**

The Board of Directors is to ensure that the meeting is conducted transparently and efficiently as well as to facilitate the exercise of shareholders' rights. The quorum including the total number of shareholders in attendance in person or by proxies, voting procedures and voting count method are clearly advised to the meeting prior to the discussion of the agenda items.

The chairman shall convene the meeting according to the terms and conditions in line with the Company's Articles of Association and manage appropriate time for each agenda set forth in the meeting invitation. During the meeting, shareholders are given the opportunities to raise questions, recommendations as well as provide their opinions on the Company's performance or other concerns on an equitable basis. In regards to the AGM conducted in 2022, 8 out of 8 directors (100%) attended the meeting which included the chairman of the Board, the chairman of all sub-committees, Chief Executive Officer, Chief Financial Officer and also the candidates of Chief Operating Officers who were proposed for appointment at the AGM. The external auditor also attended the meeting with the directors so that they could listen to shareholders' opinions or suggestions and also answer any questions.

The Board has adopted the technology in using the barcode system for registration and vote counting in order to bring more accuracy and the results of voting can be announced in a timely manner. Each matter of the agenda is required the use of barcode voting card so that shareholders are able to vote as they deem appropriate. Ballots are collected in the event of an objection or abstention or invalid and kept for further evidence and verification. In addition, the Company arranges the lawyer as the inspector who is an independent person to count and check the votes in the meeting and clearly inform the voting results as agree, disagree, abstain and invalid ballot. Duty stamps were made available to shareholders with no charge.

After the meeting day:

The meeting minutes recording the course of the meeting, the list of directors and executives attending the meeting, voting procedures, vote counting methods, the agenda discussed, the results of shareholder voting counts on each agenda and the decisions made by the meeting with the number of votes of shareholders casting affirming, opposing, abstaining and invalid votes including shareholders' questions and answers are made available within the appropriate time to shareholders. The minutes of the AGM in 2022 were posted to the Company's website within the following business day after the meeting and at the same time sent to the Stock Exchange of Thailand. If shareholders have any inquiries or comments on the minutes, they can contact to the corporate secretary. The minutes are maintained at the Company's head office.

• Rights in addition to voting rights

The Company has provided shareholders in addition to voting rights as follows.

- The rights to be counted as a shareholder, for example, a right to buy, sell, transfer shares or a right to inspect shareholder records, etc.;
- The right to receive full and fair returns without inequitable treatment from any group of shareholders.;
- The right to access the Company's information such as the quarterly financial results, the minutes of shareholder meeting, the right to request the Company's visit, etc.;
- The right to participate in decision-making for material matters such as the appointment or dismissal of the Company's directors and approval of their remuneration, appointment of auditors and approval of their remuneration, etc.; Limited



- The right to inspect the management of the Board of Directors, who are representatives of shareholders, such as to inspect the Company's books and records through the Company's public filings including 56-1 One Report, etc.;
- The right to obtain a redress or a rectification for any violations of their rights.

In 2022, the Company had no actions that violated the right of shareholders, such as not changing or adding agenda items without notifying shareholders in advance or which limit the access to the Company's information that is released to public. In addition, the Company did not prevent or obstruct any opportunities for shareholders to communicate with each other.

2. Equitable Treatment of Shareholders

Hana pays special attention to the interest of the Company's owners - the shareholders. Equitable treatment is given with fairness to all categories of shareholders as follows.

Treat all class equally:

The Company ensures fair treatment of shareholders irrespective of the size of each of their shareholdings. Foreign shareholders and owners of small stakes (minority shareholders) as well as individual investors or institutional investors are treated equally. All of shareholders, in respect of each class of shares, are entitled to the same dividend payments, and have equal rights in the event of share capital increases. The Company's shareholder meetings are open to all shareholders, and all shares of the same class have the same voting rights. Voting at the shareholder meeting is done by the principle of one share, one vote.

Protect minority shareholders' rights:

The Company has the policies to promote the right of minority shareholders by allowing minority shareholders to propose agenda items and nominate candidates to be elected as the directors in advance at the AGM. During October - December, shareholders have the right to submit proposals for the upcoming AGM to the Board of Directors for consideration. The procedures and criteria to propose agenda items and nominate the directors to the Board of Directors have been posted to the Company's website under section under the subject Investor Relation > Sustainable Development > Governance > CG Related Policies on the subject: Procedures to Propose AGM Agenda Items and Nomination of Board Members. However, in 2022 there were no shareholder proposals sent to the Board of Directors for consideration.

The matters discussed in the AGM and voting were in sequence as given in the invitation letter without changing important information or adding agenda items without notifying shareholders in advance so shareholders had the opportunity to adequately study the information before making the decision. Further, the Board of Directors allowed shareholders to elect each director eligible for election on individual basis.

3. Responsibility to Stakeholders

Hana recognizes and respects the rights of all stakeholders inclusive but not limited to our employees, customers, partners, shareholders, competitors, creditors, communities, society, the environment; as well as government agencies and related organizations. The Board believes that taking into account the concerns and interests of stakeholders according to the legal and regulatory requirements and the respect of the legitimate expectations of all stakeholders should benefit all parties in the long run. We have outlined the guidelines to encourage active participation between the Company and stakeholders as follows.



Employees

Employees as the internal stakeholders who are those within an organization play an important role in contributing to the long-term success and performance of the corporation. The Company is dedicated to the achievement of equality of opportunity for all of its employees in relation to all personnel matters including recruitment, training, promotion, transfer, benefits, dismissal, and etc. without regard to race, color, religion, gender, national origin or handicap status. All employees will be treated as individuals solely according to their abilities to meet job requirements. Employees shall be provided with reasonable accommodation for religious practices.

Compensation paid to employees is complied with all applicable wage laws, including those relating to minimum wages, overtime payment, and legally mandated benefits. The Company has provided the long-term welfare benefits that retain and motivate employees, particularly for the retirement benefits and the provident fund to help employees to save a portion of their salary in the event of retirement, disability, sickness or unemployment. The Company's provident fund is an alternative saving scheme for retirement where employees contribute a portion of their salaries and the Company makes the contribution equal to the rate of the employee's savings. Employees will benefit from the savings provided by the provident fund management in the form of investment.

In addition, the Company provides the compensation to employees in line with their performance in both the short term such as bonuses and the long term performance through Career Development Program which has been continuously provided to employees in order to define the development of skill sets and identify how individuals move through the organization. The career development process has considerable benefits from both an individual employee and an overall organizational perspective. The Company has set the policy and the committees to assess potential candidates, identify the core competencies and perform assessment to verify candidates' abilities and determine strengths and weaknesses to match with currently holding position and the readiness for advancement of each candidate, and plan for training and other development tools.

Customers

Hana's places the highest value on our customers. The long-term relationship that Hana has with all its customers is a testament to this fact. The Company aims to meet or exceed our customers' expectation for product quality, delivery, and reliability at competitive prices.

Hana places the paramount importance on quality of product and services and believes that quality is truly a business enabler. Hana's accredited Quality Management System (QMS) aims to deliver high quality products on time. Our policy is to strive for the customer satisfaction, zero defects, and meeting international standards requirements. Over 20 years of ISO 9001 certification demonstrates our commitment towards quality, continuous improvement, and sustainment.

The Company and its subsidiaries continue to support supply chain management solutions particularly for customers, coordinating business activities and processes to minimize their total costs and maximize their effectiveness in the marketplace. We work with our customers to provide problem solving solutions regarding customer complaints, listen to their recommendations, meeting their needs, and honoring our commitments. Customer partnership is a foundation of success that also requires commitment to nurture new relationships and build and foster long- term relationships by creating synergies of knowledge, security, sustainability, and adaptability for both parties.



Intellectual property

Hana has the policy on the intellectual property and copyrights in order to safeguard the tangible and intellectual property of those with whom we do business, which may be used in fulfilling work assignments, and we will comply with all regulations or contractual requirements governing the use of such property. Any reward and copyrights received from the assignment/ work given by the Company or any byproduct assignment/work that originated or result from training/tutoring by the Company shall belong to the Company. Directors, management and employees shall use computer and information technology related work according to Computer-Related Crime Act and other local intellectual property and copyright laws. All employees are required to sign for acknowledgement of the agreement of compliance with intellectual property and copyrights and related laws.

Business partners

Ethical business practice is ingrained in Hana corporate culture. The Company promotes and communicates the importance of ethics and commitments as the Company continues to grow. The emphasis on these ethics and commitments have become our core value for the whole organization. Hana has a long history of establishing trust and strong partnerships with our key suppliers and business partners, hence, a Supplier Code of Conduct has been established to ensure that our suppliers conduct their business in accordance with legal standards and high ethical requirements also. We expect them to be responsible for society and the environment. Suppliers are provided the Supplier Code of Conduct, required to sign for acceptance for acknowledgment and strictly abide and follow the code of conduct.

Supplier selection - Hana continues to promote and practice fair and open competition where the procurement of goods and services are conducted in a manner of the highest ethical standards. The hiring of services or the purchase of goods will be based solely upon price, quality, service, and delivery. All procurement activities are performed based upon following principles:

- Impartial selection of capable and responsible suppliers and contractors
- Maximum use of competition
- Compliance with laws, relevant regulations and contractual obligations
- Adopting of an effective monitoring system and management controls to detect and prevent bribery, fraud or other mal-practices in the processes of procurement and tendering

We ensure communication to build relationships with suppliers and collaboration is the key to our success. In selecting business partners, the Company has various criteria to evaluate factors in addition to consideration of price, quality, service, delivery, credit terms by also covering environmental and social factors such as ISO 14001 certification which is the environmental management system standards, ISO 45001 - occupational health and safety management system standards, or other environmental management systems.

Supply chain management - The US-China trade war hit the semiconductor industry early and the performance of the semiconductor sector has been impacted by the situation between the world's two largest countries and economies for a period of time. In 2020-2021, the crisis of COVID-19 pandemic had not been anticipated and the spread of the lethal illness interrupted the global supply chain and caused the disruptive impacts to the industry. There were cases where our major suppliers suddenly shut down their operation for several weeks following the demand from local authorities on health and safety concerns and the cross border logistics were also interrupted.



The immediate execution to minimize the impact from the sudden shortage was to activate second source suppliers to avoid interruptions to operations. Also, localize supplier for certain materials is part of our strategies in managing global supply chain disruptions as well as other relevant benefits i.e., cost saving, faster delivery, improve customer satisfaction and increase capability of local suppliers. In addition, our critical suppliers were required to work on business continuity plans while Hana also reviewed and addressed the risk of geographical concentration of critical suppliers and re-evaluate the possibility of qualifying suppliers in different geographical zones to secure supply flexibility.

Supplier audit - Hana conducts suppliers' audits with both self-assessment metrics and site and use these activities as a tool to develop and strengthen relationship with our strategic suppliers, especially suppliers classified as tier 1. However, with the COVID-19 pandemic and physical distancing requirements and travel bans, site visits were not possible. Hana continued to maintain supplier business reviews and managed it via virtual meetings, using such tools as WebEx, Zoom, and Teams meetings. For supplier assessment, they also need to pass our sustainability criteria covering social and environmental aspects/GI2 or equivalent such as occupational health, safety and environment, RBA Code of Conduct which covers labor, health and safety, environment, ethics and management system. In 2022, Hana Lamphun was complete the audit totally 17 suppliers which met our target.

Partner development – In 2022, Hana Lamphun and Hana Ayutthaya have developed partnership capabilities with three suppliers who are the key local raw material supply by organizing training courses to Hana for sharing their technical knowledge of process design, material selection, update latest technology, the features and attributes of defects so enable Hana to enhance ability to better handling, minimize waste/defect, and increase productivity. Hana Lamphun has expanded the business more to those local suppliers so benefit to the domestic suppliers for more sales and increase local employment that is the part of our objectives for localize partners while reducing costs to the Company as follows.

- Product transfer 38 projects (cost saving Baht 7 million per year)
- Product build at another supplier (cost saving Baht 1 million per year)

Green procurement - To raise awareness of sustainability, we support and promote programs that are environmentally friendly as well as focusing on community impact by working with key partners to minimize environment and social impact. As such, Green Procurement is considered as a forward-looking approach to minimize climate change and environmental sustainability. The Company has adopted the integrating environmental performance considerations into the procurement decision-making process with the quantitative target. The procurement of environmentally friendly products and services in 2022 was accounted for 44% which is more than target of 40%. In addition, Hana Lamphun has encouraged the first-tier suppliers for certain products: raw material, chemical, and packaging to acquire Green Industry Level 2 or higher from the Ministry of Industry. As such, we have 88% of the first-tier suppliers who received Green Start rating level 2 and up more than the target of 75%.

Note: To certify as a green industry, the supplier must be an industry that adheres to environmentally friendly operations by passing 3 assessment criteria; improving the efficiency of the production process, environmental management for continuous improvement, and corporate social and environmental responsibility both internally and externally throughout the supply chain. The green industry certificate rating level 2 so called Green Activity must have an environmental policy, communicating environmental policy in the organization, and environmental planning covering objectives, targets, action steps, responsible persons and completion timeline as well as environmental execution to achieve such results.



Shareholders

The Company attempts to achieve growth in earnings for shareholders over the long term. The board members and executive management shall be qualified for their positions and have a clear understanding of their roles in corporate governance and exercise sound business judgment in the best interest of the Company and shareholders including the preparation and disclosure of financial and non-financial information accurately, completely and timely and devote the time and ability to perform their duties.

Our treatment toward shareholders shall comply with the good corporate governance principles for the right and equitable treatment of all shareholders. The disclosures shall be made on a consistent basis, completely and truthfully in regards to the status of the Company, its operating results, financial standing, accounts and other reports. There shall be no disclosure of inside information to individuals associated with the management or directors, which cause damage to the shareholders as a whole.

Business competitors

The Board focuses on running its business with open and fairness and have a practical guidance for the competitors such as fair competition, not involved in the competition by the dumping, persecution or deprivation influence in order to avoid competition, not take any action that violates the intellectual property or copyright of competitors, not use dishonest methods to discredit a competitor or no trade secret violations. In 2022, there was no dispute or lawsuit between the Company and any competitors.

Creditors

The Company treats creditors responsibly with honesty and fairness to obtain a fair return to both parties and comply with the agreement including the terms of guarantee and managing cash flow to be able to pay to the creditors according to the terms and conditions. The Company will notify the creditor status in the event of payment default and to comply with the Consumer Protection Law and other related laws. In case that the Company cannot comply with the agreed terms, the Company shall notify the creditors in advance to jointly find solutions. In 2022, there was no dispute or lawsuit between the Company and any creditors.

Communities, society and environment

Hana has been certified by the International Standard for Environmental Management Systems or ISO 14001 which provides practical tools for the Company to manage not only its environmental responsibilities but also the business development by focusing on the pollution prevention and environmental protection so overall help reduce the environmental impact as well as reduce operating costs of the business.

Hana is also ISO 45001 certified company for Occupational Health and Safety Management System with the policy expressing the commitment to operate business not only to resolve health and safety at work but also cover ways to prevent accidents to the workers and the surrounding community.

The Company encourages the use of resources efficiently by arranging various energy saving projects. The Board supports the training of all employees to achieve a better understanding and create awareness of the environment. In 2022, various environmental training courses had been provided to 2,098 employees by both internal and external instructors such as:

Environmental aspects' assessment: To identify environmental issues arising from activities, products and services within the scope of the environmental management system for the environmental aspects so the Company can plan to make improvement.



ISO 14001 Environmental Management: To develop the knowledge and skills required to implement and maintain the ISO 14001 environmental management system.

Advanced energy saving: To raise awareness of the issues of natural resources and awareness of the environment and energy conservation so that employees can apply the skills, knowledge and experience into practice and everyday life properly and in accordance with the relevant policies.

Intensive use of chemical safety: To train employees who perform work related to chemical, emergency team and related functions to understand what the chemical hazards in the workplace and their effect on health and the environment including the control or management of such hazardous chemicals.

Safety, Occupational Health and Working Environment: To provide management and staff, as well as contract workers working on site for training and awareness of safe work practices and preventive measures to contribute to the goal of reducing occupational risks of hazards, accidents, injury and disease and improving workplace health and safety.

Basic fire safety training course: To raise awareness of fire hazards in the workplace and how to act safely in the event of an emergency fire situation, including preparation of fire prevention and suppression plans.

By providing those courses to our employees, the Company could determine priorities and set objectives better for eliminating hazards, reducing risks and the developing continuous improvement. The Company also gains from the efficient use of resources including better effective environmental management.

Government authorities and associated organizations

Hana requires its executive, directors and employees to understand and abide by those laws, regulations, policies, and procedures that applicable to them in the performance of their job duties including the duties to pay tax to the government properly. In 2021, the Board of Directors has established a corporate tax policy as a framework for tax management and practices to be in accordance with legal compliance and the rules and regulations governing the tax of each country in which the business operates including adhere to the business operations with the principles of good corporate governance, business code of conducts and social responsibility.

The Company's Corporate Tax Policy has been disclosed both in Thai and English on the Company's website www.hanagroup.com under the subject Investor Relation > Sustainable Development > Corporate Governance > CG Related Policies on the subject: Corporate Tax Policy.

4. Disclosure and Transparency

The Company ensures timely disclosure of all material matters and all relevant information is reported to the Stock Exchange of Thailand in accordance with the disclosure requirements. It is critical to have as much information as can be available so that continuous evaluation of investment performance may be conducted. The Company will make the effort to disclose information broadly and proactively through channels of communication that allow equal access to market participants. New information that is likely to materially influence the valuation of the Company's shares shall be disclosed to the market immediately and the information disclosed to investors will be accurate, not misleading and sufficient for investors to make decisions. In addition to the information disclosure in accordance with relevant regulations, through the channels of the Stock Exchange of Thailand and 56-1 One Report,



the Company also discloses information in both Thai and English versions through other channels such as the Company's website with regularly post and update. The Company has the Communication and Disclosure Policy to ensure all information relevant and material disclosure in an appropriate, equal and timely manner. There was no violation that Hana breached the disclosure rules and regulations. The financial reports have been disclosed in a timely manner during the past years.

The Company has not set up the Investor Relations Department, but the Company's executive directors are actively involved in the role of investor relations on a continuous basis as the Company believes that their ability to deliver confident and clear presentation is as important a skill as technical and managerial capabilities. The Corporate Affairs Department is also available to provide basic information upon request. The Company has the IR Code of Conduct to set clear directions and support the investor relation function and ensure the effective communication between the Company, investors, shareholders, the financial community and other stakeholders.

The Company usually arranges an analyst meeting each quarter to inform the investor community of the financial result and also clarify all inquiries from Institutional Investors, Fund Managers and analysts who attend the meeting. Additionally, the Company's visits by interested analysts are also welcome and can be arranged by appointment.

In 2022, the Company participated in the investor relation's activities as follows.

Participation events	Physical	Online	Total (Time)
Analyst Meeting	-	4	4
SET's Opportunity Day	-	4	4
SET's Digital Roadshow	-	1	1
SET's Thailand Focus	1	-	1
Meeting with foreign investors	7	15	22
Meeting with local investors	-	4	4
Company Visit	1	-	1

All investors can access the Company's financial and non-financial information through the SET's Public disclosure system and at the Company's website: www.hanagroup.com, or contact to following person.

Name	Department	E-mail address	Phone number	Fax number
Ms. Jirapa Kongmanee	Corporate Affairs	jirapak@hanabk.th.com	0 2551 1297 # 117	0 2551 1299
Ms. Penpimol Kotchabhakdi	Corporate Affairs	penpimol_k@hanabk.th.com	0 2551 1297 # 226	0 2551 1299

The Company's Communication and Disclosure Policy and Corporate Code of Conduct For Investor Relation have been disclosed both in Thai and English on the Company's website www.hanagroup.com under the subject Investor Relation > Sustainable Development > Corporate Governance > CG Related Policies on the subject: Communication and Disclosure Policy and Corporate Code of Conduct For Investor Relation.



6.2 Business Code of Conduct

The Board of Directors attempts to operate its worldwide business in accordance with the highest ethical standards and relevant laws. The Company expects and requires that its directors, officers and employees perform their duties with the highest standards of integrity in the conduct of business. Therefore, the corporate code of conduct has been written as the Company's policy and procedure in order to provide the general guidance for those in recognizing and resolving ethical and legal issues while conducting the Company's business. The written code of conduct is available on the Company website. All directors and employees are notified and encouraged to comply with the set codes. The compliance to the code of conduct is regularly monitored by senior management. The Company shall not tolerate any illegal or unethical acts. Anyone violating the code of conduct will be disciplined, which may include termination of employment.

In 2022 to ensure that employees have the knowledge and understanding of the policies and practices of business ethics, the Company conducted trainings for employees and provided the post tests to evaluate the training results. In addition, all the directors (accounted for 100%) were required to sign a certification of acknowledgement and compliance with the code of conducts for the Board of Directors. The internal audit department also monitored the implementation and compliance for the code of conducts. For the new hired employees, 100% has been trained for the code of conduct as part of orientation whereas 30% for monthly employees were trained in 2022.

For the available whistleblowing channels, no compliant or dispute regarding ethical issue was reported in 2022.

The Company's Code of Conduct has been disclosed both in Thai and English on the Company's website www.hanagroup.com under the subject Investor Relation > Sustainable Development > Corporate Governance > CG Related Policies on the subject: Corporate Code of Conduct and Business Code of Conduct of The Board of Directors.

6.3 Major Changes and Development on the Corporate Governance Policy and system during the year

The Board of Directors places importance on conducting business under the principles of good corporate governance. The Corporate Governance Policy has been reviewed at least once a year. In 2021, the Board of Directors has approved the change of the Corporate Governance Committee to be the Corporate Governance and Sustainability Committee and approved the changes of duties and responsibilities through the Charter of the Corporate Governance and Sustainability Committee to be appropriate to the current situation and enhance the efficiency of corporate governance as the key to the sustainability of the Company.

In 2022, the Company has reviewed our corporate governance practices and there are certain areas that the Company adapted alternative approaches, having regard to the Company's particular circumstances. As a result, the Company has not complied with CG Code and corporate governance best practices as major items as follows.

Disclosure of non-compliance	Reasons
1. Independent directors more than 50% The independent directors should make up more than 50% of the Board.	The board structure of the Company consists of four independent directors and four executive directors, which is accounted for 50% of the Board, whereby: The Chairman of the Board and the Chief Executive Officer (CEO) is not the same person; The Chairman is an independent director; The Chairman and the CEO are not immediate family members; The Chairman is not part of the management team.

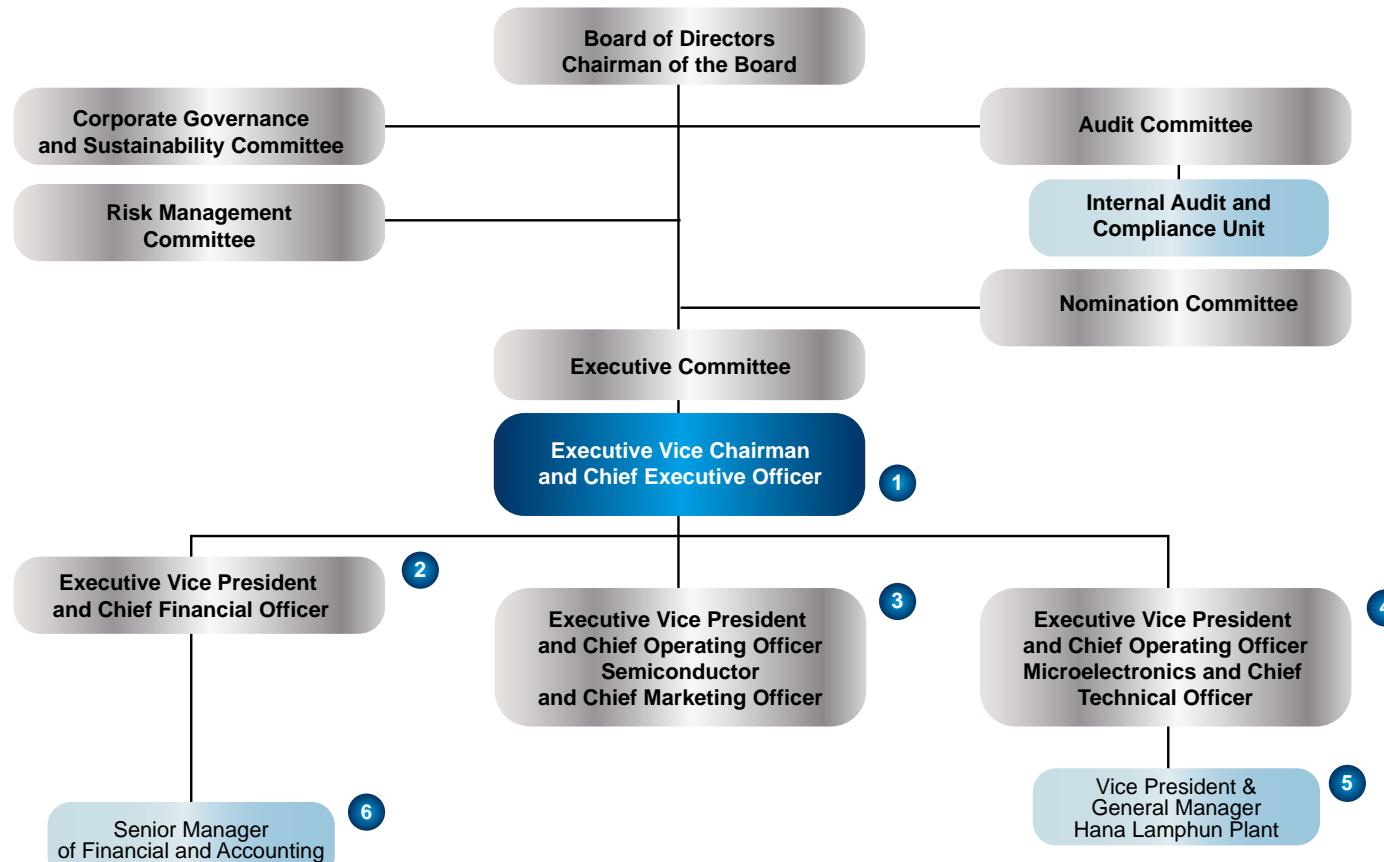


Disclosure of non-compliance	Reasons
2. Appointment of Remuneration Committee The Remuneration Committee should be appointed and composed of majority of independent directors with specified sets of duties and responsibilities and held at least 2 meetings per year.	As the remuneration structure of the Board has been set for the independent directors only, whereas the remuneration of executive directors is paid as senior company employees. The Company has not established the Remuneration Committee as the Board of Directors is capable of reviewing the remuneration of the independent directors by the Board as a whole. The Board is responsible for determining remuneration policy and structure of compensation for independent directors with transparency, benchmarking with industry and considering each director according to individual duties and responsibilities. For the Board's remuneration in all kinds, the Board has proposed to shareholders for final approval annually.
3. Disclosure of CEO remuneration	The Board is of opinion that the compensation disclosure is highly sensitive as the CEO receives remuneration as a managerial or employee of the Company, not as a director. The Company has disclosed the remuneration in the form of group executives, the policy on CEO remuneration and performance evaluation of the CEO. Therefore, the disclosure of CEO's remuneration to the public may be considered as deemed appropriate in future.

7. Corporate governance structure and material facts related to the board, subcommittees, executives, employees and others

7.1 Governance Structure

The Company's organization structure includes the Board of Directors and 5 sub-committees: Executive Committee, Audit Committee, Nomination Committee, Corporate Governance and Sustainability Committee, Risk Management Committee and the management of key business units. The organization structure as of 31 December 2022 is as follows.



1 - 6 is the Company's Executives according to SEC Regulation



7.2 Board of Directors

As of 31 December 2022, the Board of Directors consists of eight directors of whom four are executive directors and four are independent directors.

Name	Position	Appointment Date
1. Mr. John Thompson	Independent Director Chairman of Board of Directors Chairman of Audit Committee	1 January 2017
2. Ms. Pornphan Abhamongkol	Independent Director Audit Committee Corporate Governance and Sustainability Committee Chairman of Nomination Committee Risk Management Committee	1 January 2022
3. Mrs. Sunun Thongbai	Independent Director Audit Committee Nomination Committee Corporate Governance and Sustainability Committee Risk Management Committee	1 December 2022
4. Mr. Stephanus Josephus Hendrikus Brader	Independent Director Audit Committee Nomination Committee Corporate Governance and Sustainability Committee Risk Management Committee	1 December 2022
5. Mr. Richard David Han	Executive Director Nomination Committee	26 July 1993
6. Mr. Terrence Philip Weir	Executive Director Chairman of Corporate Governance and Sustainability Committee Chairman of Risk Management Committee	26 July 1993
7. Mr. Sanjay Nirendra Mitra	Executive Director	29 April 2022
8. Mr. Insuk Kim	Executive Director	29 April 2022

Directors resigned during 2022

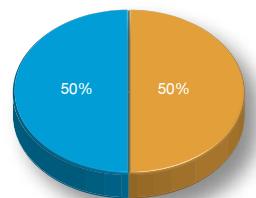
Name	Position	Appointment Date
1. Mrs. Salakchitt Preedaporn	Independent Director Audit Committee Corporate Governance and Sustainability Committee Nomination Committee	1 December 2013 - 31 November 2022
2. Mr. Yingsak Jenratha	Independent Director Audit Committee Chairman of Nomination Committee Corporate Governance and Sustainability Committee	1 December 2013 - 31 November 2022

Term of service of independent directors:

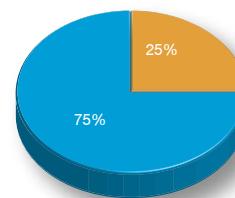
The Board of Directors set the term of service of independent directors shall not over than nine years from the date of their first appointment, with no exception.

Board composition:

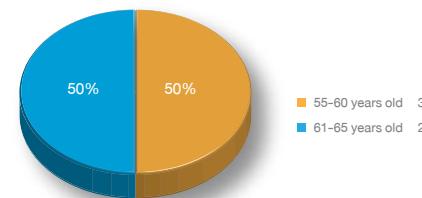
Independent proportion



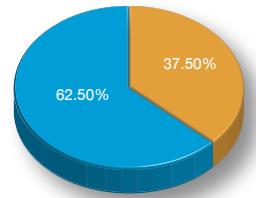
Gender Representation



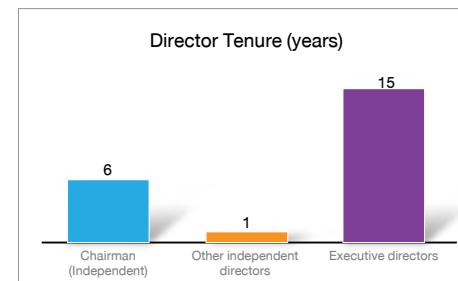
Age Diversity



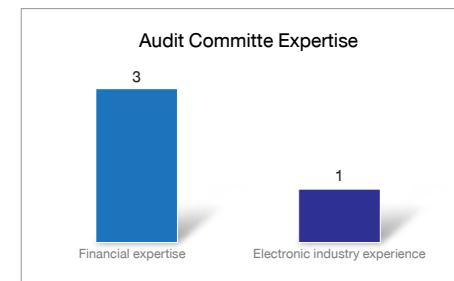
Board Nationality



Director Tenure (years)



Audit Committee Expertise



**Authorized directors:**

The directors authorized to bind the Company shall be the joint signatures of any two directors and affixed with the Company's seal.

The information of directors of the Company's subsidiaries:

The information is disclosed on Attachment 2.

Board duties and responsibilities:

In conducting the business of the Company, the Board of Directors shall perform their duties with responsibilities, due care and loyalty in the best interest of the Company and its shareholders. The duties and responsibilities of the Board of Directors are as follows.

1. To ensure that directors and executives perform their responsibilities with duty of care and loyalty and that the Company operates in accordance with the relevant laws and objectives enumerated in the Company's Memorandum of Association and have the authority to perform duties provided or related thereto under the resolution of the shareholder meetings
2. To ensure that the Company's annual and medium-term objectives, goals and strategies align with the Company's long term objectives, which shall be reviewed and updated annually as well as to monitor and oversee the implementation of corporate strategies
3. To determine the vision and mission of the Company and to review annually
4. To consider decisions on the material transactions or significant matters such as large investment, the Company's key policies, management authority, and any transactions as prescribed by law
5. To review the system of sound internal control and risk management system to be effectively implemented and maintained
6. To ensure that the major related party transactions or conflict of interests are in compliance with the relevant notifications, regulations and guidelines of the Stock Exchange of Thailand
7. To ensure the appropriate accounting systems, the preparation of financial reports and accounting policies in accordance with generally accepted accounting and review by independent auditors
8. To put in place a mechanism for an annual performance evaluation of the board and sub-committees
9. To ensure business continuity in the long term including the development and succession plans for the executives to be in place and annually request reporting the implementation of the development and succession plans
10. To review the corporate governance policy and its compliance at least annually
11. To govern the subsidiaries in order to protect investor benefits including assigning directors of its subsidiaries to control management under the policies of the Company, including transactions related to securities and exchange laws or SET regulations.
12. To attend every Board of Directors' meeting except special reasonable circumstances
13. To support the Company's policies and practices related to anti-corruption in all forms

**Authorities of the Board of Directors:**

1. Related to the Company business - To approve the Company's vision, mission and business objectives/goals, the matters impacted to financial, debt, future business strategic and performance of the Company, project with capital investment over than THB 100,000,000 and the change of capital structure and accounting policy
2. Related to shareholders - To approve the dividend payment, financial statement and its notes, the auditor opinion, annual report, calling shareholder meeting, the change of the Company's Memorandum of Association, appointment of auditors and their remuneration and the ordinary share issuance and to recommend to shareholder meetings.
3. Related to the Board and executive management - To approve the appointment and removal of director and secretary of the Company and its subsidiaries, delegation or empower the roles and responsibilities to CEO, sub-committee, the charter of Board of Directors and sub-committee, the other Board seats held by director, CEO and executive management as well as related party transactions and conflict of interest
4. Related to organization principle - To approve the corporate governance policy, the code of conduct, sustainability development policy, risk management and internal control including management of enterprise information technology

Duties and responsibilities of the chairman of the Board of Directors:

The Chairman of the Board has additional responsibilities more than other directors as follows.

1. To oversee and ensure that the Board efficiently carries out its duties to achieve the Company's objectives
2. Together with CEO, to call the Board and shareholder meetings and set the agendas of the meetings which important matters should be included
3. To allocate sufficient time to discuss important matters and encourage directors to exercise independent judgement
4. To act as a chairperson at the meetings of the Board and shareholders including review and sign minutes of meetings
5. To cast a vote to break a tie for the Board and shareholder meetings
6. To ensure that all directors promote the Company's ethical culture and good corporate governance
7. To promote constructive relationship between independent directors and executive directors, and between the Board and management

Segregation of duties between the Board of Directors and management:

The roles and responsibilities between the Board and management are clearly segregated as follows.

Board of Directors	Management
<ul style="list-style-type: none">• To have the ultimate responsibility for the Company's long-term prosperity• To approve the large projects/investment, major transactions, policies, etc.• To oversee the overall performance of the Company and to monitor the efficiency and effectiveness of the implementation of the policies and plans	<ul style="list-style-type: none">• To run the business of the Company and set its business strategy in accordance with the delegated authority of the Board• To have the authority to approve day-to-day operational expenditures, investment, commercial agreement, etc. according to the limited amount approved by the Board• To report results to the Board



The Board has approved the separation of duties and authorization and management such as approval limits of day-to-day operational expenses. However, such authorization shall not include that where the grantee can approve the transaction of which he or she is a person who might have any conflict of interest with the Company or its subsidiaries regarding such transaction.

Duties and responsibilities of Chief Executive Officer:

The Board delegate authority and responsibility for the conduct of the Company's business to CEO who has following responsibilities:

1. To manage and monitor the Company's daily operations and performance consistent with the Company's objectives, strategies and relevant policies
2. To recommend to the Board any significant operational changes and major capital expenditures beyond delegated authority
3. To propose appropriation of earnings to the Board for interim and/or annual dividend payments
4. To assign responsibilities to the senior management and supervising the work of executive directors
5. To empower the engagement and commitment for the Company in accordance with all applicable laws and the Company's standards and policies
6. To conduct other duties in accordance with the resolutions of the Board meetings and/or shareholder meetings

7.3 Subcommittees

The Board currently has five committees - Executive Committee, Audit Committee, Nomination Committee, Corporate Governance and Sustainability Committee and Risk Management Committee in fulfilling its responsibilities whereby the Charter of Board of Directors and other sub-committees have been posted on the Company's website as shown on Attachment 5.

1. Executive Committee:

Structure: As of 31 December 2022, the Executive Committee comprises of four members.

Term: There is no term limit.

Name	Position
1. Mr. Richard David Han	President and Chief Executive Officer President
2. Mr. Terrence Philip Weir	Executive Vice President and Chief Financial Officer
3. Mr. Sanjay Nirendra Mitra	Executive Vice President and Chief Operating Officer Semiconductors and Chief Marketing Officer
4. Mr. Insuk Kim	Executive Vice President and Chief Operating Officer Microelectronics and Chief Technical Officer

**Duties and responsibilities of the Executive Committee:**

1. To perform and manage the Company's business to comply with the policies, mission and business plans as determined by the Board of Directors
2. To determine budget and the management's authorities of the Company
3. To monitor and follow up the operation of the Company's policies to ensure its efficiency
4. To monitor and follow up the performance of the Company to ensure its compliance with the business plan
5. To have the authorization for approval limits of day-to-day operational expenses in accordance with the approval authorization policy of the Company and to consider the large investment projects such as a joint venture, a construction of new plant etc. and any significant transactions over than THB 100,000,000 shall be proposed to the Board for approval
6. To perform other duties as assigned by the Board of Directors

2. Audit Committee:

Structure: The Audit Committee was formally established since 10 September 1999. The Committee consists entirely of independent directors, who are independent from Hana operations and free from any relationship that might in the opinion of the Board of Directors to be construed as a conflict of interest. As of 31 December 2022, the Audit Committee comprises of four members.

Term: The Chairman and members are appointed for an initial term of three years.

Name	Position
1. Mr. John Thompson	Chairman
2. Ms. Pornphan Abhamongkol	Member
3. Mrs. Sunun Thongbai	Member
4. Mr. Stephanus Josephus Hendrikus Brader	Member

Mr. John, Ms. Pornphan and Mrs. Sunun have the expertise and experience to review the financial statements while Mr. Stephanus has the full experience with the electronic industry. The former members are Mrs. Salakchitt Preedarporn and Mr. Yingsak Jenratha. Mrs. Salakchitt has the expertise and experience to review the financial statements while Mr. Yingsak has the full experience with the electronic field.

Duties and responsibilities of the Audit Committee:

1. To review the Company's financial reporting process in order to ensure that it is accurate and adequate
2. To review the Company's internal control system and internal audit system to ensure that they are suitable and efficient, to determine an internal audit unit's independence, as well as to approve the appointment, transfer and dismissal of the head of an internal audit department



3. To review the Company's compliance with the laws on securities and exchange, the regulations of the SET and other laws relating to the Company's business
4. To consider, select and nominate external auditors including propose their remuneration including consider the performance of auditors and dismissal as well as attend the meeting at least once a year with the external auditors without executive management present
5. To review the connected transactions or transactions that may lead to conflicts of interests in order to ensure that they are in compliance with the SET regulations and applicable laws, and are reasonable and for the highest benefit of the Company
6. To prepare and disclose in the Company's annual report, an Audit Committee's report which shall be signed by the Chairman of Audit Committee and consist of at least the following information:
 - 6.1. an opinion on the accuracy, completeness and creditability of the Company's financial report,
 - 6.2. an opinion on the adequacy of the Company's internal control system,
 - 6.3. an opinion on the compliance with related laws i.e. the Securities and Exchange Act, the SET regulations, or the laws relating to the Company's business,
 - 6.4. an opinion on the suitability of an auditor,
 - 6.5. an opinion on the transactions that may lead to conflicts of interests,
 - 6.6. the number of the Audit Committee meetings, and the attendance of such meetings by each committee member,
 - 6.7. an opinion or overview comment received by the Audit Committee from its performance of duties in accordance with the charter, and
 - 6.8. other transactions which, according to the Audit Committee's opinion, should be known to the shareholders and general investors, subject to the scope of duties and responsibilities assigned by the Board of Directors
7. To support and monitor the risk management systems and ensure the measures of the Company are appropriate
8. To review the Company's compliance with private sector's anti-corruption and certification program, including the Collective Action Coalition Against Corruption's Self-Evaluation Tool
9. In its performance of duties, if it is found or suspected that there is a transaction or any of the following acts which may materially affect the Company's financial condition and operating results, the Audit Committee shall report it to the Board of Directors for rectification within the period of time that the Audit Committee thinks fit:
 - 9.1. a transaction which causes a conflict of interest;
 - 9.2. any fraud, irregularity, or material defect in an internal control system; or
 - 9.3. an infringement of the SET regulations or any law relating to the Company's businessIf the Board of Directors or management fails to make a rectification within the period of time under the first paragraph, any Audit Committee may report on the transaction or act under the first paragraph to the SEC and the SET.
10. To perform any other duties as assigned by the Board of Directors
11. To review and revise the Audit Committee Charter and propose any revision to the Board of Directors for approval



3. Nomination Committee:

Structure: The Nomination Committee was established in November 2004. As of 31 December 2022, the committee consists of three independent directors and one executive director. The Committee will at all time consist of a majority of independent directors.

Term: The Chairman and members are appointed for the term of three years.

Name	Position
1. Ms. Pornphan Abhamongkol	Chairman
2. Mr. Richard David Han	Member
3. Mrs. Sunun Thongbai	Member
4. Mr. Stephanus Josephus Hendrikus Brader	Member

Remark: The former chairman of the committee is Mr. Yingsak Jenratha and a former member is Mrs. Salakkchitt Preedaporn.

Duties and responsibilities of the Nomination Committee:

1. To ensure a formal and transparent procedure for the appointments of new directors and key executive management to the Board
2. To select the potential candidates whose qualifications best meet the criteria and propose to the Board
3. To propose and review the executive management succession plan
4. To review annually the size and composition of the Board and to recommend any proposed changes to the Board

4. Corporate Governance and Sustainability Committee:

Structure: In 2013, the Board established the Corporate Governance Committee that composed of the majority of independent directors. In 2021, the Board of Directors has approved the change of the Corporate Governance Committee to be the Corporate Governance and Sustainability Committee and approved the new roles and duties and the Charter of the Committee to be appropriate to the current situation and enhance the efficiency of corporate governance as the key to the sustainability of the Company.

Term: The Chairman and members are appointed for an initial term of three years.

Name	Position
1. Mr. Terrence Philip Weir	Chairman
2. Ms. Pornphan Abhamongkol	Member
3. Mrs. Sunun Thongbai	Member
4. Mr. Stephanus Josephus Hendrikus Brader	Member

Remark: The former members are Mrs. Salakkchitt Preedaporn and Mr. Yingsak Jenratha.

**Duties and responsibilities of the Corporate Governance and Sustainability Committee:****Corporate Governance oversight:**

1. To consider, review and revise the corporate governance policy continually at least once (1) a year to keep the company's corporate governance policy update and in line with the international standards, laws, criteria, rules and regulations
2. To monitor and evaluate at the end of each year, the performance of the directors and executives in compliance with best practices as specified in the corporate governance policy
3. To prepare the annual report on corporate governance including any necessary opinion and suggestion and propose to the Board
4. To perform any other duties assigned by the Board

Sustainability development oversight:

1. To set the Company's sustainability policy framework, goals, strategy, and plan for implementation covering ESG dimensions
2. To approve the budget plan related to sustainability development
3. To appoint the working team to assist the Committee as well as appoint the consultant/expert in performing their duties
4. To monitor the performance of the sustainability strategy to be in line with the policy framework and specified goals
5. To regularly report performance progress to the Board for acknowledgement

5. Risk Management Committee:

Structure: The Risk Management Committee was established in 2008. In 2020, the Board restructured the Committee to compose of directors at the board level. The Committee can appoint their management team of each Hana location responsible for ensuring an appropriate risk management process is in place.

Term: The Chairman and members are appointed for an initial term of three years.

Name	Position
1. Mr. Terrence Philip Weir	Chairman
2. Ms. Pornphan Abhamongkol	Member
3. Mrs. Sunun Thongbai	Member
4. Mr. Stephanus Josephus Hendrikus Brader	Member

Remark: The former members are Mrs. Salakchitt Preedarporn and Mr. Yingsak Jenratha.



Duties and responsibilities of Risk Management Committee:

The Risk Management Committee has the duties and responsibility that has been approved by the Board in implementing the risk management policy, reviewing the effectiveness of risk management profile, presenting the Company's overall risks and solutions to effectively prevent and limit Hana's overall risks at an acceptable level, and reporting the results to the Board periodically.

7.4 Executive Management

As of 31 December 2022, the executive management of the Company consists of below 6 members where the detail of the executive management is shown on Attachment 1.

Name	Position
1. Mr. Richard David Han	President and Chief Executive Officer President
2. Mr. Terrence Philip Weir	Executive Vice President and Chief Financial Officer
3. Mr. Sanjay Nirendra Mitra	Executive Vice President and Chief Operating Officer Semiconductors and Chief Marketing Officer
4. Mr. Insuk Kim	Executive Vice President and Chief Operating Officer Microelectronics and Chief Technical Officer
5. Mr. Wichai Sukprasertkul	Vice President and General Manager
6. Ms. Achara Chaicharncheep	Senior Financial and Accounting Manager

Remuneration Policy of the Board of Directors and Executives

Remuneration for Directors:

The Company provides the remuneration to the independent directors while the executive directors receive the remuneration as the role of employees of the Company. Therefore, the Company has not established the Remuneration Committee as the Board considers and reviews the remuneration of the independent directors by the whole Board. The Company provides the remuneration to the independent directors in forms of meeting allowances and bonus of which the rates are up to the responsibilities of the members. There is no other benefit. The remuneration for directors has been compared with the rate of the same industry and the structure of the remuneration of the Company. All types of the remuneration of directors have always been approved by shareholders every year.

Remuneration for Executives:

Basis of key executive remuneration - The Company is to ensure that key executive remuneration enhance its ability to attract, retain and motivate competent and experience staff. Remuneration of executives of short and long terms is in accordance with performance of each executive. The remuneration of executives including CEO comprises of base salary, cash bonuses (annual and performance-based bonuses) and employees' welfare such as provident funds, medical benefits, life insurance, etc. The provident fund is a part of the incentive programs to offer executives, management and employees a secure income in the case of death, disability, resignation or retirement. The Company contributes at the rate of 3 - 7.5 percent of their salaries depending on the length of year service with the Company. Other long term incentive program is the retirement benefit which is eligible to receive when retires from the Company.



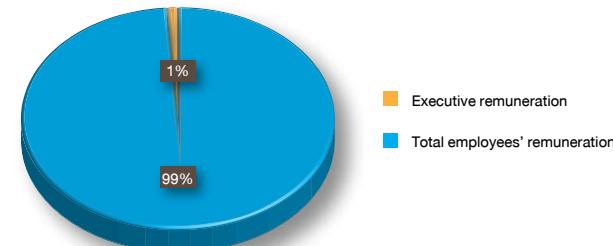
The Board of Directors has established the written CEO remuneration policy that covers the short-term and long terms incentives. The Board delegates the CEO compensation process to the executive committee. The short-term incentive depends on the group's financial performance and on CEO's own success evaluated by the independent directors. For the long-term incentive, the CEO shall be eligible for long-term incentive programs with the same terms and conditions as employees. For other long term incentives of CEO if any, the executive committee shall seek recommendation from the Board.

Measurement criteria - The performance-based has been recognized for the legitimate difference in roles, individual contribution, complexity and responsibility of the position they hold, including the performance of the Company. The determination of remuneration also takes into account the current market rate and annual salary increase of the staff with consideration of the market survey performed by Human Resources Department.

In 2022, the total remuneration of 6 executives is as follows.

Type of remuneration	Amount (Baht)
Salary	27,681,200
Bonus	5,825,622
Provident fund	1,503,184
Board remuneration	-
Non-monetary remuneration	-
Total	35,010,006

Comparison of executive directors and executive management remuneration with total group remuneration



7.5 Employees

As of 31 December 2022, the Company and its subsidiaries have 9,397 total number of employees. For 2022, the total remuneration including salary, overtimes, bonus, provident funds, etc. is THB 4,292 million. In Thailand, there are 7,459 employees (accounted for 79% of total group employees) with THB 2,866 million paid for remuneration (accounted for 67% of total group remuneration).



Number of employees and remuneration in Thailand:

Number of Employees as of 31 December 2022			
Department	Hana Microelectronics Public Co., Ltd.	Hana Semiconductor (Ayutthaya) Co., Ltd.	Total Employees
CEO Office	2	2	4
Customer Service and Business Development	33	23	56
Finance and Accounting	25	17	42
Human Resources / Administration / Training	91	96	187
Management Information System (MIS)	42	22	64
Operation Support	636	1,108	1,744
Production	1,938	2,441	4,379
Quality Assurance	366	247	613
Supply Chain Management	191	179	370
Total employees	3,324	4,135	7,459

Employees' remuneration	Hana Microelectronics Public Co., Ltd.	Hana Semiconductor (Ayutthaya) Co., Ltd.	Total remuneration
2022	THB 1,248 million	THB 1,618 million	THB 2,866 million

Provident Fund

The provident fund is an investment fund that is jointly established by the company and employees to serve as a long term savings to support employees upon retirement. The Company has set up a provident fund (PWD) according to Provident Fund Act B.E 2530 since 8 April 1999. Currently, the provident fund is under the management of SCB Asset Management Company Limited.



Name of the company and subsidiary	Total Number of Employees (person)	Number of Employees Participated with PVD (person)	% Participation
Hana Microelectronics Public Co., Ltd.	3,324	3,119	94%
Hana Semiconductor (Ayutthaya) Co., Ltd.	4,135	2,918	71%
Total	7,459	6,037	81%

As the provident fund is considered a retirement savings fund for employees, the Company has a policy to support the Company's Provident Fund Committee to perceive the principle of the Investment Governance Code ("I Code") and select fund comply with the I Code and/or manage investments responsibly, with policies regarding to environmental, social and good governance (Environmental, Social, and Governance: "ESG") as it is an investment approach which can lead to the best interests of the fund members who are the Company's employees in long term.

Number of employees' movement in Thailand:

	2022	2021	2020
Total female (person)	5,007	5,548	5,606
Total male (person)	2,452	2,535	2,426
Total number of Employees	7,459	8,083	8,032
Increase / (Decrease)	(624)	51	(364)
% Change	(7.72%)	0.63%	(4.34%)

Employees' turnover rates in Thailand:

	2022		2021		2020	
	Monthly	Daily	Monthly	Daily	Monthly	Daily
Hana Microelectronics Public Co., Ltd.	0.49%	1.50%	0.30%	1.42%	0.40%	1.10%
Hana Semiconductor (Ayutthaya) Co., Ltd.	1.00%	4.10%	0.90%	5.30%	0.60%	2.40%



7.6 Other Information

The Corporate Secretary

The Board has formally appointed Ms. Jirapa Kongmanee as the corporate secretary since 11 August 2008 to carry out the duties and responsibilities according to Section 89/15 and 89/16 of Securities and Exchange Act No. 4 B.E. 2551 effective from 31 August 2008. The corporate secretary shall perform duties with care and responsibility and in good faith as well as in compliance with all applicable laws, the objectives, the Articles of Association of the Company, and the resolutions of the Board of Directors and the shareholders' meetings. Duties and responsibilities of the corporate secretary are as follows:

1. To prepare and maintain following documents.
 - 1.1 Director registration
 - 1.2 Notification and minutes of the Board of Directors meetings including annual reports
 - 1.3 Notification and minutes of shareholder meetings
2. To maintain Report on Interest of Directors, Executives and Related Persons and send a copy of the report under Section 89/14 of SEC regulation to the Chairman of the Board and Audit Committee within 7 days from the date that the report is received.
3. Other duties regulated by the Securities and Exchange Commission
4. Other duties assigned by the Board of Directors such as
 - Advice on the laws and regulations involved and oversee the activities of the Board to be in accordance with the applicable laws
 - Conduct the Board of Directors and shareholder meetings
 - Liaise with regulatory agencies such as the SET and ensure disclosure and press release according to the applicable laws

The detail of the Corporate Secretary is shown on Attachment 1.

Auditor's remuneration

The Board provides external independent auditors who are qualified to be the auditors of companies approved by the Securities and Exchange Commission (SEC) by appointing a rotating auditor at least every 7 years and the same auditor shall not be appointed to perform the audit for 5 consecutive years.

The Board of Directors is responsible for appointing external auditors and determining the amount of audit fees with shareholders' approval. There will be no directors, representatives, or employees can be appointed to act as an auditor during the period of service in the position.



The auditor has authority to audit the Company's and subsidiaries accounts, other related documents and evidence related to income and expenses including the assets and liabilities of the Company and subsidiaries during business hours. In this case, the auditor has authority to interrogate directors, management, employees of the Company in any position and also representatives of the Company and also advise them to provide financial facts or provide related documents or evidence related to the Company's business operations. The auditor has a duty to attend every shareholders' meeting when considering the balance sheet, profit and loss of financial statements and any issues related to the Company's accounting.

In 2022, the Annual General Meeting of Shareholders approved the appointment of Ms. Kamontip Lertwitworatep, Certified Public Accountant No. 4377 of EY Office Limited to be the Company's auditor with the remuneration of not exceeding THB 2,450,000.

The Company and 3 subsidiaries paid the audit fees to EY Office Limited, Thailand as follows.

Audit fee:

Company	Auditor name	(Unit: Baht)	
		2022	2021
Hana Microelectronics Public Co., Ltd.	Ms. Kamontip Lertwitworatep	2,450,000	2,450,000
Hana Semiconductor (Ayutthaya) Co., Ltd.	Ms. Kamontip Lertwitworatep	1,360,000	1,260,000
Hana Semiconductor (BKK) Co., Ltd.	Ms. Kamontip Lertwitworatep	150,000	150,000
Hana Semiconductor International Co., Ltd.	Ms. Kamontip Lertwitworatep	340,000	340,000
Total		4,300,000	4,200,000

Non-audit fee:

Company	Non-audit fees	2022		2021
		Paid during the year	Future payment	Paid
Hana Microelectronics Public Co., Ltd.	BOI audit fee	-	450,000	540,000
	Inventory destruction fee	60,000	-	80,000
Hana Semiconductor (Ayutthaya) Co., Ltd.	BOI audit fee	-	270,000	270,000
	Inventory destruction fee	-	-	20,000
Total		60,000	720,000	910,000

For the financial year ended 31 December 2022, the external auditors confirmed to the Audit Committee on the actions they take to maintain their professional independence with respect to the Company and its affiliates in accordance with the Code of Ethics for Professional Accountants issued by Thailand's Federation of Accounting Professions by not holding any shares in the Company and its affiliates and not purchasing goods and services from the Company and its affiliates.



8. Report of Key Corporate Governance Activities

8.1 Performance of the Board of Directors in 2022

8.1.1 Selection, development and evaluation of duty performance of the Board of Directors

The Board of Directors gives emphasis on the transparency of director selection by assigning to the Nomination Committee to consider nomination of new directors to be in line with the Board diversity policy by considering personal attributes regarding knowledge, skills, professional experiences, gender, age, regardless of nationality/race aligned with the board skill matrix and the Company's business strategy. When recruiting new directors, the sources could be from a professional search firm, IOD director pool for new director candidates or from personal recommendation as considered by the Nomination Committee. In addition, the Company has the policy to give the right to shareholders to propose appropriate candidates for election to the Board. The Nomination Committee is responsible for review of the qualification and performance of the candidates or those directors who retired by rotation and make recommendations to the Board of Directors for proposing to shareholders for approval.

In 2022, there was no proposal for candidates sent by shareholders to the Nomination Committee to review. Therefore, the Board considered those directors who retired by rotation and proposed to AGM for approval, whereby the Board considered their qualifications in line with a company's business strategies including working experiences, expertise, previous year performances, willingness and time devoted to the Board that are suitable to be considered for re-election.

In 2022, the Board seat was increased from 6 to 8 directors, including 2 independent directors resigned during the year. The Nomination Committee had considered and selected the candidates from the personal reference and from the IOD director pool by taking into account the diversity of the Board in terms of skills, knowledge, experiences, nationalities and ultimately to meet the goal of female from 1 to 2 directors. Therefore, all 8 directors in alignment with the composition of the Board Skill Matrix and in line with the Company's business strategies, which is disclosed in Attachment 2.

Qualification of director

A person who serves as a director of the Company shall possess the knowledge, ability, personal contribution and shall have at least the following qualifications.

1. To have qualification and have no prohibited characteristics as specified by the laws on public company limited including have no manner indicating a lack of trustworthiness to manage the Company from the view of shareholders according to the regulation of Securities and Exchange Commission.
2. To have knowledge, skill, expertise, experience, education and gender as the Board deems appropriate for its composition, diversity and such qualifications can contribute to the Company's strategies. In addition, at least 1 director has an experience in the electronic industry or related to the Company's business.
3. To devote time especially for making key decision and handle duties for the best interest of the Company and able to participate in all the Board and shareholder meetings unless necessary or emergency.
4. To have a moral, ethical, and any other features that may be required by law or deemed appropriate by the Board.



Qualification of independent director

A person who serves as an independent director of the Company shall possess the knowledge, ability and personal contribution. At least one member of the Audit Committee must have financial knowledge and other qualifications not contrary to any regulations of the Securities Exchange of Commission (SEC) or the Company policies.

To ensure that the Board includes such directors who can exercise their best judgment, all independent directors shall be affirmatively determined that such director meets the requirement set by the Securities Exchange of Commission (SEC). In particular, an independent director is a director who:

1. Holds shares less than 0.5% of the total shares eligible to vote of the Company, subsidiaries, associates, or controlling parties, including the shares held by the related parties of an independent director (This shareholding threshold of the Company shares held by the independent directors is more strict than the minimum requirements of the SEC and SET.)
2. Who is not an executive director, employee, or consultant who receives remuneration from the Company or any of its subsidiaries, who is also neither a controlling person of the Company or subsidiaries nor a related person at least for the past two years.
3. Is not the person who has relationship by means of descent or legal registration as father, mother, spouse, brothers and sisters, and children, nor being spouse of daughters and sons of management, major shareholders, controlling party/person who is in the process of nomination to be the management or controlling person of the Company or its subsidiary.
4. Have no or never have business relationship with the Company, subsidiaries, associates, or related person that deprives such independence nor being a major shareholder, executive director, management of related person who has business with the Company, associate and subsidiary unless the foregoing status ended at least two years. This also includes normal business transactions, rent or lease of fixed assets, financial assistance, loan granting or receiving, guarantee, or other related transactions obliged the Company or its contractual party for the liability to pay the other party that is accounting from 3% of net tangible assets of the Company or twenty million baht whichever is lower.
5. Is not or has never been the auditor of the Company, subsidiaries, associates, major shareholders, or controlling person, nor being a major shareholder, controlling person, or partner of the auditing firm unless the foregoing status ended at least two years.
6. Is not or has never been the professional service provider, nor legal or financial advisor with receive service fee more than two million baht per year from the Company, subsidiaries, associates, major shareholders, or controlling person, and is not a major shareholder, controlling person, or partner of the above mentioned service firms unless the foregoing status ended at least two years.
7. Is not the director who is nominated to be the representative of directors of the Company, major shareholder, or any other shareholder related to the major shareholders.
8. Does not conduct the same business and compete business with the Company or subsidiary, nor being a business partner or executive director, paid employee or hold more than 1% of voting shares from other companies which have the same business and compete with the Company.
9. Has no other conditions that unable to exercise independent opinion regarding the business operation of the Company.



Appointment of directors

The appointment of directors shall comply with the Company's Article of Association that is from the majority vote of shareholder meeting. Each shareholder shall have one vote on each share. Election of directors may be carried out on either an individual basis or en bloc basis as the meeting deem appropriate. In voting, either on an individual or en bloc basis, a shareholder shall so vote in accordance with the number of votes each shareholder has under and the said shareholder may not allot any number of his votes to any such person. The person obtaining the highest votes and the persons obtaining lesser votes, respectively, (in the case of en bloc election) whose total number does not exceed the positions under the election shall be elected as directors. In the case of tied votes, the last person shall be decided by the casting vote of the chairman of the meeting.

In case a directorship becomes vacant other than on retirement by rotation, the Board shall elect a person who has qualifications and who is not disqualified under the Public Companies Limited Act as replacement at subsequent meeting of the Board of Directors. Unless the remaining duration of the director's term of office is less than two month, the replacing director shall hold office for the remaining term of office of the director whom he replaces. The resolution of the Board of Directors shall be supported by a vote of not less than three-fourth (3/4) of the number of remaining directors.

Orientation for new directors

The newly appointed director shall receive an orientation regarding the Company's business, duties and responsibilities of directors. The brief review shall be led by the Chief Executive Officer, Chief Financial Officer or his appointee. All other necessary information shall be given by the corporate secretary. The new director will be arranged to attend training courses with the IOD Institute of Directors such as DAP, DCP courses as well as encourage directors to develop their skills and knowledge in performing their duties in charge on an annual basis.

Director development

The Board's policy is to encourage the development of directors for continuous trainings organized by various institutions such as SET, SEC, IOD or the audit firm, etc. In 2022, the directors attended following training courses/seminar as follows.

BOI audit fee	2022 Training course/seminar
Mr. John Thompson, an independent director	Accounting tips that AC should not miss by The Securities and Exchange Commission - January 2022
Mr. Richard David Han, an executive director	The Net-Zero Standard by United Nation Global Compact Academy - December 2022
Mr. Terrence Philip Weir, an executive director	GRI Standards 2021: The Revised GRI Universal Standards by The Stock Exchange of Thailand and Global Reporting Initiative (GRI) - September 2022 DAX (Data Analysis Expressions) Analytics and Dashboard Results by CPA Australia Ltd. - June 2022 (2 hours) Discounted Cash Flow Modelling Using Excel by CPA Australia Ltd. - October 2022 (3 hours) What if Analysis Using Excel by CPA Australia Ltd. - October 2022 (3 hours)



BOI audit fee	2022 Training course/seminar
Mr. Sanjay Nirendra Mitra, an executive director	Director Accreditation Program (DAP) 193/2022 (English Program)
Mr. Insuk Kim, an executive director	Director Accreditation Program (DAP) 193/2022 (English Program)
Mrs. Salakchitt Preedaporn, an independent director (Resigned on 30 November 2022)	Accounting tips that AC should not miss by The Securities and Exchange Commission - January 2022 Accounting tips that AC should not miss by The Securities and Exchange Commission Episode 2- July 2022
Mr. Yingsak Jenratha, an independent director (Resigned on 30 November 2022)	Accounting tips that AC should not miss by The Securities and Exchange Commission - January 2022 Accounting tips that AC should not miss by The Securities and Exchange Commission Episode 2- July 2022
Ms. Pornphan Abhamongkol, an independent director	Accounting tips that AC should not miss by The Securities and Exchange Commission - January 2022 Final Call : PDPA Onboarding by The Securities and Exchange Commission - May 2022 Accounting tips that AC should not miss by The Securities and Exchange Commission Episode 2- July 2022
Mrs. Sunun Thongbai, an independent director	Director Accreditation Program (DAP) 198/2022
Mr. Stephanus Josephus Hendrikus Brader, an independent director	The Net-Zero Standard by United Nation Global Compact Academy - December 2022 Setting Science-Based Targets by United Nation Global Compact Academy - December 2022

Mr. Terrence Philip Weir, an executive director and Chief Financial Officer, has completed 3 courses of 2022 refreshment programs in financial and accounting totally 8 hours from CPA Australia Ltd. Those courses were reviewed by the Audit Committee to be beneficial to the Company and related to accounting principles/standards that are consistent with the nature of the Company's business.

There are 7 directors of the Company attended the IOD's Director Accreditation Program (DAP) and 1 director has attended the IOD's Director Certification Program (DCP). All 8 directors have attended the training courses in 2022 which is 100%. The details of the training courses attended by the directors are disclosed in Attachment 1 - Information of the Board of Directors, Management, and Corporate Secretary.



Performance assessment of the Board of Directors

The Board has conducted its annual performance for individual and as a group evaluation by adopting the self-assessment method from the Stock Exchange of Thailand to assess performance in the latest year. The Board self-assessment questionnaire allowed the Board to assess their effectiveness into 6 aspects:

1. Board structure and qualifications
2. Roles, duties and responsibility of the Board
3. The Board meeting
4. Duties of directors
5. Relationship with management
6. Director's self-improvement and management training

Further, the Board also can provide feedback in the assessment form to improve the Board's performance. The corporate secretary concludes the Board's group performance and report to the Board meeting. In 2022, the overall performance of the Board's group was assessed at "very good" ranking equivalent to 95.50%.

The Board also has conducted the performance evaluation of an individual director using the self-assessment method with evaluation criteria. In 2022, the corporate secretary concluded the Board's individual performance and reported to the Board's meeting with the average performance was "very good" ranking equivalent to 94.75%

Performance assessment of the sub-committees

The Board has also annually conducted the performance evaluation of all sub-committees that are the Audit Committee, the Nomination Committee, the Corporate Governance Committee and the Risk Management Committee. Those Committees evaluate their own assessment and the corporate secretary reports the result to the Board. In 2022, each sub-committee got the average score as "very good", equivalent to 97.25%.

Performance assessment of CEO

On an annual basis, the performance of CEO is evaluated by the independent directors, where the evaluation criteria have been applied from the guidance of the Stock Exchange of Thailand. The areas to assess CEO cover his leadership, strategy formulation, strategy execution, financial planning and performance, relationships with the board, external relations, human resources management and relations, succession, products/service knowledge and personal qualities. In 2022, the independent directors assessed the CEO with an average score of 95%.

CEO succession plan

The Board of Directors has improved its succession planning approach by developing the formal CEO succession planning policy in adopting a more comprehensive program that anticipates internal CEO succession while preparing for the possible need to recruit an external candidate depending on the circumstances whether on a planned or emergency basis.



An emergency succession is required when CEO is unable to perform the duties due to accident or other unexpected circumstances. A special meeting of the Board would be convened to decide which of the executives might be appointed as Acting CEO for the remainder of the time required.

In the event of permanent changes due to retirement or planned vacancy, the entire Board shall be involved in choosing a successor. However, the Board could delegate much of the responsibility to implement the search to the Nomination Committee or a special ad hoc committee to work with the Board and current CEO to identify and develop potential internal candidates, monitor the development of candidates and assess the readiness of candidates, or conduct an external search if cannot come to an agreement on an internal candidate, etc.

Overseeing and developing the top management succession plan is the responsibility of the Board, with the Nomination Committee assigned to monitor the progress and review the succession plan annually to ensure that key components are up-to-date, particularly the CEO's job description, minimum qualification requirements, minimum experience and personal characteristics and the succession readiness improvement. In 2022, the Nominating Committee has reported the progress to the Board of Directors' Meeting on November 30, 2022.

8.1.2 Meeting Attendance and Individual Directors' Remuneration

Board of directors' meetings

The Board of Directors set the meeting schedules in advance by informing in the meeting agenda before each year-ending so that the directors can arrange their times to attend the meetings. In 2022, the Company held 6 meetings of the Board of Directors, which are the normal agenda items. The total number of directors attending the meeting must be no less than one half of the total number of directors to constitute a quorum. The chairman of the Board and CEO set the agenda of the Board's meetings. Any director may suggest agenda items and may raise at meetings other matters that they consider importance of discussion. Information and data for the Board's understanding of the business to be discussed at meetings are distributed in advance of meetings according to the policy that is to provide 5 days in advance. To prepare for meetings, directors are responsible for reviewing the materials that are sent to them in advance. If there are additional inquiries, the directors can contact the CEO, the corporate secretary or designate executives. At the Board meeting, ample time is scheduled to allow full discussion of important matters. Management presentations are scheduled to permit an appropriate portion of the Board's meeting time to be available for discussion and comments. The Board's policy is to vote on the agenda item by having at least 2 out of 3 of total directors present in the meeting for each agenda item. The minutes of Board of Directors meeting are properly made and contain key facts such as the timing of start and finish, name of directors present and absent, summary of items of major discussion and resolutions, the minute taker and certifier. The minutes are maintained at the Company's head office and cannot be edited without prior consent of the Board's approval.

The meeting without attendance of management

The Board encourages the non-executive directors to have a separate meeting in absence of management to encourage more open discussion without management present. In 2022, the independent directors conducted a meeting without attendance of management one time on 11 November 2022. The meeting was conducted with the participation of internal and external auditors with the agenda discussion on the significant matters and other concerns related to financial statements and internal control audits by the auditors during the year 2022 including review if there is any connected transaction in 2022 that may lead to conflicts of interest, any fraud findings, as well as the cooperation from management and staff to support the auditors and any limitation related to the audit works, and report to the Board meeting subsequently.

**Meeting Attendance:**

Meeting	Board of Directors		Audit Committee		Nomination Committee		Corporate Governance and Sustainability Committee		Risk Management Committee		Non-Executive Meeting		Annual General Meeting	
Total number of meetings in 2022	6		4		3		1		1		1		1	
Number of meeting attended/participated in 2022	Physical	Online	Physical	Online	Physical	Online	Physical	Online	Physical	Online	Physical	Online	Physical	Online
Independent Directors:														
Mr. John Thompson	6/6	-	4/4	4/4	-	-	-	-	-	-	1/1	-	1/1	-
Mrs. Salakchitt Preedaporn (Resigned on 30 November 2022)	6/6	-	4/4	4/4	3/3	-	1/1	-	1/1	-	1/1	-	1/1	-
Mr. Yingsak Jenratha (Resigned on 30 November 2022)	4/6	2/6	2/4	2/4	1/3	2/3	1/1	-	-	1/1	1/1	-	1/1	-
Ms. Pornphan Abhamongkol	6/6	-	4/4	-	3/3	-	1/1	-	1/1	-	1/1	-	1/1	-
Mrs. Sunun Thongbai (Appointed on 1 December 2022)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mr. Stephanus Josephus Hendrikus Brader (Appointed on 1 December 2022)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Executive Directors:														
Mr. Richard David Han	6/6	-	4/4	-	3/3	-	-	-	-	-	-	-	1/1	-
Mr. Terrence Philip Weir	5/6	1/6	3/4	1/4	-	-	1/1	-	1/1	-	-	-	1/1	-
Mr. Sanjay Nirendra Mitra (Appointed on 29 April 2022)	2/4	2/4	-	-	-	-	-	-	-	-	-	-	1/1	-
Mr. Insuk Kim (Appointed on 29 April 2022)	4/4	-	-	-	-	-	-	-	-	-	-	-	1/1	-

**Remuneration for Directors:****(1) Monetary remuneration**

The Company provides the remuneration to the independent directors while the executive directors receive the remuneration as the role of employees of the Company. Therefore, the Company has not established the Remuneration Committee as the Board considers and reviews the remuneration of the independent directors by the whole Board. The Company provides the remuneration to the independent directors in forms of meeting allowances and bonus of which the rates are up to the responsibilities of the members. There is no other benefit. The remuneration for directors has been compared with the rate of the same industry and the structure of the remuneration of the Company. All types of the remuneration of directors have always been approved by shareholders every year.

Individual disclosure of remuneration for the Board of Directors in 2022 is as follows.

Name	Position	Meeting Allowance (Baht)	Bonus (Baht)	Total (Baht)
Mr. John Thompson	Independent Director	655,000	47,375	702,375
	Chairman of Board of Directors			
	Chairman of Audit Committee			
Mrs. Salakchitt Preedaporn (Resigned on 30 November 2022)	Independent Director	364,100	28,325	392,425
	Audit Committee			
	Corporate Governance Committee			
	Nomination Committee			
Mr. Yingsak Jenratha (Resigned on 30 November 2022)	Independent Director	364,100	28,325	392,425
	Audit Committee			
	Chairman of Nomination Committee			
	Corporate Governance Committee			
Ms. Pornphan Abhamongkol	Independent Director	364,100	28,325	392,425
	Audit Committee			
	Chairman of Nomination Committee			
	Corporate Governance Committee			



Name	Position	Meeting Allowance (Baht)	Bonus (Baht)	Total (Baht)
Mrs. Sunun Thongbai (Appointed on 1 December 2022)	Independent Director Audit Committee Corporate Governance Committee Nomination Committee	-	-	-
Mr. Stephanus Josephus Hendrikus Brader (Appointed on 1 December 2022)	Independent Director Audit Committee Corporate Governance Committee Nomination Committee	-	-	-
Mr. Richard David Han	Executive Director Nomination Committee	-	-	-
Mr. Terrence Philip Weir	Executive Director Chairman of Corporate Governance Committee Chairman of Risk Management Committee	-	-	-
Mr. Sanjay Niredra Mitra	Executive Director	-	-	-
Mr. Insuk Kim	Executive Director	-	-	-
Total				1,879,650

(2) Other type of compensation for directors

- None -



8.1.3 Supervision of subsidiaries and associated companies

The detail is shown in 6.1.1

8.1.4 Corporate Governance Policy and Guideline Compliance Control

Reviewing vision, mission and corporate objectives

The Board of Directors annually review and approve the Company's vision, mission and corporate objectives or the long term goals as well as overseeing the implementation and monitoring the performance of the management. The Board of Directors Meeting No. 6/2022 held on 30 November 2022 has reviewed and approved the Company's vision, mission and corporate objectives or the long term goals. The CEO has reported to the Board for the execution summary with the Company's strategies once a year in addition to report the operating performance for each meeting.

Conflict of interest

The Company has the policy in place to deal with conflicts of interest. The Board of Directors has established the policy and procedure for directors and executives to report on conflict of interest to ensure that they are abided by their fiduciary duties in the way that they must not have interest, whether directly or indirectly, in the matter under their decision. Directors and executives are required to disclose any material interest in transactions or matters affecting the Company and its subsidiaries through the established form approved by the Board of Directors. The corporate secretary is responsible for receiving reports from directors and executives who disclose their interests and those of their related parties to the Chairman of Audit Committee and the Chairman of the Board, respectively.

Related party transactions between the Company and a director or executive and/or connected persons, which may lead to the potential conflict of interests, must be considered by the Audit Committee. For material related party transactions, such transaction must be approved by the Board of Directors and/or the shareholders' meeting depending on the nature and the size of transaction as required by Notification of the Capital Market Supervisory Board where those directors and executives shall be excluded from decision making involving transactions in which they have interests or are connected.

In 2022, there was no conflict of interest from directors and executives reported to the Board.

Prevent insider trading:

The Company has the policy to prevent directors and executives from taking advantage of inside information, from dishonest dealing for themselves and their related parties. Insider trading is prohibited. Hana has established a system to prevent the use of inside information for personal benefits as follows.

- Communicate the compliance of the policy of Business Code of Conduct of the Board of Directors and executives. The directors and executives are required to sign on acknowledgement of the policy on an annual basis.
- Inform the Board and executives by a circular letter that those who may gain inside information shall avoid trading the Company's securities for the period of one month before the Company announces its financial statements to the public and at least 24 hours after the information is widely spread out to the public.
- Inform the Board and executives for the duties to report the Company security' holdings and movements to the Securities Exchange Commission (SEC) under the Securities and Exchange Act B.E. 2535 and the Stock Exchange of Thailand's regulation.



- Require the Board and executives to inform to the Board or the corporate secretary at least 1 day in advance before actual trading of the Company's security.
- Confirm the shareholding status with individual director and executive through the corporate secretary on a monthly basis. Report to the Board for the shareholding status of individual director and executive at every Board's meeting.

In 2022, no director or executive traded the Company's shares by using inside information, and during the silent periods.

Cyber Security and Personal Data Protection

The Board is committed to protect the data privacy and information security, maintain the confidentiality of information, data integrity of the Company's physical assets and all electronic information in order to ensure that the safe and responsible use of information technology to meet operational and contractual confidentiality obligations and continuous improvement.

Data Privacy Protection - The company has realized the important of the safety of personal information from using the service and protect the personal information of all stakeholders responsibly.

The data privacy policy has been established and disclosed to the public for transparency in supervision of the responsible personal data protection and supervise the operational framework in accordance with the Personal Data Protection Act (PDPA) in order to gain confidence in the security of information to our stakeholders. There are 5 guidelines for personal data protection as follows:





Protect confidential information - The Board is committed to protect customers' personal information and privacy including business partners' confidentiality by operating in adherence to applicable laws and regulations of personal information when personal data is collected, stored, processed, transmitted and shared. The practice is to sign an agreement on confidentiality information with every customer and/or business partners. The Company shall not disclose any information to anyone or other agencies without official authorization from the customers or business partners.

Cyber Security Governance Structure – To ensure proper policy management as well as at the operational level, the Company has a 3-level governance structure consisting of (1) supervisory level, (2) management level, and (3) operational level.

Security awareness training – To enhancing employees' information security awareness and employees' security policy compliance, MIS together with Training Departments have provided training to all employees and management, which is accounted 100% of employees who received trainings and passed the post-tests in 2022.

Channels for contacting and complaining about personal data – In the event that the owner of the personal data wants to inspect the collection of personal data/purpose of data use/controller and the office of the personal data controller, can address to our Human Resources Management Department as follows:



Implementation outcome

1. Hana Semiconductor (Ayutthaya) Co., Ltd., a subsidiary, is ISO 27001 certified for 70% of the total technology infrastructures.
2. No incidents of breaches and data leaks



Information Security / Cybersecurity	Target	2022
Number of data breach incident such as information leakage, theft and loss of data of customers	0	0
Number of employees and customers who are impacted from information leakage	0	0
Amount of fines or penalties arising of breach of security information or other cybersecurity incidents	0	0
Personal Data Protection		
Customers' complaints with supporting evidence of customers' personal data breach	0	0
Complaints from third party	0	0
Complaints from government agencies	0	0

The Company has disclosed the Personal Data Protection Policy in both Thai and English versions on the Company's website www.hanagroup.com under the subject About Us > Privacy Policy (PDPA).

Anti-corruption

Anti-corruption policy: The Company established the anti-corruption policy and has been approved and reviewed by the Board yearly. The anti-corruption policy is as follows.

"Hana has a zero tolerance of bribery and corruption. The Company prohibits the Board of Directors, management, employees or third parties in their relationship with the Company, being involved in any act of corruption in any form in all business transactions to benefit directly or indirectly and shall comply with the applicable laws and regulations in all the countries in which the Company operates."

Risk assessment: In 2022, the Risk Management Committee assessed the potential corruption risks by conducting the corruption risks separate from other risks. The risk profile was reported to the Board by having the Compliance Unit perform compliance audit in mitigated risks with the established policy.

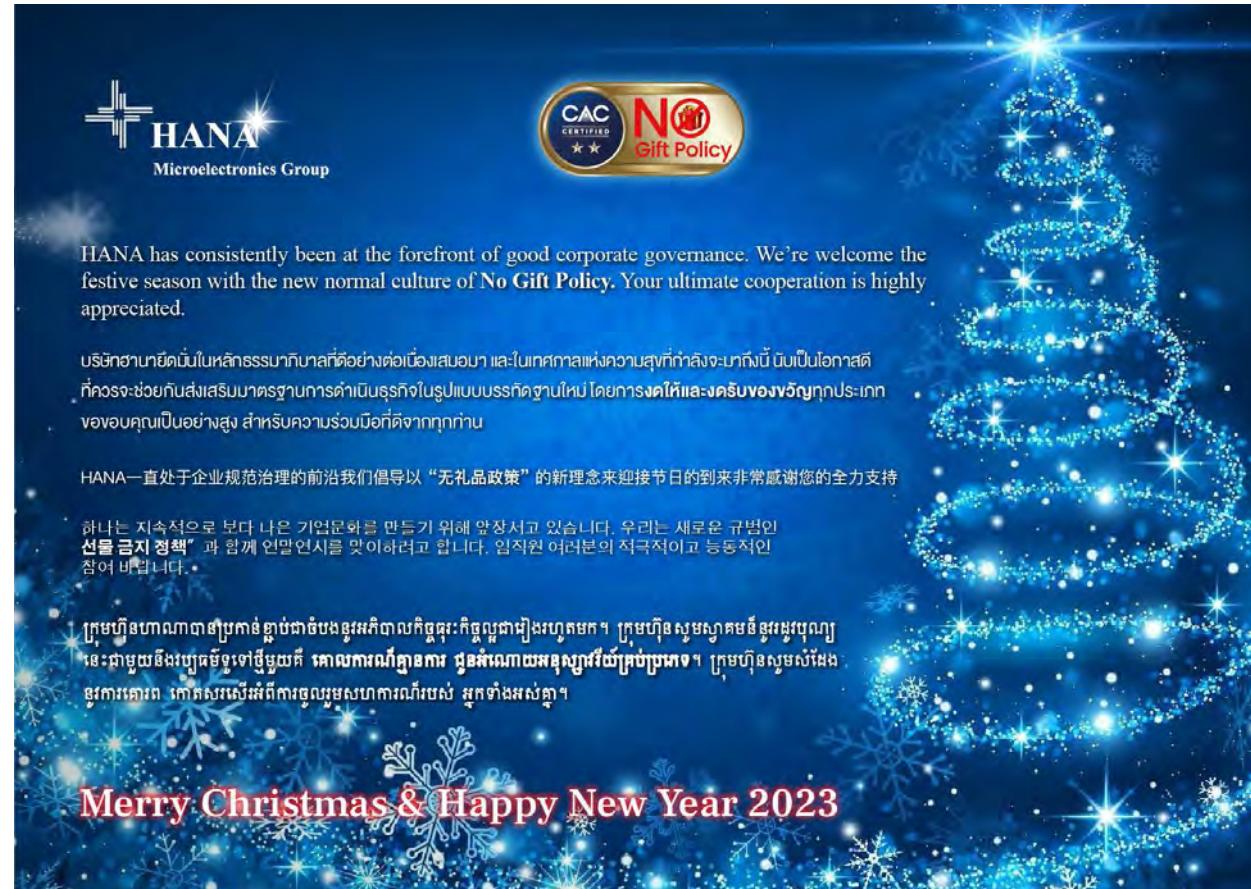
Training and communication: In 2022, the Company communicated and provided training to employees regarding its anticorruption policy and related policies i.e., corporate code of conducts, gifts and hospitality policy, conflict of interest policy, etc. Employees can get access to the policies via the Company's bulletin boards and intranet website. The supplier code of conduct covering the anti-corruption policy has been communicated with both overseas and local suppliers for their acknowledgment and compliance. In 2022, the Company received the signed acknowledgement from 1,791 suppliers, which was accounted for 100% from the goal of 100%.

Monitoring and review: The Audit Committee reviews the anti-corruption policy on an annual basis and proposes any amendment to the Board for approval. The Audit Committee also monitors the implementation of the policy and makes recommendations accordingly. Internal control systems and procedures shall be reviewed periodically by an internal audit department to ensure that they are effective in countering bribery and the audit results are to be discussed with relevant operational personnel and reported to senior management and the Audit Committee. In 2022, the risk assessment included the anti-corruption was reported to the Board for consideration.



Certification: In 2021, the Company has been re-certified as a member of Thailand's Private Sector Collective Action Coalition Against Corruption (CAC), which shall be valid to 2024, for the Company's actions and effort to support the mobilization of the private sector in the fight against corruption since 2013. In addition, the Company also became the partnership of PACT Network established by the Thaipat Institute to promote concrete anti-corruption in the private sector.

The Company and its subsidiaries yearly announces "No Gift Policy" and communicates with its business partners and discloses to the public as the guideline for directors and employees not to accept or giving gifts by cooperating with other business sectors for the fight against corruption.



The Company's Anti-Corruption Policy has been disclosed both in Thai and English on the Company's website www.hanagroup.com under the subject Investor Relation > Sustainable Development > Anti-Corruption.



Whistleblowing and Channel of Complaints

The Board provides channels for stakeholders to communicate any concerns about illegal, any suspected fraud or corruption, human right violation, unethical conduct or violation of the good corporate governance, any suggestion or any complaints regarding to activities or conduct of the Company or any of its staff or business partners relating to the Company. Stakeholders can report such complaint or concern in good faith directly to following channels.

Position	Name	Email
Chairman of the Board of Directors and the Audit Committee	Mr. John Thompson	john@ntasset.com
Chairman of Corporate Governance Committee and Risk Management Committee	Mr. Terrence Philip Weir	terry@hanabk.th.com
Chief Executive Officer	Mr. Richard David Han	richardh@hanabk.th.com
Corporate Human Resources, Training & Administration Senior Director	Mrs. Tappawong Na Tarlang	tappawong@hanabk.th.com
Corporate Secretary and the head of Internal Audit	Ms. Jirapa Kongmanee	jirapak@hanabk.th.com

Mailing address: Hana Microelectronics Public Co., Ltd., 65/98, Soi Vibhavadi-Rangsit 64, Junction 2, Kwang Talad Bangkhen, Khet Laksi, Bangkok 10210, Thailand

Any whistleblower in Hana group should initially make a compliant or report any act of misconduct or suspicions through the respective channels such as through an employee's direct supervisor (manager level and above); the head of Human Resource Department of each Hana location or suggestion/red box available at each Hana location. If employees cannot go to their respective channels, they could report to the above channels.

Handling of complaints: The Company will decide how to respond in a responsible and appropriate manner. An investigation will be conducted as speedily and sensitively as possible in accordance with all relevant laws and regulations. The internal audit department will report the details of complaints and investigation results to the Executive Committee or the Audit Committee and the Board depending on the complaint, dispute or issue raised.

Protection of reporting individual: It is a policy that the Company will not discharge, demote, suspend, threaten, harass or in any other actions against any person reporting any such complaint that made in good faith.

In 2022, the Board did not receive any complaints about corruption/fraud, breach of business ethics and corporate governance, a civil action or fines from SEC, human right violation or no complaint that damage to the Company's reputation due to the administration of the Board of Directors, as well as no legal dispute concerning labour, human rights, and the environment.

The Company's Whistleblowing Policy has been disclosed both in Thai and English on the Company's website www.hanagroup.com under the subject Investor Relation > Sustainable Development > Corporate Governance > CG Related Policies on the subject: Whistleblowing.

8.2 Report of the Audit Committee

The detail is shown on Attachment 6.

8.3 Report of the other Subcommittees

The detail is shown on Attachment 6.



9. Internal control and related party transactions

9.1 Internal Control

The Board of Directors is responsible for establishing and maintaining the internal control system. The Board has appointed the Audit Committee to review the appropriateness and effectiveness of the internal control system provided by management. The Audit Committee shall ensure that such existing internal control systems are achieving their objectives and that they should provide reasonable assurance concerning the accuracy of financial statements, the safeguard of assets against loss, unauthorized use or fraud, and the assurance of transactions that are executed consistent with the Company's policies and procedures.

In 2022, the Board has performed self-assessment to evaluate the internal control system by applying the control assessment criteria from the Stock Exchange of Thailand. There is an Internal Audit Department and Compliance Unit to monitor and oversee the overall company activities in line with established system and applicable laws and regulations. The Risk Management Committee has been appointed to ensure implementation of the risk management policy to be monitored and limited overall risks at an acceptable level.

From the Board of Directors' Meeting No. 6 held on 30 November 2022 with the Audit Committee attended the meeting, the Board has assessed the Company's internal control system based on 5 components of COSO's Internal Control Integrated Framework which are Control Environment, Risk Assessment, Control Activities, Information & Communication, and Monitoring Activities.

The Board agreed with the Audit Committee that the existing internal control system is considered appropriate and adequate as summarized below.

1. Control Environment

The Company has established organization structure, line of control, approval authorities for different managerial levels, and the charter of various committees to assist in discharging duties and responsibilities of the Board of Directors. The policies on corporate governance, code of conduct, anti-corruption policy and the operation policies and procedures are written as guidelines for directors, executive and employees to perform their duties with integrity.

2. Risk Assessment

The Risk Management Committee has been appointed to ensure implementation of the risk management policy to be monitored and limited overall risks at an acceptable level. Substantial risks are identified in consideration of both internal and external factors and prioritization based on the impact and likelihood of identified risks for further suitable risk mitigations.

The Company also considers the potential for fraud in assessing risks to the achievement of objectives. The Company's risk profile has been reviewed by the Risk Management Committee and proposes to the Board regularly whereas the risk management policy has been reviewed annually.

3. Control Activities

The Company develops general control activities to mitigate risks such as the segregation of duties among approval, accounting booking and asset's custody, the security control of information technology system, the policy to approve transactions done by people who have no interest in the transaction.



4. Information and Communication

The Company's management provides the Board with adequate information for decisions and sends the notice or document to the Board in advance for their preparation. Board meeting minutes could be able to track back concerning the duties of the directors. The Company has the whistle blower channels for internal and external parties.

5. Monitoring Activities

The appropriateness and adequacy of internal control is monitored regularly through a combination of management review, self-assessment, compliance and internal & external audits. The results of internal & external audit and compliance reviews are reported to the Audit Committee on a regular basis. The Audit Committee also approves the internal audit and compliance unit plans.

6. Different opinion between the Audit Committee and the Board of Directors regarding the internal control

- None -

7. Internal Audit

The Audit Committee has appointed Ms. Jirapa Kongmanee to the position of head of internal audit unit from 10 September 1999 due to having adequate experiences in internal audit field and have been trained in the training courses related to the scope of internal audit such as Internal Audit Role in Governance, Risk and Control, Business Management Skills, Business Analysis and Information Technology, COSO Internal Control Framework, including training course related to the new laws and new accounting standards, and she understands the activities and operations of the Company so she is appropriate to perform such duties properly and adequately. The internal audit has a reporting line to the Audit Committee who considers and approves the appointment, transfer and dismissal of the head of internal audit. The information of the head of internal audit is shown on Attachment 3.

8. Compliance Unit

The Board of Directors' Meeting No. 5 held on 13 November 2013 has appointed Ms. Jirapa Kongmanee to the position of the head of Compliance Unit to be responsible for overseeing the business operations of Hana group in accordance with the laws, rules and regulations of the relevant authorities. The information of the head of compliance unit is shown on Attachment 3.



9.2 Related Party Transactions

According to the Note 7 on related party transactions of the consolidated financial statements for the year ended 31 December 2022, relevant details of related party transactions entered into by the Company and its subsidiaries were disclosed. Those related party transactions were entered into in the ordinary course of business between the Company and its subsidiaries and such transactions have been conducted with fair and at arms' length on commercial terms.

As 31 December 2022, Hana Microelectronics Public Co., Ltd. has business transactions with related parties as follows:

Transactions	Total amount (Million Baht)	Counterparty	Transaction amount (Million Baht)	Relationships	Pricing policy
Sales of goods	152	Hana Technologies, Inc.	152	Subsidiary	Prices agreed between the parties due to the uniqueness of products sold to each customer
Dividend income	440	Hana Semiconductor (Ayutthaya) Co., Ltd.	300	Subsidiary	Declared rates according to the resolutions of the Board of Directors Meetings
		Hana Semiconductor (BKK) Co., Ltd.	140	Subsidiary	
Purchase of materials	406	Hana Semiconductor International Ltd.	266	Subsidiary	Cost plus mark up
		Omac Sales Ltd.	131	Subsidiary	
		Hana Semiconductor (Ayutthaya) Co., Ltd.	9	Subsidiary	
Marketing service expense	10	Hana Microelectronics, Inc.	10	Subsidiary	Rates stipulated in the agreement
Procurement service expense	2	Omac Sales Ltd.	2	Subsidiary	Cost plus mark up
Purchase of assets	1	Omac Sales Ltd.	1	Subsidiary	Cost plus mark up
Short term loan	200	Hana Semiconductor (BKK) Co., Ltd.	200	Subsidiary	0.80 percent per annum

In 2022, there was no related party transaction between the Company or its subsidiaries and connect persons who may have conflicts of interest or any other situations which could be against the best interest of the Company and its shareholders (as regulated by the Securities and Exchange Commission or the Stock Exchange of Thailand).

**Procedures for Related Party Transactions:**

In case of normal business transactions made with related parties under Section 89/12 (1) as required by the Securities and Exchange Act such as general trading conditions or transactions that support the normal course of business, such transactions shall be approved by the Board of Directors or in compliance with the principle approved by the Board of Directors. For related party transaction that may have a potential conflict of interest, the Audit Committee shall review and approve by the Board. In case that there is any transaction which has or may have the conflict of interests of directors or related persons, directors who have interests shall inform foresaid transaction to the Board and abstain from voting in that agenda.

In addition, the Company and its subsidiaries shall comply with the notifications and regulations of the Securities and Exchange Commission and the Stock Exchange of Thailand. The related party transactions which the Company discloses on the note in financial statements shall be presented and considered by the Audit Committee quarterly in order to prevent potential conflict of interest.

Any material related party transactions required shareholders' approval under the notification of Stock Exchange of Thailand, the Company shall disclose the details and rationale of the transactions to shareholders in advance before execution with the below minimum disclosures:

1. The name and relationship of the person who has conflict of interest.
2. The nature and volume of transactions during the year, as well as the continuous transactions or time by time transactions.
3. The reasons to engage the transaction with a person who may have conflict of interest, the benefit to shareholders, and pricing policy and terms is fair and reasonable.
4. The opinions of the Audit Committee.

The transaction shall be approved by the shareholders' meeting and shareholders who have interest in foresaid transaction have no right to vote on such resolution so the decision shall be made by disinterested shareholders.

Protecting Investors:

When there is any related transaction between the Company or its subsidiary, and the related parties in the future, the transaction shall be approved by the Board of Directors, which has the Audit Committee providing its opinion for the necessity and the appropriateness of the transactions and how utmost benefits to the Company. Directors who have an interest in such transactions shall have no right to vote. If the Audit Committee doesn't have an expertise in the matter of such transactions, the Company shall provide an independent expert or the Company's auditor to provide an opinion as to the necessity, reasons for decision by the Board or shareholders in making the transactions, as any case may be. The Company shall also disclose the transactions in the notes of the financial statements audited by the Company's auditor.

Policy of related transactions in future:

The policies of the Company and its subsidiaries regarding related transactions in future shall be in compliance with the Securities and Exchanges Act, the regulations of Stock Exchange of Thailand and compliance to the requirements regarding the disclosure of the connected transactions and acquisition or disposal of the Company's assets.

The Company's policy is to operate business in the best interest of the Company and its subsidiaries. The Company and its subsidiaries have engaged into the normal business transactions. As such, the related transactions shall be done under the normal course of business conditions with fair and at market prices.

Opinion of the Audit Committee:

The Audit Committee has considered the previous and current related transactions between the Company and its subsidiaries or the related parties or transactions that may have conflict interest, has the opinion that the Company has disclosed the information correctly and completely. Such transactions were under the normal business conditions with fair and at arms' length.



Report of the Board of Directors' Responsibilities for Financial Statements



The Board of Directors is responsible for the preparation of financial statements in accordance with generally accepted accounting principles and the adoption of appropriate accounting policies on a consistent basis including using judgment carefully and reasonably in preparation of financial statement. The important information is adequately disclosed in the notes to financial statement. The necessary clarification and analysis regarding the financial positions and performances of the Company and its subsidiaries have been provided for the interests of shareholders and investors.

The maintenance of the internal control system and risk management system are the responsibilities of the Board to reasonably assure that assets are safeguarded from unauthorized use or disposition and that the accounting records are sufficiently reliable to permit the preparation of financial statements that conform in all material respects with generally accepted accounting principles.

The Board of Directors has appointed an Audit Committee. The Audit Committee meets during the year to review with management and the auditors any significant accounting, internal control, and auditing matters.

The Board is of the opinion that the financial statements of Hana Microelectronics Public Company Limited and its subsidiaries for the year ended December 2022 are materially accurate, complete, and reliable.

Mr. John Thompson

Chairman of the Board of Directors

Mr. Richard David Han

Executive Vice Chairman and
Chief Executive Officer



Independent Auditor's Report

To the Shareholders of Hana Microelectronics Public Company Limited

Opinion

I have audited the accompanying consolidated financial statements of Hana Microelectronics Public Company Limited and its subsidiaries (the Group), which comprise the consolidated statement of financial position as at 31 December 2022, and the related consolidated statements of income, comprehensive income, changes in shareholders' equity and cash flows for the year then ended, and notes to the consolidated financial statements, including a summary of significant accounting policies, and have also audited the separate financial statements of Hana Microelectronics Public Company Limited for the same period.

In my opinion, the financial statements referred to above present fairly, in all material respects, the financial position of Hana Microelectronics Public Company Limited and its subsidiaries and of Hana Microelectronics Public Company Limited as at 31 December 2022, their financial performance and cash flows for the year then ended in accordance with Thai Financial Reporting Standards.

Basis for Opinion

I conducted my audit in accordance with Thai Standards on Auditing. My responsibilities under those standards are further described in the Auditor's Responsibilities for the Audit of the Financial Statements section of my report. I am independent of the Group in accordance with the Code of Ethics for Professional Accountants including Independence Standards issued by the Federation of Accounting Professions (Code of Ethics for Professional Accountants) that are relevant to my audit of the financial statements, and I have fulfilled my other ethical responsibilities in accordance with the Code of Ethics for Professional Accountants. I believe that the audit evidence I have obtained is sufficient and appropriate to provide a basis for my opinion.

Key Audit Matters

Key audit matters are those matters that, in my professional judgement, were of most significance in my audit of the financial statements of the current period. These matters were addressed in the context of my audit of the financial statements as a whole, and in forming my opinion thereon, and I do not provide a separate opinion on these matters.

I have fulfilled the responsibilities described in the Auditor's Responsibilities for the Audit of the Financial Statements section of my report, including in relation to these matters. Accordingly, my audit included the performance of procedures designed to respond to my assessment of the risks of material misstatement of the financial statements. The results of my audit procedures, including the procedures performed to address the matters below, provide the basis for my audit opinion on the accompanying financial statements as a whole.

The key audit matters and how audit procedures respond for each matter are described below.

Revenue recognition

Revenue from sales are the accounting transactions that have significant volume of transactions and amounts, and directly affect profit or loss of the Group. The majority of the Group's sales transactions are conducted with a number of major overseas customers under a variety of arrangements and conditions which may impact the recognition of revenue of the Group causing risks with respect to the amount and timing of such revenue recognition.

I examined the revenue recognition of the Group by

- Assessing and testing the Group's internal controls with respect to the revenue cycle by making enquiry of responsible executives, gaining an understanding of the controls and selecting representative samples to test the operation of the designed controls.
- Applying a sampling method to select sales to assess whether revenue recognition was consistent with the conditions or arrangement made with the customers, and whether it was in compliance with the Group's policy.
- On a sampling basis, examining supporting documents for actual sales transactions occurring during the year and near the end of the accounting period.



Independent Auditor's Report

- Requesting for confirmations of consignment inventory balances located at customers' hubs at the end of the accounting period, observing the physical count of inventories at significant locations and on a sampling basis, examining supporting documents whether the consignment inventories were correctly excluded from sales for the year.
- Reviewing of credit notes that the Group issued after the end of the accounting period.
- Performing analytical procedures of disaggregated data to detect possible irregularities in sales transactions throughout the period, particularly for accounting entries made through journal vouchers.

Inventories

Estimating the net realisable value of inventory, as disclosed in the related accounting policies in Note 4.3 and Note 5.1 to the financial statements, is one of an area of significant management judgement, particularly with regard to the estimation of allowance for diminution in the value of slow-moving and obsolete inventory. This requires detailed analysis of the product life cycle, the competitive environment, economic circumstances and the situation within the high-technology industry. There is a risk with respect to the amount of provision set aside for diminution in the value of inventory.

I assessed and tested the Group's internal controls relevant to the determination of provision for diminution in the value of inventory by making enquiry of responsible executives, gaining an understanding of the controls and selecting representative samples to test the operations of the designed controls. In addition, I also assessed the method and the assumptions applied by management in determining such provision. The procedures that I performed included:

- Gaining an understanding of the basis applied in determining the provision for diminution in value of inventory and reviewing the consistency of the application of that basis, and the rationale for the recording of specific provisions.
- Comparing the inventory holding periods and inventory movements to identify product lines with indicators of lower than normal inventory turnover.
- Comparing details of sales transactions occurring after the date of the financial statements with the cost of inventory for each product line.

- Comparing historical data of actual losses on sales and write-offs of inventory during each of the previous years with the provision for diminution in value of inventory recorded at the preceding year-end.

Provision for long-term employee benefits

The valuation of long-term employee benefit obligations is one of significant accounting estimates to the financial statements because the Group has a large number of employees and has defined benefit plans as discussed in the related accounting policies in Note 4.13 and Note 5.3 to the financial statements. In addition, the calculation of long-term employee benefit obligations requires the management to select the calculation method and exercise a high degree of judgement in determining appropriate assumptions such as discount rates, future salary increases, mortality rates and staff turnover rates. Due to the long-term nature of these plans, such estimates are subject to significant uncertainty. There is therefore a risk with respect to the amounts of the provision for long-term employee benefits.

I assessed and tested the Group's internal controls with respect to the assessment of provision for long-term employee benefits by making enquiry of responsible executives, gaining an understanding of internal controls and testing the method and significant assumptions both demographic and financial aspects used by the management to calculate the long-term employee benefit obligations and considering the impact of changes in key assumptions on the valuation of long-term employee benefit obligations. In addition, I reviewed the disclosure in the notes to the financial statements with respect to the provision for long-term employee benefits.

Other Information

Management is responsible for the other information. The other information comprises the information included in annual report of the Group, but does not include the financial statements and my auditor's report thereon. The annual report of the Group is expected to be made available to me after the date of this auditor's report.

My opinion on the financial statements does not cover the other information and I do not express any form of assurance conclusion thereon.



Independent Auditor's Report

In connection with my audit of the financial statements, my responsibility is to read the other information and, in doing so, consider whether the other information is materially inconsistent with the financial statements or my knowledge obtained in the audit or otherwise appears to be materially misstated.

When I read the annual report of the Group, if I conclude that there is a material misstatement therein, I am required to communicate the matter to those charged with governance for correction of the misstatement.

Responsibilities of Management and Those Charged with Governance for the Financial Statements

Management is responsible for the preparation and fair presentation of the financial statements in accordance with Thai Financial Reporting Standards, and for such internal control as management determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, management is responsible for assessing the Group's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless management either intends to liquidate the Group or to cease operations, or has no realistic alternative but to do so.

Those charged with governance are responsible for overseeing the Group's financial reporting process.

Auditor's Responsibilities for the Audit of the Financial Statements

My objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes my opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with Thai Standards on Auditing will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

As part of an audit in accordance with Thai Standards on Auditing, I exercise professional judgement and maintain professional skepticism throughout the audit. I also:

- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for my opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Group's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.
- Conclude on the appropriateness of management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Group's ability to continue as a going concern. If I conclude that a material uncertainty exists, I am required to draw attention in my auditor's report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify my opinion. My conclusions are based on the audit evidence obtained up to the date of my auditor's report. However, future events or conditions may cause the Group to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the financial statements, including the disclosures, and whether the financial statements represent the underlying transactions and events in a manner that achieves fair presentation.
- Obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the Group to express an opinion on the consolidated financial statements. I am responsible for the direction, supervision and performance of the group audit. I remain solely responsible for my audit opinion.



Content

Independent Auditor's Report

I communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that I identify during my audit.

I also provide those charged with governance with a statement that I have complied with relevant ethical requirements regarding independence, and to communicate with them all relationships and other matters that may reasonably be thought to bear on my independence, and where applicable, related safeguards.

From the matters communicated with those charged with governance, I determine those matters that were of most significance in the audit of the financial statements of the current period and are therefore the key audit matters. I describe these matters in my auditor's report unless law or regulation precludes public disclosure about the matter or when, in extremely rare circumstances, I determine that a matter should not be communicated in my report because the adverse consequences of doing so would reasonably be expected to outweigh the public interest benefits of such communication.

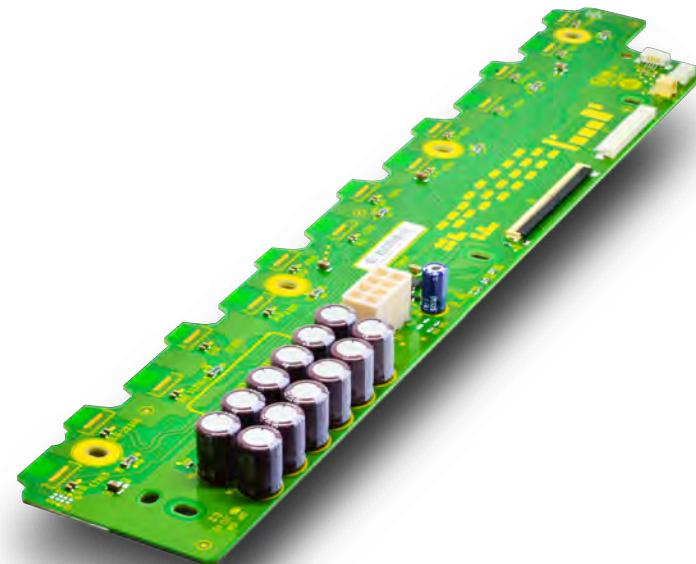
I am responsible for the audit resulting in this independent auditor's report.

Kamontip Lertwitworatep

Certified Public Accountant (Thailand) No. 4377

EY Office Limited

Bangkok: 27 February 2023





Statements of financial position

Hana Microelectronics Public Company Limited and its subsidiaries as at 31 December 2022

	Note	(Unit: Baht)					Note	(Unit: Baht)					
		Consolidated financial statements		Separate financial statements				Consolidated financial statements		Separate financial statements			
		2022	2021	2022	2021			2022	2021	2022	2021		
Assets						Liabilities and shareholders' equity							
Current assets						Current liabilities							
Cash and cash equivalents	6	2,374,707,590	3,304,172,702	239,247,683	245,586,626	Short-term loan from related party	7	-	-	200,000,000	-		
Trade and other receivables	7, 8	4,981,040,956	4,552,782,805	2,101,776,357	1,630,770,552	Trade and other payables	7, 16	4,160,840,943	3,505,876,372	1,492,683,675	1,544,125,445		
Inventories	9	9,456,927,941	6,856,572,449	4,199,807,992	3,518,228,541	Current portion of lease liabilities	17	273,842,643	7,964,995	-	-		
Other current financial assets	10	1,259,382,804	2,694,694,531	-	-	Short-term provisions	18	345,624,000	334,199,000	-	-		
Other current assets		171,171,278	161,612,544	25,279,694	39,995,288	Income tax payable		68,760,559	20,527,631	9,607,761	7,147,420		
Total current assets		18,243,230,569	17,569,835,031	6,566,111,726	5,434,581,007	Derivative liabilities		17,213,734	-	-	-		
Non-current assets						Other current liabilities		161,054,933	160,410,024	32,731,312	25,534,339		
Investments in subsidiaries	11	-	-	3,583,449,264	3,583,449,264	Total current liabilities		5,027,336,812	4,028,978,022	1,735,022,748	1,576,807,204		
Investment property	12	72,303,750	72,303,750	72,303,750	72,303,750	Non-current liabilities							
Property, plant and equipment	13	10,853,453,227	9,662,666,074	2,185,609,253	2,203,637,828	Lease liabilities - net of current portion	17	480,545	2,884,261	-	-		
Intangible assets	14	403,129,123	421,905,522	46,615,510	55,232,475	Deferred income		59,874,606	-	-	-		
Other non-current financial assets	15	151,800	153,600	97,000	97,000	Deferred tax liabilities	25	44,180,452	44,159,879	-	-		
Deferred tax assets	25	10,643,216	10,069,293	4,673,322	1,556,008	Provision for long-term employee benefits	19	709,393,316	718,850,938	348,390,532	332,488,256		
Other non-current assets		120,496,046	116,033,252	10,000	10,000	Total non-current liabilities		813,928,919	765,895,078	348,390,532	332,488,256		
Total non-current assets		11,460,177,162	10,283,131,491	5,892,758,099	5,916,286,325	Total liabilities		5,841,265,731	4,794,873,100	2,083,413,280	1,909,295,460		
Total assets		29,703,407,731	27,852,966,522	12,458,869,825	11,350,867,332								

The accompanying notes are an integral part of the financial statements.



Statements of financial position (Cont.)

Hana Microelectronics Public Company Limited and its subsidiaries as at 31 December 2022

(Unit: Baht)

	Note	Consolidated financial statements		Separate financial statements	
		2022	2021	2022	2021
Shareholders' equity					
Share capital					
Registered					
974,403,900 ordinary shares of Baht 1 each		974,403,900	974,403,900	974,403,900	974,403,900
Issued and fully paid-up					
804,878,860 ordinary shares of Baht 1 each		804,878,860	804,878,860	804,878,860	804,878,860
Share premium		1,723,218,982	1,723,218,982	1,723,218,982	1,723,218,982
Retained earnings					
Appropriated - statutory reserve	21	536,312,739	514,957,656	100,000,000	100,000,000
Unappropriated		20,234,096,439	19,343,952,539	7,747,358,703	6,813,474,030
Other components of shareholders' equity		563,634,980	671,085,385	-	-
Total shareholders' equity		23,862,142,000	23,058,093,422	10,375,456,545	9,441,571,872
Total liabilities and shareholders' equity		29,703,407,731	27,852,966,522	12,458,869,825	11,350,867,332

The accompanying notes are an integral part of the financial statements.



Income statements

Hana Microelectronics Public Company Limited and its subsidiaries for the year ended 31 December 2022

	Note	(Unit: Baht)					Note	(Unit: Baht)					
		Consolidated financial statements		Separate financial statements				Consolidated financial statements		Separate financial statements			
		2022	2021	2022	2021			2022	2021	2022	2021		
Revenues						Operating profit		2,128,264,442	1,491,560,598	2,176,092,977	1,803,377,533		
Sales	27, 28	27,167,162,849	23,780,179,227	11,272,767,989	10,391,133,710	Finance income	23	93,695,610	113,952,749	422,228	789,900		
Dividend income	11	2,252,452	2,066,188	440,071,968	280,071,972	Finance cost		(12,508,918)	(7,491,596)	(4,824,985)	(2,606,518)		
Gain on exchange		-	-	64,087,755	132,233,231	Profit before income tax expenses		2,209,451,134	1,598,021,751	2,171,690,220	1,801,560,915		
Gain on derivatives		30,253,082	-	-	-	Income tax expenses	25	(107,379,729)	(52,708,390)	(15,529,069)	(17,688,770)		
Other income	22	455,838,992	354,755,179	66,829,956	42,822,214	Profit for the year		2,102,071,405	1,545,313,361	2,156,161,151	1,783,872,145		
Total revenues		27,655,507,375	24,137,000,594	11,843,757,668	10,846,261,127								
Expenses	24					Profit attributable to:							
Cost of sales		23,506,161,074	20,492,976,951	9,313,890,455	8,647,160,357	Equity holders of the Company		2,102,071,405	1,545,313,361	2,156,161,151	1,783,872,145		
Selling and distribution expenses		211,836,640	209,721,267	63,031,825	67,949,807	Earnings per share	26						
Administrative expenses		1,482,755,910	1,213,588,863	290,742,411	327,773,430	Basic earnings per share							
Loss on exchange		319,832,105	273,767,316	-	-	Profit attributable to equity holders of the Company							
Loss on derivatives		-	34,888,040	-	-	2.61	1.92	2.68	2.22				
Reversal of impairment loss on financial assets	10	(3,528,531)	(525,780)	-	-	Number of weighted average ordinary shares (shares)		804,878,860	804,878,860	804,878,860	804,878,860		
Loss on FVTPL equity instruments		10,185,735	421,023,339	-	-								
Total expenses		25,527,242,933	22,645,439,996	9,667,664,691	9,042,883,594								

The accompanying notes are an integral part of the financial statements.



Statements of comprehensive income

Hana Microelectronics Public Company Limited and its subsidiaries for the year ended 31 December 2021

The accompanying notes are an integral part of the financial statements.



Statements of cash flows

Hana Microelectronics Public Company Limited and its subsidiaries for the year ended 31 December 2022

	(Unit: Baht)				(Unit: Baht)				
	Consolidated financial statements		Separate financial statements		Consolidated financial statements		Separate financial statements		
	2022	2021	2022	2021	2022	2021	2022	2021	
Cash flows from operating activities					Provision for vacation (reversal)	(3,891,331)	6,552,045	(1,740,974)	2,880,757
Profit before tax	2,209,451,134	1,598,021,751	2,171,690,220	1,801,560,915	Provision for long-term employee benefits	59,854,193	56,580,067	29,029,717	25,478,088
Adjustments to reconcile profit before tax to net cash provided by (paid from) operating activities:					Loss (gain) on sales of debt instruments at fair value through other comprehensive income	56,987,291	(21,218,932)	-	-
Depreciation	1,528,085,900	1,285,171,182	356,938,694	378,584,932	Loss on fair value adjustments of financial instruments	10,185,735	421,023,330	-	-
Amortisation expenses	101,741,414	16,246,883	8,678,965	8,680,545	Reversal of allowance for impairment loss on other current financial assets	(3,528,531)	(525,780)	-	-
Allowance for expected credit losses	2,174,515	4,996,862	-	-	Unrealised loss on exchange	93,391,621	81,982,126	77,640,998	44,656,965
Reduction of inventories to net realisable value (reversal)	26,361,971	(16,784,464)	38,901,032	(27,081,894)	Unrealised loss (gain) on derivatives	(30,253,082)	34,888,040	-	-
Write-off obsolete and damaged inventories	39,286,370	58,480,117	39,286,369	46,853,315	Finance income	(93,695,610)	(113,952,749)	(422,228)	(789,900)
Dividend income from subsidiary companies	-	-	(439,999,968)	(279,999,972)	Finance cost	3,808,787	86,088	1,666,986	-
Dividend income from other companies	(2,252,452)	(2,066,188)	(72,000)	(72,000)	Profit from operating activities before changes in operating assets and liabilities	3,997,730,361	3,473,631,639	2,280,334,503	2,058,553,111
Loss (gain) on disposals/write-off of equipment and intangible assets	1,315,022	29,851,352	(1,263,308)	23,501,451					
Allowance for impairment loss on assets (reversal)	(1,292,586)	34,299,909	-	34,299,909					

The accompanying notes are an integral part of the financial statements.



Statements of cash flows (Cont.)

Hana Microelectronics Public Company Limited and its subsidiaries for the year ended 31 December 2022

	(Unit: Baht)				(Unit: Baht)			
	Consolidated financial statements		Separate financial statements		Consolidated financial statements		Separate financial statements	
	2022	2021	2022	2021	2022	2021	2022	2021
Operating assets (increase) decrease					Cash flows from investing activities			
Trade and other receivables	(536,317,247)	(1,092,088,089)	(555,225,639)	(15,860,601)	Decrease in other current financial assets	562,685,815	854,729,640	-
Inventories	(2,666,003,833)	(2,402,125,637)	(759,766,852)	(1,242,754,771)	Decrease (increase) in long-term fixed deposit	1,800	(56,600)	-
Other current assets	(4,611,502)	(86,457,117)	13,171,696	(7,701,541)	Interest received	108,486,911	116,724,532	427,284
Operating liabilities increase (decrease)					Proceeds from sales of financial instruments	632,619,062	214,145,801	790,541
Trade and other payables	598,177,354	1,065,267,655	(69,573,671)	199,596,700	Dividend income from subsidiary companies	-	-	439,999,968
Other current liabilities	4,536,240	25,929,701	8,937,947	(2,650,054)	Dividend income from other companies	2,252,452	2,066,188	72,000
Deferred income	59,874,606	-	-	-	Acquisitions of property, plant and equipment and intangible assets	(2,491,394,839)	(4,129,321,869)	(325,944,832)
Cash from operating activities	1,453,385,979	984,158,152	917,877,984	989,182,844	Proceeds from disposals of equipment	20,852,401	32,693,098	(236,454,144)
Cash paid for long-term employee benefits	(52,700,308)	(32,836,230)	(28,219,990)	(18,945,265)	Increase in other non-current assets	(4,462,794)	(30,367,587)	14,232,997
Cash paid for income tax	(58,970,280)	(43,825,059)	(16,051,681)	(15,007,845)	Net cash from (used in) investing activities	(1,168,959,192)	(2,939,386,797)	11,603,410
Net cash from operating activities	1,341,715,391	907,496,863	873,606,313	955,229,734				56,011,779

The accompanying notes are an integral part of the financial statements.



Statements of cash flows (Cont.)

Hana Microelectronics Public Company Limited and its subsidiaries for the year ended 31 December 2022

	(Unit: Baht)				(Unit: Baht)			
	Consolidated financial statements		Separate financial statements		Consolidated financial statements		Separate financial statements	
	2022	2021	2022	2021	2022	2021	2022	2021
Cash flows from financing activities								
Net increase in short-term loan from related party	-		-	200,000,000				
Payment of principal portion of lease liabilities	(10,078,568)	(11,385,170)	-	-				
Interest paid	(934,932)	-	(1,414,383)	-				
Dividend paid	(1,207,318,290)	(1,408,538,005)	(1,207,318,290)	(1,408,538,005)				
Net cash used in financing activities	(1,218,331,790)	(1,419,923,175)	(1,008,732,673)	(1,408,538,005)				
Decrease in cash and cash equivalents	(1,045,575,591)	(3,451,813,109)	(6,338,943)	(397,296,492)				
Translation adjustment	116,110,479	1,355,725,307	-	-				
Net decrease in cash and cash equivalents	(929,465,112)	(2,096,087,802)	(6,338,943)	(397,296,492)				
Cash and cash equivalents at beginning of year	3,304,172,702	5,400,260,504	245,586,626	642,883,118				
Cash and cash equivalents at end of year (Note 6)	2,374,707,590	3,304,172,702	239,247,683	245,586,626				

The accompanying notes are an integral part of the financial statements.



Statements of changes in shareholders' equity

Hana Microelectronics Public Company Limited and its subsidiaries for the year ended 31 December 2022

(Unit: Baht)

	Note	Consolidated financial statements							
		Issued and paid up share capital	Share premium	Retained earnings		Other components of shareholders' equity			Total other components of shareholders' equity
				Appropriated - Statutory reserve	Unappropriated	Other comprehensive income	Fair value reserve of financial assets at FVOCI	Exchange differences on translation of financial statements in foreign currency	
Balance as at 1 January 2021	30	804,878,860	1,723,218,982	456,462,666	19,239,559,857	283,699,328	(894,207,209)	(610,507,881)	21,613,612,484
Profit for the year		-	-	-	1,545,313,361	-	-	-	1,545,313,361
Other comprehensive income for the year		-	-	-	26,112,316	(69,164,056)	1,350,757,322	1,281,593,266	1,307,705,582
Total comprehensive income for the year		-	-	-	1,571,425,677	(69,164,056)	1,350,757,322	1,281,593,266	2,853,018,943
Dividend paid		-	-	-	(1,408,538,005)	-	-	-	(1,408,538,005)
Unappropriated retained earnings transferred to statutory reserve		-	-	58,494,990	(58,494,990)	-	-	-	-
Balance as at 31 December 2021		804,878,860	1,723,218,982	514,957,656	19,343,952,539	214,535,272	456,550,113	671,085,385	23,058,093,422
Balance as at 1 January 2022		804,878,860	1,723,218,982	514,957,656	19,343,952,539	214,535,272	456,550,113	671,085,385	23,058,093,422
Profit for the year	30	-	-	-	2,102,071,405	-	-	-	2,102,071,405
Other comprehensive income for the year		-	-	-	16,745,868	(223,829,171)	116,378,766	(107,450,405)	(90,704,537)
Total comprehensive income for the year		-	-	-	2,118,817,273	(223,829,171)	116,378,766	(107,450,405)	2,011,366,868
Dividend paid		-	-	-	(1,207,318,290)	-	-	-	(1,207,318,290)
Unappropriated retained earnings transferred to statutory reserve		-	-	21,355,083	(21,355,083)	-	-	-	-
Balance as at 31 December 2022		804,878,860	1,723,218,982	536,312,739	20,234,096,439	(9,293,899)	572,928,879	563,634,980	23,862,142,000

The accompanying notes are an integral part of the financial statements.



Statements of changes in shareholders' equity (Cont.)

Hana Microelectronics Public Company Limited and its subsidiaries for the year ended 31 December 2022

(Unit: Baht)

	Note	Separate financial statements					Total shareholders' equity
		Issued and paid up share capital	Share premium	Retained earnings		Total shareholders' equity	
				Appropriated Statutory reserve	Unappropriated		
Balance as at 1 January 2021		804,878,860	1,723,218,982	100,000,000	6,430,923,236	9,059,021,078	
Profit for the year		-	-	-	1,783,872,145	1,783,872,145	
Other comprehensive income for the year		-	-	-	7,216,654	7,216,654	
Total comprehensive income for the year		-	-	-	1,791,088,799	1,791,088,799	
Dividend paid	30	-	-	-	(1,408,538,005)	(1,408,538,005)	
Balance as at 31 December 2021		804,878,860	1,723,218,982	100,000,000	6,813,474,030	9,441,571,872	
Balance as at 1 January 2022		804,878,860	1,723,218,982	100,000,000	6,813,474,030	9,441,571,872	
Profit for the year		-	-	-	2,156,161,151	2,156,161,151	
Other comprehensive income for the year		-	-	-	(14,958,188)	(14,958,188)	
Total comprehensive income for the year		-	-	-	2,141,202,963	2,141,202,963	
Dividend paid	30	-	-	-	(1,207,318,290)	(1,207,318,290)	
Balance as at 31 December 2022		804,878,860	1,723,218,982	100,000,000	7,747,358,703	10,375,456,545	

The accompanying notes are an integral part of the financial statements.



Notes to consolidated financial statements

Hana Microelectronics Public Company Limited and its subsidiaries for the year ended 31 December 2022

1. General information

Hana Microelectronics Public Company Limited ("the Company") was incorporated as a limited company under Thai law and transformed to be a public limited company under the Public Limited Companies Act on 27 January 1993. The Company operates its business in Thailand and is principally engaged in the manufacture and trading of electronic components. The registered office of the Company is at 65/98, Soi Vibhavadi-Rangsit 64, Junction 2, Kwang Talad Bangkhen, Khet Laksi, Bangkok.

2. Basis of preparation

2.1 The financial statements have been prepared in accordance with Thai Financial Reporting Standards enunciated under the Accounting Professions Act B.E. 2547 and their presentation has been made in compliance with the stipulations of the Notification of the Department of Business Development, issued under the Accounting Act B.E. 2543.

The financial statements in Thai language are the official statutory financial statements of the Company. The financial statements in English language have been translated from the Thai language financial statements.

The financial statements have been prepared on a historical cost basis except where otherwise disclosed in the accounting policies.

2.2 Basis of consolidation

- a) The consolidated financial statements include the financial statements of Hana Microelectronics Public Company Limited ("the Company") and the following subsidiary companies ("the subsidiaries") (collectively as "the Group"):

Company's name	Nature of business	Country of incorporation	Percentage of shareholding	
			2022	2021
			Percent	Percent
Held by the Company				
Hana Semiconductor (Ayutthaya) Company Limited	Manufacture and trading of electronic components	Thailand	58	58
Hana Semiconductor (BKK) Company Limited	Holding company	Thailand	100	100
Omac Sales Limited	Purchasing of electronic components and equipment	Hong Kong	100	100
Hana Microelectronics International Company Limited	Holding company	British Virgin Islands	100	100
Hana Microelectronics Investments Company Limited	Holding company	British Virgin Islands	100	100
Hana Microelectronics (Cambodia) Company Limited	Manufacture and trading of electronic components	Cambodia	100	100



Notes to consolidated financial statements

Hana Microelectronics Public Company Limited and its subsidiaries for the year ended 31 December 2022

Company's name	Nature of business	Country of incorporation	Percentage of shareholding	
			2022	2021
			Percent	Percent
Held through the subsidiaries				
Hana Semiconductor (Ayutthaya) Company Limited	Manufacture and trading of electronic components	Thailand	42	42
Hana Semiconductor International Limited	Trading of electronic components	British Virgin Islands	100	100
Hana Microelectronics Enterprises Company Limited	Holding company	British Virgin Islands	100	100
Hana Technologies, Inc.	Manufacture and trading of electronic components	USA	100	100
Hana Microelectronics, Inc.	Agent and customer services	USA	100	100
Hana Macao Commercial Offshore Limited	Customer services	Macao	100	100
Hana Microelectronics (Jiaxing) Company Limited	Manufacture and trading of electronic components	China	100	100
Power Master Semiconductor Company Limited	Manufacture and trading of electronic components	South Korea	100	100

- b) The Company is deemed to have control over an investee or subsidiaries if it has rights, or is exposed, to variable returns from its involvement with the investee, and it has the ability to direct the activities that affect the amount of its returns.
- c) Subsidiaries are fully consolidated, being the date on which the Company obtains control, and continue to be consolidated until the date when such control ceases.
- d) The financial statements of the subsidiaries are prepared using the same significant accounting policies as the Company.
- e) The assets and liabilities in the financial statements of overseas subsidiaries are translated into Thai Baht using the exchange rate prevailing on the end

of reporting period, and revenues and expenses translated using monthly average exchange rates. The resulting differences are shown under the caption of "Exchange differences on translation of financial statements in foreign currency" in the statements of changes in shareholders' equity.

- f) Material balances and transactions between the Company and its subsidiaries have been eliminated from the consolidated financial statements.
- 2.3 The separate financial statements present investments in subsidiaries under the cost method.

3. New financial reporting standards

3.1 Financial reporting standards that became effective in the current year

During the year, the Group has adopted the revised financial reporting standards and interpretations which are effective for fiscal years beginning on or after 1 January 2022. These financial reporting standards were aimed at alignment with the corresponding International Financial Reporting Standards with most of the changes directed towards clarifying accounting treatment and providing accounting guidance for users of the standards.

The adoption of these financial reporting standards does not have any significant impact on the Group's financial statements.

3.2 Financial reporting standards that will become effective for fiscal years beginning on or after 1 January 2023

The Federation of Accounting Professions issued a number of revised financial reporting standards, which are effective for fiscal years beginning on or after 1 January 2023. These financial reporting standards were aimed at alignment with the corresponding International Financial Reporting Standards with most of the changes directed towards clarifying accounting treatment and providing accounting guidance for users of the standards.



Notes to consolidated financial statements

Hana Microelectronics Public Company Limited and its subsidiaries for the year ended 31 December 2022

The management of Group believes that adoption of these amendments will not have any significant impact on the Group's financial statements.

4. Significant accounting policies

4.1 Revenue and expense recognition

Sales of goods

Revenue from sales of goods is recognised at the point in time when control of the asset is transferred to the customer, generally on delivery of the goods. Revenue is measured at the amount of the consideration received or receivable, excluding value added tax, of goods supplied after deducting returns, discounts, allowances.

Interest income

Interest income is calculated using the effective interest method and recognised on an accrual basis. The effective interest rate is applied to the gross carrying amount of a financial asset, unless the financial assets subsequently become credit-impaired when it is applied to the net carrying amount of the financial asset (net of the expected credit loss allowance).

Dividends

Dividends are recognised when the right to receive the dividends is established.

Finance cost

Interest expense from financial liabilities at amortised cost is calculated using the effective interest method and recognised on an accrual basis.

4.2 Cash and cash equivalents

Cash and cash equivalents consist of cash in hand and at banks, and all highly liquid investments with an original maturity of three months or less and not subject to withdrawal restrictions.

4.3 Inventories

Raw materials, work in process, and finished goods are valued at the lower of cost (under weighted average method) and net realisable value. The cost of inventories is measured using the standard cost method, which approximates actual cost. Cost of finished goods and work in process include direct materials, direct labour, and factory overheads.

Allowance for diminution in inventory value is set up for obsolete, slow-moving or deteriorated inventories.

4.4 Investments in subsidiaries

Investments in subsidiaries are accounted for in the separate financial statements using the cost method.

4.5 Investment properties

Investment properties are measured initially at cost, including transaction costs. Subsequent to initial recognition, investment properties are stated at cost less accumulated depreciation and allowance for loss on impairment (if any).

No depreciation is provided on investment property in land.

4.6 Property, plant and equipment and depreciation

Land is stated at cost. Buildings and equipment are stated at cost less accumulated depreciation and allowance for loss on impairment of assets (if any).

Depreciation of plant and equipment is calculated by reference to their costs on a straight-line basis over the following estimated useful lives:

Leasehold improvements	period of lease
Buildings	20 - 50 years
Fixtures	3 - 10 years
Other assets	3 - 20 years



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Depreciation is included in determining income.

No depreciation is provided on land, construction in progress and machinery under installation.

An item of property, plant and equipment is derecognised upon disposal or when no future economic benefits are expected from its use or disposal. Any gain or loss arising on disposal of an asset is included in the income statement when the asset is derecognised.

4.7 Intangible assets

Intangible assets are carried at cost less any accumulated amortisation and any accumulated impairment losses (if any).

Research costs are expensed as incurred. An intangible asset arising from development expenditure on an individual project is recognised only when the Group can demonstrate the commercial and technical feasibility of completing the intangible asset and the availability to measure reliably the expenditure during the development. The cost will be amortised when the related products are commercially produced.

Intangible assets with finite lives are amortised on the straight-line basis over the economic useful life and tested for impairment whenever there is an indication that the intangible asset may be impaired. The amortisation period and the amortisation method of such intangible assets are reviewed at least at each financial year end.

The amortisation expense is charged to the income statement.

A summary of the intangible assets with finite useful lives is as follows:

Useful lives	
Computer software	5 - 10 years
Development costs	10 years

4.8 Leases

At inception of contract, the Group assesses whether a contract is, or contains, a lease. A contract is, or contains, a lease if the contract conveys the right to control the use of an identified asset for a period of time in exchange for consideration.

The Group as a lessee

The Group applies a single recognition and measurement approach for all leases, except for short-term leases and leases of low-value assets. At the commencement date of the lease (i.e. the date the underlying asset is available for use), the Group recognises right-of-use assets representing the right to use underlying assets and lease liabilities based on lease payments.

Right-of-use assets

Right-of-use assets is measured at cost, less accumulated depreciation, any accumulated impairment losses, and adjusted for any remeasurement of lease liabilities. The cost of right-of-use assets includes the amount of lease liabilities initially recognised, initial direct costs incurred, and lease payments made at or before the commencement date of the lease less any lease incentives received.

Depreciation of right-of-use assets is calculated by reference to their costs on the straight-line basis over the shorter of their estimated useful lives and the lease term.

Land	50	years
Buildings	2 - 28	years
Machinery and equipment	3	years

If ownership of the leased asset is transferred to the Group at the end of the lease term or the cost reflects the exercise of a purchase option, depreciation is calculated using the estimated useful life of the asset.

Right-of-use assets are presented as property, plant and equipment in the statement of financial position.



Notes to consolidated financial statements

Hana Microelectronics Public Company Limited and its subsidiaries for the year ended 31 December 2022

Lease liabilities

Lease liabilities are measured at the present value of the lease payments to be made over the lease term. The lease payments include fixed payments less any lease incentives receivable, variable lease payments that depend on an index or a rate, and amounts expected to be payable under residual value guarantees. Moreover, the lease payments include the exercise price of a purchase option reasonably certain to be exercised by the Group and payments of penalties for terminating the lease, if the lease term reflects the Group exercising an option to terminate. Variable lease payments that do not depend on an index or a rate are recognised as expenses in the period in which the event or condition that triggers the payment occurs.

The Group discounts the present value of the lease payments by the interest rate implicit in the lease or the Group's incremental borrowing rate. After the commencement date, the amount of lease liabilities is increased to reflect the accretion of interest and reduced for the lease payments made. In addition, the carrying amount of lease liabilities is remeasured if there is a change in the lease term, a change in the lease payments or a change in the assessment of an option to purchase the underlying asset.

Short-term leases and leases of low-value assets

A lease that has a lease term less than or equal to 12 months from commencement date or a lease of low-value assets is recognised as expenses on a straight-line basis over the lease term.

4.9 Related party transactions

Related parties comprise individuals or enterprises that control, or are controlled by, the Company, whether directly or indirectly, or which are under common control with the Company.

They also include individuals or enterprises which directly or indirectly own a voting interest in the Company that gives them significant influence over the Company, key management personnel, directors, and officers with authority in the planning and direction of the Company's operations.

4.10 Foreign currencies

The consolidated and separate financial statements are presented in Baht, which is also the Company's functional currency. Items of each entity included in the consolidated financial statements are measured using the functional currency of that entity.

Transactions in foreign currencies are translated into Baht at the exchange rate ruling at the date of the transaction. Monetary assets and liabilities denominated in foreign currencies are translated into Baht at the exchange rate ruling at the end of reporting period.

Gains and losses on exchange are included in determining income.

4.11 Impairment of non-financial assets

At the end of each reporting period, the Group performs impairment reviews in respect of the property, plant and equipment right-of-use assets, investment properties and other intangible assets whenever events or changes in circumstances indicate that an asset may be impaired. An impairment loss is recognised when the recoverable amount of an asset, which is the higher of the asset's fair value less costs to sell and its value in use, is less than the carrying amount.

An impairment loss is recognised in the income statement.

In the assessment of asset impairment if there is any indication that previously recognised impairment losses may no longer exist or may have decreased, the Group estimates the asset's recoverable amount. A previously recognised impairment loss is reversed only if there has been a change in the assumptions used to determine the asset's recoverable amount since the last impairment loss was recognised. The



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increased carrying amount of the asset attributable to a reversal of an impairment loss shall not exceed the carrying amount that would have been determined had no impairment loss been recognised for the asset in prior years. Such reversal is recognised in the income statement.

4.12 Equity-settled share-based payments

The Group recognises equity-settled share-based payment transactions when services are rendered by employees, based on the fair value of the stock grants at the grant date. The expenses, together with a corresponding increase in "Share-based payment reserve" in shareholders' equity, are recognised over the service period as specified in the plan.

The fair value of the share-based payment transactions is determined by taking into consideration performance conditions. At the end of each reporting period, the Group reassesses its estimates of the number of stock grants that will ultimately vest.

4.13 Employee benefits

Short-term employee benefits

Salaries, wages, bonuses and contributions to the social security fund are recognised as expenses when incurred.

Post-employment benefits

Defined contribution plans

The Group and their employees have jointly established a provident fund. The fund is monthly contributed to by the employees and the Group. The fund's assets are held in a separate trust fund and the Group's contributions are recognised as expenses when incurred.

Defined benefit plans

The Group has obligations in respect of the severance payments they must make

to employees upon retirement under labor law. The Group treats these severance payment obligations as a defined benefit plan.

The obligation under the defined benefit plan is determined based on actuarial techniques, using the projected unit credit method.

Actuarial gains and losses arising from defined benefits plans are recognised immediately in other comprehensive income.

Past service costs are recognised in the income statement on the earlier of the date of the plan amendment or curtailment and the date that the restructuring-related costs are recognised.

Provision for vacation

The Group has set up provision for vacation which is calculated in accordance with the Group's policy and formula, taking into consideration the employee's salary, the number of service years and the unused vacation days.

4.14 Provisions

Provisions are recognised when the Group has a present obligation as a result of a past event, it is probable that an outflow of resources embodying economic benefits will be required to settle the obligation, and a reliable estimate can be made of the amount of the obligation.

Provision for product warranty

The subsidiaries record provision for product warranty, which is estimated by reference to obligation for product warranty under manufacturing contract.

4.15 Government grants

Government grants are recognised when there is reasonable assurance that the grants will be received, and all attached conditions will be complied.



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Grants related to assets are presented as deferred income and are recognised as income in the income statement on a straight-line basis over the useful lives of the assets.

Grants related to income are recognised as other income in the income statement.

4.16 Income tax

Income tax expense represents the sum of corporate income tax currently payable and deferred tax.

Current tax

Current income tax is provided in the accounts at the amount expected to be paid to the taxation authorities, based on taxable profits determined in accordance with tax legislation.

Deferred tax

Deferred income tax is provided on temporary differences between the tax bases of assets and liabilities and their carrying amounts at the end of each reporting period, using the tax rates enacted at the end of the reporting period.

The Group recognises deferred tax liabilities for all taxable temporary differences while it recognises deferred tax assets for all deductible temporary differences and tax losses carried forward to the extent that it is probable that future taxable profit will be available against which such deductible temporary differences and tax losses carried forward can be utilised.

At each reporting date, the Group reviews and reduces the carrying amount of deferred tax assets to the extent that it is no longer probable that sufficient taxable profit will be available to allow all or part of the deferred tax asset to be utilised.

The Group records deferred tax directly to shareholders' equity if the tax relates to items that are recorded directly to shareholders' equity.

4.17 Financial instruments

The Group initially measures financial assets at its fair value plus, in the case of financial assets that are not measured at fair value through profit or loss, transaction costs. However, trade receivables, that do not contain a significant financing component are measured at the transaction price as disclosed in the accounting policy relating to revenue recognition.

Classification and measurement of financial assets

Financial assets are classified, at initial recognition, as to be subsequently measured at amortised cost, fair value through other comprehensive income ("FVOCI"), or fair value through profit or loss ("FVTPL"). The classification of financial assets at initial recognition is driven by the Group's business model for managing the financial assets and the contractual cash flows characteristics of the financial assets.

Financial assets at amortised cost

The Group measures financial assets at amortised cost if the financial asset is held in order to collect contractual cash flows and the contractual terms of the financial asset give rise on specified dates to cash flows that are solely payments of principal and interest on the principal amount outstanding.

Financial assets at amortised cost are subsequently measured using the effective interest rate ("EIR") method and are subject to impairment. Gains and losses are recognised in the income statement when the asset is derecognised, modified or impaired.

Financial assets at FVOCI (debt instruments)

The Group measures financial assets at FVOCI if the financial asset is held to collect contractual cash flows and to sell the financial asset and the contractual terms of the financial asset give rise on specified dates to cash flows that are solely payments of principal and interest on the principal amount outstanding.



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Interest income, foreign exchange revaluation and impairment losses or reversals are recognised in the income statement and computed in the same manner as for financial assets measured at amortised cost. The remaining fair value changes are recognised in other comprehensive income. Upon derecognition, the cumulative fair value change recognised in other comprehensive income is recycled to the income statement.

Financial assets designated at FVOCI (equity instruments)

Upon initial recognition, the Group can elect to irrevocably classify its equity investments which are not held for trading as equity instruments designated at FVOCI. The classification is determined on an instrument-by-instrument basis.

Gains and losses recognised in other comprehensive income on these financial assets are never recycled to the income statement.

Dividends are recognised as other income in the income statement, except when the dividends clearly represent a recovery of part of the cost of the financial asset, in which case, the gains are recognised in other comprehensive income.

Equity instruments designated at FVOCI are not subject to impairment assessment.

Financial assets at FVTPL

Financial assets measured at FVTPL are carried in the statement of financial position at fair value with net changes in fair value recognised in the income statement.

These financial assets include derivatives, security investments held for trading, equity investments which the Group has not irrevocably elected to classify at FVOCI and financial assets with cash flows that are not solely payments of principal and interest.

Dividends on listed equity investments are recognised as other income in the income statement.

Classification and measurement of financial liabilities

Except for derivative liabilities, at initial recognition the Group's financial liabilities are recognised at fair value net of transaction costs and classified as liabilities to be subsequently measured at amortised cost using the EIR method. Gains and losses are recognised in the income statement when the liabilities are derecognised as well as through the EIR amortisation process. In determining amortised cost, the Group takes into account any discounts or premiums on acquisition and fees or costs that are an integral part of the EIR. The EIR amortisation is included in finance costs in the income statement.

Regular way purchases and sales of financial assets

Regular way purchases or sales of financial assets that require delivery of assets within a time frame established by regulation or convention in the marketplace are recognised on the trade date, i.e., the date on which the Group commits to purchase or sell the asset.

Derecognition of financial instruments

A financial asset is primarily derecognised when the rights to receive cash flows from the asset have expired or have been transferred and either the Group has transferred substantially all the risks and rewards of the asset, or the Group has transferred control of the asset.

A financial liability is derecognised when the obligation under the liability is discharged or cancelled or expires. When an existing financial liability is replaced by another from the same lender on substantially different terms, or the terms of an existing liability are substantially modified, such an exchange or modification is treated as the derecognition of the original liability and the recognition of a new liability. The difference in the respective carrying amounts is recognised in the income statement.



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Impairment of financial assets

The Group recognises an allowance for expected credit losses ("ECLs") for all debt instruments not held at FVTPL. ECLs are based on the difference between the contractual cash flows due in accordance with the contract and all the cash flows that the Group expects to receive, discounted at an approximation of the original effective interest rate.

For credit exposures for which there has not been a significant increase in credit risk since initial recognition, ECLs are provided for credit losses that result from default events that are possible within the next 12-months (a 12-month ECL). For those credit exposures for which there has been a significant increase in credit risk since initial recognition, a loss allowance is required for credit losses expected over the remaining life of the exposure (a lifetime ECL).

The Group considers a significant increase in credit risk to have occurred when contractual payments are more than 30 days past due and considers a financial asset as credit impaired or default when contractual payments are 90 days past due. However, in certain cases, the Group may also consider a financial asset to have a significant increase in credit risk and to be in default using other internal or external information, such as credit rating of issuers.

For trade receivables, the Group applies a simplified approach in calculating ECLs. Therefore, the Group does not track changes in credit risk, but instead recognises a loss allowance based on lifetime ECLs at each reporting date.

ECLs are calculated based on its historical credit loss experience and adjusted for forward-looking factors specific to the debtors and the economic environment.

A financial asset is written off when there is no reasonable expectation of recovering the contractual cash flows.

Offsetting of financial instruments

Financial assets and financial liabilities are offset, and the net amount is reported in the statement of financial position if there is a currently enforceable legal right to offset the recognised amounts and there is an intention to settle on a net basis, to realise the assets and settle the liabilities simultaneously.

4.18 Derivatives

The Group has no policy to speculate in or engage in the trading of any financial derivative instruments, other than for managing the foreign currency risk by entering into forward exchange contracts to mitigate such exposure.

Such derivative financial instruments are initially recognised at fair value on the date on which a derivative contract is entered into and subsequently remeasured at fair value, which is determined by reliable financial institutions. Gains on losses arising from changes in the fair value of the contracts are recognised in the income statement.

4.19 Fair value measurement

Fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between buyer and seller (market participants) at the measurement date. The Group applies a quoted market price in an active market to measure their assets and liabilities that are required to be measured at fair value by relevant financial reporting standards. Except in case of no active market of an identical asset or liability or when a quoted market price is not available, the Group measures fair value using valuation techniques that are appropriate in the circumstances and maximises the use of relevant observable inputs related to assets and liabilities that are required to be measured at fair value.

All assets and liabilities for which fair value is measured or disclosed in the financial statements are categorised within the fair value hierarchy into three levels based on categories of input to be used in fair value measurement as follows:



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Level 1 - Use of quoted market prices in an active market for such assets or liabilities

Level 2 - Use of other observable inputs for such assets or liabilities, whether directly or indirectly

Level 3 - Use of unobservable inputs such as estimates of future cash flows

At the end of each reporting period, the Group determines whether transfers have occurred between levels within the fair value hierarchy for assets and liabilities held at the end of the reporting period that are measured at fair value on a recurring basis.

5. Significant accounting judgements and estimates

The preparation of financial statements in conformity with financial reporting standards at times requires management to make subjective judgements and estimates regarding matters that are inherently uncertain. These judgements and estimates affect reported amounts and disclosures; and actual results could differ from these estimates. Significant judgements and estimates are as follows:

5.1 Allowance for diminution in inventory value

In determining an allowance for diminution in inventory value, the management needs to make judgement in estimating loss from obsolescence and slow moving, and the reduction of net realisable value of inventories.

5.2 Property plant and equipment and depreciation

In determining depreciation of plant and equipment, the management is required to make estimates of the useful lives and residual values of the plant and equipment and to review estimate useful lives and residual values when there are any changes.

In addition, the management is required to review property, plant and equipment for impairment on a periodical basis and record impairment losses in the period when it is determined that their recoverable amount is lower than the carrying cost. This requires judgements regarding forecast of future revenues and expenses relating to the assets subject to the review.

5.3 Post-employment benefits under defined benefit plans

The obligation under the defined benefit plan is determined based on actuarial techniques. Such determination is made based on various assumptions, including discount rate, future salary increase rate, mortality rate and staff turnover rate.

5.4 Fair value of financial instruments

In determining the fair value of financial instruments recognised in the statement of financial position that are not actively traded and for which quoted market prices are not readily available, the management exercises judgement, using a variety of valuation techniques and models. The input to these models is taken from observable markets, and includes consideration of credit risk (bank and counterparty, both) liquidity, correlation and longer-term volatility of financial instruments. Change in assumptions about these factors could affect the fair value recognised in the statement of financial position and disclosures of fair value hierarchy.

6. Cash and cash equivalents

Cash and cash equivalents as at 31 December 2022 and 2021 as reflected in the statements of financial position and cash flows consist of the following:

(Unit: Thousand Baht)

	Consolidated financial statements		Separate financial statements	
	2022	2021	2022	2021
Cash	1,463	1,259	363	190
Bank deposits	2,335,226	2,935,295	238,885	245,397
Fixed deposits with maturity not over 3 months	38,019	367,619	-	-
Total cash and cash equivalents	2,374,708	3,304,173	239,248	245,587



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As at 31 December 2022, bank deposits in savings accounts and fixed deposits carried interests between 0.001 and 3.300 percent per annum (2021: 0.001 and 0.500 percent per annum).

7. Related party transactions

During the years, the Company had significant business transactions with related parties. Such transactions, which are summarised below, arose in the ordinary course of business and were concluded on commercial terms and bases agreed upon between the Company and those related parties.

(Unit: Million Baht)

	Separate financial statements		Transfer pricing policy
	2022	2021	
<u>Transactions with subsidiary companies</u>			
(eliminated from the consolidated financial statements)			
Sales of goods	152	195	Prices agreed between the parties due to the uniqueness of products sold to each customer
Dividend income	440	280	Declared rate
Purchase of materials	406	480	Cost plus mark up
Management fee	10	10	Rates stipulated in the agreement
Service fee	2	2	Cost plus mark up
Purchase of assets	1	1	Cost plus mark up

As at 31 December 2022 and 2021, the balances of the accounts between the Company and those related parties are as follows:

	Consolidated financial statements		Separate financial statements	
	2022	2021	2022	2021
<u>Trade and other receivables (Note 8)</u>				
<u>Trade receivables - related parties</u>				
Subsidiary companies	-	-	26,793	24,100
Total trade receivables - related parties	-	-	26,793	24,100
Other receivables - related party				
Subsidiary company	-	-	4,443	-
Total other receivables - related party	-	-	4,443	-
Total trade and other receivables	-	-	31,236	24,100
<u>Trade and other payables (Note 16)</u>				
<u>Trade payables - related parties</u>				
Subsidiary companies	-	-	236,579	519,073
Total trade payables - related parties	-	-	236,579	519,073
Other payables - related parties				
Subsidiary companies	-	-	583	2,115
Total other payables - related parties	-	-	583	2,115
Total trade and other payables	-	-	237,162	521,188

Short-term loan from related party

As at 31 December 2022, the Company had short-term loan from the subsidiary in form of unsecured promissory note of Baht 200 million, carrying interest at 0.80 percent per annum and due for repayment in May 2023. Movements in short-term loan from related party during the year ended 31 December 2022 are summarised below.



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	(Unit: Thousand Baht)				
	Balance as at 31 December		During the year		Balance as at 31 December
	2021	Increase	Decrease	2022	
Short-term loan from related party					
Hana Semiconductor (BKK) Company Limited	-	400,000	(200,000)	200,000	
Total short-term loan from related party	-	400,000	(200,000)	200,000	

Directors and management's benefits

During the years ended 31 December 2022 and 2021, the Group had employee benefit expenses payable to its directors and management as below.

	(Unit: Million Baht)				
	Consolidated financial statements		Separate financial statements		
	2022	2021	2022	2021	
Short-term employee benefits	135.7	107.0	13.6	16.8	
Post-employment benefits	2.7	2.0	0.8	0.8	
Total	138.4	109.0	14.4	17.6	

8. Trade and other receivables

	(Unit: Thousand Baht)			
	Consolidated financial statements		Separate financial statements	
	2022	2021	2022	2021
Age of receivable				
<u>Trade receivables - subsidiary companies</u>				
Not yet due	-	-	19,650	16,662
Past due				
Up to 3 months	-	-	1,136	2,711
3 - 6 months	-	-	1,628	1,908
6 - 12 months	-	-	163	444
Over 12 months	-	-	4,216	2,375
Total trade receivables - subsidiary companies (Note 7)	-	-	26,793	24,100
<u>Trade receivables - unrelated parties</u>				
Not yet due	3,828,540	3,614,000	1,482,372	1,207,027
Past due				
Up to 3 months	925,471	638,339	514,816	324,128
3 - 6 months	31,736	52,465	19,174	27,357
6 - 12 months	97	5,720	352	459
Over 12 months	3,418	5,408	2,880	2,790
Total trade receivables - unrelated parties	4,789,262	4,315,932	2,019,594	1,561,761
Less: Allowance for expected credit losses	(13,289)	(11,114)	(2,492)	(2,492)
Total trade receivables - unrelated parties - net	4,775,973	4,304,818	2,017,102	1,559,269
Total trade receivables - net	4,775,973	4,304,818	2,043,895	1,583,369
Receivables from the Revenue Department	65,335	113,967	10,367	11,308
Other receivables - subsidiary company (Note 7)	-	-	4,443	-
Other receivables - unrelated parties	139,733	133,998	43,071	36,094
Total other receivables	205,068	247,965	57,881	47,402
Trade and other receivables - net	4,981,041	4,552,783	2,101,776	1,630,771

The normal credit term is 30 to 60 days.



Notes to consolidated financial statements

Hana Microelectronics Public Company Limited and its subsidiaries for the year ended 31 December 2022

9. Inventories

	Consolidated financial statements					
	Cost		Reduce cost to net realisable value		Inventories - net	
	2022	2021	2022	2021	2022	2021
Finished goods	1,083,072	1,032,919	(38,307)	(41,713)	1,044,765	991,206
Work in process	1,051,116	604,623	-	(3,181)	1,051,116	601,442
Raw materials	7,386,172	5,270,407	(187,789)	(154,840)	7,198,383	5,115,567
Goods in transit	162,664	148,357	-	-	162,664	148,357
Total	9,683,024	7,056,306	(226,096)	(199,734)	9,456,928	6,856,572

(Unit: Thousand Baht)

	Separate financial statements					
	Cost		Reduce cost to net realisable value		Inventories - net	
	2022	2021	2022	2021	2022	2021
Finished goods	750,041	688,625	(29,197)	(18,040)	720,844	670,585
Work in process	272,066	215,365	-	(3,181)	272,066	212,184
Raw materials	3,250,624	2,660,621	(92,169)	(61,244)	3,158,455	2,599,377
Goods in transit	48,443	36,083	-	-	48,443	36,083
Total	4,321,174	3,600,694	(121,366)	(82,465)	4,199,808	3,518,229

(Unit: Thousand Baht)

Detailed movements of the reduction of cost to net realisable value are as follows:

	Consolidated financial statements		Separate financial statements	
	2022	2021	2022	2021
	2022	2021	2022	2021
Balance at the beginning of the year	(199,734)	(216,518)	(82,465)	(109,547)
Add: Increase during the year	(269,320)	(189,049)	(154,991)	(117,902)
Less: Reversal during the year	242,917	207,863	116,090	144,984
Add: Translation adjustment	41	(2,030)	-	-
Balance at the end of the year	<u>(226,096)</u>	<u>(199,734)</u>	<u>(121,366)</u>	<u>(82,465)</u>

(Unit: Thousand Baht)

10. Other current financial assets

	Consolidated financial statements	
	2022	2021
Debt instruments at amortised cost		
Fixed deposits	14,658	831,535
Total debt instruments at amortised cost	14,658	831,535
Debt instruments at FVOCI		
Overseas marketable corporate bonds	859,086	1,023,889
Overseas quoted bonds	340,462	758,192
Total	1,199,548	1,782,081
Less: Allowance for expected credit losses	(21,455)	(24,984)
Total debt instruments at FVOCI - net	1,178,093	1,757,097
Financial assets at FVTPL		
Overseas marketable equity securities	-	86,898
Derivative assets (Note 33)	66,632	19,165
Total financial assets at FVTPL	66,632	106,063
Total other current financial assets - net	1,259,383	2,694,695

As at 31 December 2022, fixed deposits with financial institutions carried interests between 0.100 and 1.450 percent per annum (2021: 0.100 and 2.325 percent per annum).

In 2022, the Group reversed provision of Baht 3.5 million for expected credit losses on its debt instruments at FVOCI (2021: reversed provision of Baht 0.53 million).



Notes to consolidated financial statements

Hana Microelectronics Public Company Limited and its subsidiaries for the year ended 31 December 2022

11. Investments in subsidiaries

Details of investments in subsidiaries as presented in the separate financial statements are as follows:

Company's name	(Unit: Thousand Baht)							
	Paid up capital		Shareholding percentage		Cost		Dividend received during the year	
	2022	2021	Percent	Percent	2022	2021	2022	2021
Hana Semiconductor (Ayutthaya) Company Limited	1,200,000	1,200,000	58	58	2,142,910	2,142,910	140,000	280,000
Hana Semiconductor (BKK) Company Limited	1,000,000	1,000,000	100	100	1,011,100	1,011,100	300,000	-
Omac Sales Limited	325	325	100	100	273,492	273,492	-	-
Hana Microelectronics (Cambodia) Company Limited	155,947	155,947	100	100	155,947	155,947	-	-
Hana Microelectronics International Company Limited	-	-	100	100	-	-	-	-
Hana Microelectronics Investment Company Limited	-	-	100	100	-	-	-	-
Total investments in subsidiary companies					3,583,449	3,583,449	440,000	280,000

In March and August 2022, Hana Microelectronics Enterprise Company Limited, an overseas subsidiary, additionally invested in 17,388,000 and 137,864,600 ordinary shares of Power Master Semiconductor Company Limited, respectively, in amount of USD 7.0 million or equivalent to Baht 233.08 million and USD 52.6 million or equivalent to Baht 1,918.77 million, respectively.

As at 31 December 2022, the overseas subsidiary has invested in 256,959,297 ordinary shares of Power Master Semiconductor Company Limited, amounting to USD 103.59 million or equivalent to Baht 3,565.50 million (2021: 101,706,697 ordinary shares, amounting to USD 43.99 million or equivalent to Baht 1,413.65 million), representing 100% of the issued and paid-up share capital of that company.

In June 2022, Hana Microelectronics Enterprise Company Limited, an overseas subsidiary, additionally invested in ordinary shares of Hana Microelectronics (Jiaxing) Company Limited, in total amount of USD 10.0 million or equivalent to Baht 352.97 million.

As at 31 December 2022, the overseas subsidiary has invested in ordinary shares of Hana Microelectronics (Jiaxing) Company Limited, amounting to USD 65.0 million or equivalent to Baht 2,345.68 million (2021: USD 55.0 million or equivalent to Baht 1,992.71 million), representing 100% of the issued and paid-up share capital of that company.

12. Investment property

The net book value of investment property, representing land, as at 31 December 2022 and 2021 is presented below.

	Consolidated financial statements		Separate financial statements	
	2022	2021	2022	2021
Cost	72,304	72,304	72,304	72,304
Net book value	72,304	72,304	72,304	72,304

As at 31 December 2022, the fair value of the investment property based on market price amounted to approximately Baht 96 million (2021: Baht 96 million).

13. Property, plant and equipment

(Unit: Thousand Baht)

	Consolidated financial statements		Separate financial statements	
	2022	2021	2022	2021
Net book value				
Property, plant and equipment	10,410,887	9,484,419	2,185,609	2,203,638
Right-of-use assets (Note 17)	442,566	178,247	-	-
Total	10,853,453	9,662,666	2,185,609	2,203,638



Notes to consolidated financial statements

Hana Microelectronics Public Company Limited and its subsidiaries for the year ended 31 December 2022

Movements of property, plant and equipment for the years ended 31 December 2022 and 2021 are summarised below.

(Unit: Thousand Baht)

	Consolidated financial statements								
	Land	Buildings	Leasehold improvement	Fixtures	Machinery and equipment	Office furniture and equipment	Vehicles	Construction in progress and machinery under installation	Total
Cost									
As at 1 January 2021	487,183	3,955,085	125,984	1,081,149	15,319,286	728,868	59,219	305,536	22,062,310
Additions	-	2,602	14,574	22,375	1,332,745	51,286	2,605	2,469,120	3,895,307
Disposals	-	(17,096)	-	(84,568)	(411,431)	(12,988)	(7,708)	-	(533,791)
Transfer in (out)	-	177,043	1,320	15,483	670,862	16,126	-	(880,834)	-
Translation adjustment	14,745	133,960	16,312	59	389,170	9,511	1,666	15,044	580,467
As at 31 December 2021	501,928	4,251,594	158,190	1,034,498	17,300,632	792,803	55,782	1,908,866	26,004,293
Additions	-	273,120	11,779	33,803	1,424,942	47,949	9,962	1,074,496	2,876,051
Disposals	-	-	-	-	(288,539)	(9,565)	(7,206)	-	(305,310)
Transfer in (out)	-	217,612	(5,522)	146,740	1,752,459	74,025	-	(2,185,314)	-
Translation adjustment	4,981	(32,527)	(4,733)	(178)	(183,305)	(3,864)	(341)	(55,421)	(275,388)
As at 31 December 2022	506,909	4,709,799	159,714	1,214,863	20,006,189	901,348	58,197	742,627	28,299,646
Accumulated depreciation									
As at 1 January 2021	18,511	2,049,069	106,826	832,788	11,408,908	636,537	46,409	-	15,099,048
Depreciation for the year	2,800	184,597	5,540	55,694	986,272	45,087	5,181	-	1,285,171
Accumulated depreciation for disposed assets	-	(6,882)	-	(72,771)	(371,752)	(12,347)	(7,494)	-	(471,246)
Translation adjustment	2,198	69,421	14,010	3	274,100	7,994	1,418	-	369,144
As at 31 December 2021	23,509	2,296,205	126,376	815,714	12,297,528	677,271	45,514	-	16,282,117
Depreciation for the year	3,061	201,822	10,472	60,515	1,180,115	67,137	4,964	-	1,528,086
Accumulated depreciation for disposed assets	-	-	-	-	(266,885)	(9,051)	(7,206)	-	(283,142)
Translation adjustment	748	(25,281)	(5,901)	(6)	(105,543)	(2,836)	(335)	-	(139,154)
As at 31 December 2022	27,318	2,472,746	130,947	876,223	13,105,215	732,521	42,937	-	17,387,907
Allowance for impairment loss									
As at 1 January 2021	-	-	-	150	24,840	16	-	-	25,006
Increase during the year	-	-	-	-	34,300	-	-	-	34,300
Translation adjustment	-	-	-	-	204	-	-	-	204
As at 31 December 2021	-	-	-	150	59,344	16	-	-	59,510
Decrease during the year	-	-	-	-	(1,293)	-	-	-	(1,293)
Translation adjustment	-	-	-	-	69	-	-	-	69
As at 31 December 2022	-	-	-	150	58,120	16	-	-	58,286
Net book value									
As at 31 December 2021	478,419	1,955,389	31,814	218,634	4,943,760	115,516	10,268	1,908,866	9,662,666
As at 31 December 2022	479,591	2,237,053	28,767	338,490	6,842,854	168,811	15,260	742,627	10,853,453
Depreciation for the year									1,285,171
2021 (Baht 1,084 million included in manufacturing cost, and the balance in administrative expenses)									1,528,086
2022 (Baht 1,420 million included in manufacturing cost, and the balance in administrative expenses)									



Notes to consolidated financial statements

Hana Microelectronics Public Company Limited and its subsidiaries for the year ended 31 December 2022

(Unit: Thousand Baht)

	Separate financial statements							
	Land	Buildings	Fixtures	Machinery and equipment	Office furniture and equipment	Vehicles	Construction in progress and machinery under installation	Total
Cost								
As at 1 January 2021	249,865	2,014,824	492,666	3,625,036	266,566	16,516	43,453	6,708,926
Additions	-	-	7,324	16,030	19,300	1,257	215,693	259,604
Disposals	-	(5,171)	(84,567)	(304,973)	(9,917)	(5,174)	-	(409,802)
Transfer in (out)	-	-	3,199	181,181	5,556	-	(189,936)	-
As at 31 December 2021	249,865	2,009,653	418,622	3,517,274	281,505	12,599	69,210	6,558,728
Additions	-	3,492	3,540	22,246	14,460	5,007	303,134	351,879
Disposals	-	-	-	(67,997)	(4,907)	-	-	(72,904)
Transfer in (out)	-	46,008	6,667	182,354	30,178	-	(265,207)	-
As at 31 December 2022	249,865	2,059,153	428,829	3,653,877	321,236	17,606	107,137	6,837,703
Accumulated depreciation								
As at 1 January 2021	-	983,965	316,957	2,785,040	215,987	14,953	-	4,316,902
Depreciation for the year	-	87,427	33,584	238,946	18,116	512	-	378,585
Accumulated depreciation for disposed assets	-	(4,993)	(72,771)	(282,192)	(9,567)	(5,174)	-	(374,697)
As at 31 December 2021	-	1,066,399	277,770	2,741,794	224,536	10,291	-	4,320,790
Depreciation for the year	-	84,033	27,407	220,939	23,718	842	-	356,939
Accumulated depreciation for disposed assets	-	-	-	(55,142)	(4,793)	-	-	(59,935)
As at 31 December 2022	-	1,150,432	305,177	2,907,591	243,461	11,133	-	4,617,794
Allowance for impairment loss								
As at 1 January 2021	-	-	-	-	-	-	-	-
Increase during the year	-	-	-	34,300	-	-	-	34,300
As at 31 December 2021	-	-	-	34,300	-	-	-	34,300
As at 31 December 2022	-	-	-	34,300	-	-	-	34,300
Net book value								
As at 31 December 2021	249,865	943,254	140,852	741,180	56,969	2,308	69,210	2,203,638
As at 31 December 2022	249,865	908,721	123,652	711,986	77,775	6,473	107,137	2,185,609
Depreciation for the year								
2021 (Baht 357 million included in manufacturing cost, and the balance in administrative expenses)								378,585
2022 (Baht 334 million included in manufacturing cost, and the balance in administrative expenses)								356,939



Notes to consolidated financial statements

Hana Microelectronics Public Company Limited and its subsidiaries for the year ended 31 December 2022

As at 31 December 2022, certain plant and equipment items have been fully depreciated but are still in use. The gross carrying amount, before deducting accumulated depreciation and allowance for impairment loss, of those assets amounted to approximately Baht 15,004 million (2021: Baht 14,131 million) and for the Company amounted to approximately Baht 2,760 million (2021: Baht 2,509 million).

14. Intangible assets

(Unit: Thousand Baht)

	Consolidated financial statements			Separate financial statements	
	Computer software	Development costs	Total	Computer software	Total
Cost					
As at 1 January 2021	167,752	290,452	458,204	103,920	103,920
Additions	19,605	48,425	68,030	949	949
Translation adjustment	3,864	7,367	11,231	-	-
As at 31 December 2021	191,221	346,244	537,465	104,869	104,869
Additions	68,927	18,767	87,694	63	63
Translation adjustment	4,733	(11,011)	(6,278)	-	-
As at 31 December 2022	264,881	354,000	618,881	104,932	104,932
Accumulated amortisation					
As at 1 January 2021	95,940	-	95,940	40,956	40,956
Amortisation for the year	16,247	-	16,247	8,681	8,681
Translation adjustment	3,372	-	3,372	-	-
As at 31 December 2021	115,559	-	115,559	49,637	49,637
Amortisation for the year	30,508	71,233	101,741	8,679	8,679
Translation adjustment	(2,006)	458	(1,548)	-	-
As at 31 December 2022	144,061	71,691	215,752	58,316	58,316
Net book value					
As at 31 December 2021	75,662	346,244	421,906	55,232	55,232
As at 31 December 2022	120,820	282,309	403,129	46,616	46,616
Amortisation for the year					
2021	16,247	-	16,247	8,681	8,681
2022	30,508	71,233	101,741	8,679	8,679

15. Other non-current financial assets

(Unit: Thousand Baht)

	Consolidated financial statements		Separate financial statements	
	2022	2021	2022	2021
<u>Debt instruments at amortised cost</u>				
Fixed deposits	55	57	-	-
Total debt instruments at amortised cost	55	57	-	-
<u>Equity instruments designated at FVOCI</u>				
Local marketable equity securities	97	97	97	97
Total equity instruments designated at FVOCI	97	97	97	97
Total other non-current financial assets	152	154	97	97

16. Trade and other payables

(Unit: Thousand Baht)

	Consolidated financial statements		Separate financial statements	
	2022	2021	2022	2021
<u>Trade payables - subsidiary companies (Note 7)</u>				
Trade payables - unrelated parties	-	-	236,579	519,073
Other payables - subsidiary companies (Note 7)	3,000,144	2,610,024	1,029,496	865,418
Advance received from customers	-	-	583	2,115
Other payables for purchase of machinery	487,885	294,510	109,138	63,195
Accrued expenses	280,372	222,279	84,033	58,036
Total trade and other payables	4,160,841	3,505,876	1,492,684	1,544,125



Notes to consolidated financial statements

Hana Microelectronics Public Company Limited and its subsidiaries for the year ended 31 December 2022

17. Leases

The Group has lease contracts for various items of property, plant, and equipment used in its operations. Leases generally have lease terms between 1 and 28 years.

(a) Right-of-use assets (Note 13)

Movements of right-of-use assets for the years ended 31 December 2022 and 2021 are summarised below.

	(Unit: Thousand Baht)			
	Consolidated financial statements			
	Land	Buildings	Machinery and equipment	Total
1 January 2021	112,424	48,579	12,770	173,773
Additions	-	2,361	-	2,361
Depreciation for the year	(2,800)	(7,604)	(6,012)	(16,416)
Translation adjustment	12,547	4,787	1,195	18,529
31 December 2021	122,171	48,123	7,953	178,247
Additions	-	274,631	3,663	278,294
Depreciation for the year	(3,061)	(5,259)	(6,724)	(15,044)
Translation adjustment	4,233	(3,492)	328	1,069
31 December 2022	123,343	314,003	5,220	442,566

(b) Lease liabilities

(Unit: Thousand Baht)

	Consolidated financial statements	
	2022	2021
Lease payments	274,460	10,941
Less: Deferred interest expenses	(136)	(92)
Total	274,324	10,849
Less: Portion due within one year	(273,843)	(7,965)
Lease liabilities - net of current portion	481	2,884

A maturity analysis of lease payments is disclosed in Note 33.1 under the liquidity risk.

(c) Expenses relating to leases that are recognised in income statements

(Unit: Thousand Baht)

	Consolidated financial statements		Separate financial statements	
	2022	2021	2022	2021
Depreciation expense of right-of-use assets	15,044	16,416	-	-
Interest expense on lease liabilities	2,989	86	-	-
Expense relating to short-term leases	10,658	10,564	349	346
Expense relating to leases of low-value assets	492	748	176	176

(d) Others

The Group had total cash outflows for leases for the year ended 31 December 2022 of Baht 21 million (2021: Baht 23 million), including the cash outflows related to short-term leases and leases of low-value assets.



Notes to consolidated financial statements

Hana Microelectronics Public Company Limited and its subsidiaries for the year ended 31 December 2022

18. Short-term provisions

	(Unit: Thousand Baht)
	Consolidated financial statements
	Provision for product warranty
As at 1 January 2021	300,371
Translation adjustment	33,828
As at 31 December 2021	334,199
Translation adjustment	11,425
As at 31 December 2022	<u>345,624</u>

Line items in the income statements under which long-term employee benefit expenses are recognised as follows:

	(Unit: Thousand Baht)			
	Consolidated financial statements		Separate financial statements	
	2022	2021	2022	2021
Cost of sales	12,576	11,217	7,012	5,769
Selling and administrative expenses	47,278	45,363	22,018	19,709
Total expenses recognised in the income statements	59,854	56,580	29,030	25,478

The Group expects to pay Baht 21 million of long-term employee benefits during the next year (the Company only: Baht 19 million) (2021: Baht 69 million, the Company only: Baht 32 million).

As at 31 December 2022, the weighted average duration of the liabilities for long-term employee benefit is 13 years (the Company only: 15 years) (2021: 13 years, the Company only: 14 years).

Significant actuarial assumptions are summarised below.

	Consolidated financial statements		Separate financial statements	
	2022	2021	2022	2021
	(% per annum)	(% per annum)	(% per annum)	(% per annum)
Provision for long-term employee benefits at beginning of year	718,851	721,243	332,488	333,196
Included in the income statement:				
Current service cost	45,409	47,384	22,358	21,372
Interest cost	14,445	9,196	6,672	4,106
Included in other comprehensive income:				
Actuarial (gain) loss arising from				
Demographic assumptions changes	(31,847)	26,969	3,021	23,473
Financial assumptions changes	9,170	(66,431)	(2,463)	(41,133)
Experience adjustments	6,065	13,326	14,535	10,419
Benefits paid during the year	(52,700)	(32,836)	(28,220)	(18,945)
Provision for long-term employee benefits at end of year	<u>709,393</u>	<u>718,851</u>	<u>348,391</u>	<u>332,488</u>

	Consolidated financial statements		Separate financial statements	
	2022	2021	2022	2021
	(% per annum)	(% per annum)	(% per annum)	(% per annum)
Discount rate	2.7 - 3.1	2.0 - 2.3	3.1	2.3
Future salary increase rate	4.0 - 5.0	4.0	4.0 - 5.0	4.0
Staff turnover rate (depending on age)	6.0 - 28.1	5.0 - 36.9	6.0 - 17.6	5.0 - 19.1

The results of sensitivity analysis for significant assumptions that affect the present value of the long-term employee benefit obligations as at 31 December 2022 and 2021 are summarised below.



Notes to consolidated financial statements

Hana Microelectronics Public Company Limited and its subsidiaries for the year ended 31 December 2022

	(Unit: Million Baht)			
	31 December 2022			
	Consolidated financial statements		Separate financial statements	
	Increase 1%	Decrease 1%	Increase 1%	Decrease 1%
Discount rate	(7)	10	(4)	4
Salary increase rate	8	(7)	4	(4)
	Increase 5%	Decrease 5%	Increase 5%	Decrease 5%
Staff turnover rate	(127)	168	(76)	104

	(Unit: Million Baht)			
	31 December 2021			
	Consolidated financial statements		Separate financial statements	
	Increase 1%	Decrease 1%	Increase 1%	Decrease 1%
Discount rate	(82)	98	(42)	51
Salary increase rate	97	(82)	50	(42)
	Increase 5%	Decrease 5%	Increase 5%	Decrease 5%
Staff turnover rate	(101)	140	(66)	98

20. Stock grants

On 15 December 2022, an overseas subsidiary issued stock grants of its shares to directors, executives and employees of the Group, with significant details as follows:

Number of stock grants issued: 41,113,486 units (16% of ordinary shares of the subsidiary)

Vesting conditions: Employees must remain in service for a granting period. The 20% of stock grants shall become vested and exercisable on the date of the subsidiary's Initial Public Offering (IPO date) and 20% of stock grants on the first, second, third and fourth anniversary of the IPO date.

21. Statutory reserve

Pursuant to Section 116 of the Public Limited Companies Act B.E. 2535, the Company is required to set aside to a statutory reserve at least 5 percent of its net income after deducting accumulated deficit brought forward (if any), until the reserve reaches 10 percent of the registered capital. The statutory reserve is not available for dividend distribution.

At present, the statutory reserve has fully been set aside.

22. Other income

	(Unit: Thousand Baht)			
	Consolidated financial statements		Separate financial statements	
	2022	2021	2022	2021
Gain on sales of FVOCI debt instruments	-	21,219	-	-
Other income	455,839	333,536	66,830	42,822
Total	455,839	354,755	66,830	42,822

23. Finance income

	(Unit: Thousand Baht)			
	Consolidated financial statements		Separate financial statements	
	2022	2021	2022	2021
Interest income on bank deposits	14,193	29,515	422	790
Interest income on debt instruments measured at FVOCI	79,503	84,438	-	-
Total	93,696	113,953	422	790



Notes to consolidated financial statements

Hana Microelectronics Public Company Limited and its subsidiaries for the year ended 31 December 2022

24. Expenses by nature

Significant expenses classified by nature are as follows:

	(Unit: Thousand Baht)			
	Consolidated financial statements		Separate financial statements	
	2022	2021	2022	2021
Raw materials and consumables used	17,447,885	14,987,429	7,496,120	6,711,702
Changes in inventories of finished goods and work in process	(503,233)	(266,593)	(110,141)	(122,285)
Salaries and wages and other employee benefits	4,291,546	4,091,350	1,248,285	1,304,876
Management benefit expenses	138,382	108,959	14,415	17,633
Depreciation and amortisation expenses	1,629,827	1,301,418	365,618	387,266

25. Income tax

Income tax expenses for the years ended 31 December 2022 and 2021 are made up as follows:

	(Unit: Thousand Baht)			
	Consolidated financial statements		Separate financial statements	
	2022	2021	2022	2021
Current income tax:				
Current income tax charge	113,563	52,949	17,486	15,460
Adjustment in respect of income tax of previous year	(6,359)	(935)	1,026	2,195
Deferred tax:				
Relating to origination and reversal of temporary differences	176	694	(2,983)	34
Income tax expenses reported in the income statements	107,380	52,708	15,529	17,689

The amounts of income tax relating to each component of other comprehensive income for the years ended 31 December 2022 and 2021 are as follows:

	(Unit: Thousand Baht)			
	Consolidated financial statements		Separate financial statements	
	2022	2021	2022	2021
Deferred tax relating to actuarial gain (loss)	(134)	24	(134)	24
Deferred tax relating to exchange differences on translation of financial statements in foreign currency	(596)	3,734	-	-
	(730)	3,758	(134)	24

The reconciliation between accounting profit and income tax expenses is shown below.

	(Unit: Thousand Baht)			
	Consolidated financial statements		Separate financial statements	
	2022	2021	2022	2021
Accounting profit before tax	2,209,451	1,598,022	2,171,690	1,801,561
Applicable tax rate	0 - 30%	0 - 30%	20%	20%
Accounting profit before tax multiplied by income tax rate	430,550	429,506	434,338	360,312
Adjustment in respect of income tax of previous year	(6,359)	(935)	1,026	2,195
Effects of:				
Promotional privileges (Note 27)	(502,007)	(514,828)	(327,581)	(289,130)
Dividend income not subject to tax	(14)	(14)	(88,014)	(56,014)
Income not subject to tax	(438)	(3)	-	-
Unused temporary differences and tax losses	199,800	144,140	-	-
Non-deductible expenses	5,282	6,437	94	123
Additional expense deductions allowed	(12,747)	(8,631)	(1,308)	-
Others	(6,687)	(2,964)	(3,026)	203
Total	(316,811)	(375,863)	(419,835)	(344,818)
Income tax expenses reported in the income statements	107,380	52,708	15,529	17,689



Notes to consolidated financial statements

Hana Microelectronics Public Company Limited and its subsidiaries for the year ended 31 December 2022

The components of deferred tax assets and deferred tax liabilities are as follows:

(Unit: Thousand Baht)

	Statements of financial position as at 31 December			
	Consolidated financial statements		Separate financial statements	
	2022	2021	2022	2021
Deferred tax assets				
Allowance for expected credit losses	1,179	620	22	8
Allowance for diminution in value of inventories	2,449	5,839	1,080	272
Allowance for asset impairment	305	113	305	113
Provision for long-term employee benefits	3,102	1,096	3,102	1,096
Provision for vacation	644	437	164	67
Accrued expenses	20,596	23,520	-	-
Others	25,682	13,227	-	-
Total	53,957	44,852	4,673	1,556
Deferred tax liabilities				
Accumulated depreciation - plant and equipment	(87,494)	(78,943)	-	-
Total	(87,494)	(78,943)	-	-
Deferred tax assets (liabilities) - net	(33,537)	(34,091)	4,673	1,556
Statements of financial position				
Deferred tax assets	10,643	10,069	4,673	1,556
Deferred tax liabilities	(44,180)	(44,160)	-	-
Deferred tax assets (liabilities) - net	(33,537)	(34,091)	4,673	1,556

As at 31 December 2022, the subsidiaries had deductible temporary differences and unused tax losses totaling Baht 1,851 million (2021: Baht 981 million), on which deferred tax assets have not been recognised as the subsidiaries believe future taxable profits may not be sufficient to allow utilisation of the temporary differences and unused tax losses. The unused tax losses will expire by the year 2037.

26. Earnings per share

Basic earnings per share is calculated by dividing profit for the year attributable to equity holders of the Company (excluding other comprehensive income) by the weighted average number of ordinary shares in issue during the year.

27. Promotional privileges

The Group has received promotional privileges under the Investment Promotion Act B.E. 2520 as approved by the Board of Investment. Subject to certain imposed conditions, significant promotional privileges received with respect to tax are as follows:



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Hana Microelectronics Public Company Limited and its subsidiaries for the year ended 31 December 2022

Particulars	The Company											
	2138(2)/2550	1887(1)/2552	1234(1)/2555	2620(1)/2555	2199(2)/2557	59-0178-0-00-1-0	60-1432-1-00-1-0	63-1072-1-00-1-0	64-0816-1-00-1-0	64-0104-1-00-1-0	65-0289-1-00-1-0	
1. Certificate No.												
2. Promotional privileges for	Production of PCBA	Production of Semiconductor i.e. Wireless Sensor	Production of Integrated Circuit (IC) and Die Testing	Production of Electronic Control Unit	Production of PCBA	Production of PCBA	Production of Telecommunication and Wafer Die Test	Production of Semiconductor i.e. Integrated Circuit	Production of Electro-Magnetic	Production of Semiconductor i.e. Wafer Testing and Wafer Sawing	Production of Semiconductor parts for electronic control and measurement instruments for automotive industry	
3. The significant privileges are												
3.1 Exemption from corporate income tax on net income derived from the promoted operation and exemption from income tax on dividends paid from the promoted operations which are tax exempted throughout the period in which the corporate income tax is exempted.	8 years (expired) (tax exempted according to investment)	8 years (expired) (tax exempted according to investment)	8 years	8 years	8 years (tax exempted according to investment)	8 years (tax exempted according to investment)	6 years (tax exempted according to investment)	6 years (tax exempted according to investment)	4 years (tax exempted according to investment)	6 years (tax exempted according to investment)	8 years (tax exempted according to investment)	
3.2 50 % reduction of the normal corporate income tax rate for net income derived after the expiry date in 3.1	5 years	5 years	5 years	5 years	5 years	5 years	-	-	-	-	-	
3.3 Exemption from import duty on machinery as approved by the Board.	Granted	Granted	Granted	Granted	Granted	Granted	Granted	Granted	Granted	Granted	Granted	
3.4 2 times deduction of transportation, electricity and water expenses from the first earning operating income	10 years	10 years	10 years	10 years	10 years	10 years	-	-	-	-	-	
4. Date of first earning operating income	3 December 2007	2 December 2009	26 February 2016	3 January 2014	3 April 2015	4 February 2020	1 January 2018	Has not yet started utilising the privileges	8 October 2021	Has not yet started utilising the privileges	Has not yet started utilising the privileges	



Notes to consolidated financial statements

Hana Microelectronics Public Company Limited and its subsidiaries for the year ended 31 December 2022

Particulars	Subsidiary					
	Hana Semiconductor (Ayutthaya) Company Limited					
1. Certificate No.	1034(2)/2552	2371(1)/2553	2687(1)/2556	60-0686-1-00-1-0	61-1275-1-00-1-0	64-0682-1-00-1-0
2. Promotional privileges for	Production of Wafer Saw, Integrated Circuit (IC) and Integrated Circuit Tested (IC Tested)	Production of Integrated Circuit (IC)	Production of Semiconductor	Production of Integrated Circuit (IC), Wafer sawing, Wafer Grinding and Wafer Testing	Production of Integrated Circuit (IC)	Production of Integrated Circuit (IC) and Integrated Circuit Tested (IC Tested)
3. The significant tax privileges are						
3.1 Exemption from corporate income tax on net profit from promoted operations and exemption from income tax on dividends paid from the promoted operations which are tax exempted throughout the period in which the corporate income tax is exempted	8 years (Until 1 January 2021)	8 years (Until 27 November 2022)	8 years (Until 2 January 2026)	6 years (Until 31 December 2026)	6 years	6 years
3.2 50 % reduction of the normal corporate income tax rate for net income derived after the expiry date in 3.1	5 years	5 years	5 years	-	-	-
3.3 Exemption from import duty on machinery as approved by the Board.	Granted	Granted	Granted	Granted	Granted	Granted
3.4 2 times deduction of transportation, electricity and water expenses from the first earning operating income	10 years	10 years	10 years	-	-	-
4. Date of first earning operating income	2 January 2013	28 November 2014	3 January 2018	1 January 2021	Has not yet started utilising the privileges	Has not yet started utilising the privileges



Notes to consolidated financial statements

Hana Microelectronics Public Company Limited and its subsidiaries for the year ended 31 December 2022

The Group's operating revenues for the years ended 31 December 2022 and 2021, divided between promoted and non-promoted operations, are summarised below.

	(Unit: Thousand Baht)					
	Consolidated financial statements					
	Promoted operations		Non-promoted operations		Total	
	2022	2021	2022	2021	2022	2021
Sales						
Domestic sales	281,764	279,937	345	132	282,109	280,069
Export sales	19,829,066	18,094,241	7,055,988	5,405,869	26,885,054	23,500,110
Total sales	20,110,830	18,374,178	7,056,333	5,406,001	27,167,163	23,780,179

(Unit: Thousand Baht)

	Separate financial statements					
	Promoted operations		Non-promoted operations		Total	
	2022	2021	2022	2021	2022	2021
Sales						
Domestic sales	225,521	226,433	345	132	225,866	226,565
Export sales	10,998,601	10,160,598	48,301	3,971	11,046,902	10,164,569
Total sales	11,224,122	10,387,031	48,646	4,103	11,272,768	10,391,134

28. Segments information

Operating segment information is reported in a manner consistent with the internal reports that are regularly reviewed by the chief operating decision maker in order to make decisions about the allocation of resources to the segment and assess its performance.

For management purposes, the Group is organised into business units based on their products and have two reportable segments as follows:

1. The Printed Circuit Board Assembly (PCBA) Segment, which produces and sells Printed Circuit Board Assembly (PCBA).

2. The Integrated Circuit (IC) Segment, which produces and sells Integrated Circuit (IC).

No operating segments have been aggregated to form the above reportable operating segments.

The chief operating decision maker monitors the operating results of the business units separately for the purpose of making decisions about resource allocation and assessing performance. Segment performance is measured based on operating profit or loss and total assets and on a basis consistent with that used to measure operating profit or loss and total assets in the financial statements.

The basis of accounting for any transactions between reportable segments is consistent with that for third party transactions.

The following tables present revenue, profit and total assets information regarding the Group's operating segments for the years ended 31 December 2022 and 2021.



Notes to consolidated financial statements

Hana Microelectronics Public Company Limited and its subsidiaries for the year ended 31 December 2022

(Unit: Million Baht)

	Printed Circuit Board Assembly (PCBA)	Integrated Circuit (IC)	Others	Total reportable segments	Eliminations	Total
For the year ended 31 December 2022						
Revenue from external customers	15,129	10,354	1,684	27,167	-	27,167
Inter-segment revenue	3,699	1,027	1,439	6,165	(6,165)	-
Total revenue	18,828	11,381	3,123	33,332	(6,165)	27,167
Segment profit	2,719	999	(63)	3,655	6	3,661
Dividend income						2
Gain on derivatives						30
Other income						456
Selling and distribution expenses						(212)
Administrative expenses						(1,483)
Loss on exchange rate						(320)
Reversal of impairment loss on financial assets						4
Loss on FVTPL equity instruments						(10)
Finance income						94
Finance cost						(13)
Income tax expenses						(107)
Profit for the year						2,102
Segment total assets						
Additions to property, plant and equipment	464	1,296	1,116	2,876	-	2,876



Notes to consolidated financial statements

Hana Microelectronics Public Company Limited and its subsidiaries for the year ended 31 December 2022

(Unit: Million Baht)

	Printed Circuit Board Assembly (PCBA)	Integrated Circuit (IC)	Others	Total reportable segments	Eliminations	Total
For the year ended 31 December 2021						
Revenue from external customers	13,425	9,343	1,012	23,780	-	23,780
Inter-segment revenue	3,096	739	1,112	4,947	(4,947)	-
Total revenue	16,521	10,082	2,124	28,727	(4,947)	23,780
Segment profit	2,221	1,194	(133)	3,282	5	3,287
Dividend income						2
Other income						355
Selling and distribution expenses						(210)
Administrative expenses						(1,214)
Loss on exchange rate						(274)
Loss on derivatives						(35)
Reversal of impairment loss on financial assets						1
Loss on FVTPL equity instruments						(421)
Finance income						114
Finance cost						(7)
Income tax expenses						(53)
Profit for the year						1,545
Segment total assets						
Additions to property, plant and equipment	825	1,080	1,990	3,895	-	3,895



Notes to consolidated financial statements

Hana Microelectronics Public Company Limited and its subsidiaries for the year ended 31 December 2022

Geographic information

Revenue from external customers is based on locations of the customers as below.

	2022	2021
Revenue from external customers		
Singapore	6,889	3,540
United States of America	5,823	5,088
China	3,395	2,979
Malaysia	2,930	4,763
Switzerland	1,333	834
Others	6,797	6,576
Total	27,167	23,780

(Unit: Million Baht)

	2022	2021
Non-current assets (other than deferred tax assets)		
Thailand	5,083	4,965
Korea	3,469	3,064
China	1,935	1,601
United States of America	501	175
Cambodia	391	408
Hong Kong	57	58
Others	14	2
Total	11,450	10,273

Major customers

For the year 2022, the Group has revenue from 5 major customers in amount of Baht 12,583 million, arising from sales by the Printed Circuit Board Assembly (PCBA) segment and the Integrated Circuit (IC) segment (2021: 10,730 million).

29. Provident fund

The Group and its employees have jointly established a provident fund in accordance with the Provident Fund Act B.E. 2530. Both employees and the Group contribute to the fund monthly at the rates of 3.0 - 7.5 percent of basic salary. The fund, which is managed by SCB Asset Management Company Limited, will be paid to employees upon terminating in accordance with the fund rules. The contributions for the year 2022 amounting to approximately Baht 91 million (2021: Baht 91 million) and for the Company amounting to approximately Baht 45 million (2021: Baht 46 million) were recognised as expenses.



Notes to consolidated financial statements

Hana Microelectronics Public Company Limited and its subsidiaries for the year ended 31 December 2022

30. Dividend paid

During the years 2022 and 2021, the Group had dividend payments as follows:

	Approved by	Total dividends (Million Baht)	Dividend per share (Baht)
The Company			
For the year 2022			
Dividends on 2021 income and unappropriated retained earnings	Annual General Meeting of the shareholders on 29 April 2022	805	1.00
Interim dividends in respect of the income for the period from 1 January 2022 to 30 June 2022	Board of Directors' Meeting on 14 November 2022	402	0.50
Total for the year 2022		<u>1,207</u>	<u>1.50</u>
For the year 2021			
Dividends on 2020 income and unappropriated retained earnings	Annual General Meeting of the shareholders on 30 April 2021	604	0.75
Interim dividends in respect of the income for the period from 1 January 2021 to 30 June 2021	Board of Directors' Meeting on 15 October 2021	805	1.00
Total for the year 2021		<u>1,409</u>	<u>1.75</u>
Subsidiary companies			
Hana Semiconductor (Ayutthaya) Company Limited			
For the year 2022			
Interim dividends in respect of the income for the period from 1 January 2022 to 30 September 2022 and unappropriated retained earnings	Board of Directors' Meeting on 24 November 2022	240	2.00
Total for the year 2022		<u>240</u>	<u>2.00</u>
For the year 2021			
Dividends on the unappropriated retained earnings	Annual General Meeting of the shareholders on 7 April 2021	480	4.00
Total for the year 2021		<u>480</u>	<u>4.00</u>
Subsidiary companies			
Hana Semiconductor (BKK) Company Limited			
For the year 2022			
Dividends on 2021 income and unappropriated retained earnings	Annual General Meeting of the shareholders on 28 April 2022	200	2.00
Interim dividends in respect of the income for the period from 1 January 2022 to 30 September 2022 and unappropriated retained earnings	Board of Director's Meeting on 7 December 2022	100	1.00
Total for the year 2022		<u>300</u>	<u>3.00</u>



Notes to consolidated financial statements

Hana Microelectronics Public Company Limited and its subsidiaries for the year ended 31 December 2022

31. Commitments and contingent liabilities

31.1 Capital commitments

As at 31 December 2022, the Group had capital commitments relating to acquisitions of machinery totaling Baht 165 million (2021: Baht 563 million) and the Company only of approximately Baht 52 million (2021: Baht 123 million).

31.2 Commitments under service agreements

The Group has future payments required under the service contracts as follows:

	(Unit: Million Baht)			
	Consolidated financial statements		Separate financial statements	
	2022	2021	2022	2021
Payable:				
In up to 1 year	97.7	67.9	33.7	33.6
In over 1 year and up to 5 years	69.2	10.6	0.1	8.4

31.3 Marketing supportive service agreement

Since the year 2001, the Company and three subsidiary companies entered into marketing supportive service agreement with an overseas subsidiary company. Under that agreement, the Company and the three subsidiary companies have to pay service fees to that subsidiary company at the rates stipulated in the agreement.

31.4 Sale representative agreements

Since the year 2015, an overseas subsidiary entered into sale representative agreement with an unrelated company with the annual service fees of approximately USD 0.6 million.

31.5 Guarantees

As at 31 December 2022, there were outstanding bank guarantees of approximately Baht 27 million (2021: Baht 27 million) issued by the banks on behalf of the Group in respect of certain performance bonds as required in the normal course of business of the Group to guarantee electricity uses, among others, and the Company of approximately Baht 26 million (2021: Baht 26 million).

32. Fair value hierarchy

As at 31 December 2022 and 2021, the Group had the assets that were measured at fair value or for which fair value was disclosed using different levels of inputs as follows:

	(Unit: Thousand Baht)		
	31 December 2022		
	Consolidated Financial Statements		
	Level 1	Level 2	Total
Financial assets measured at fair value			
Financial assets at FVTPL			
Derivatives assets	-	66,632	66,632
Financial assets at FVOCI			
Marketable corporate bonds	859,086	-	859,086
Quoted bonds	319,007	-	319,007
Local marketable equity securities	97	-	97
Assets for which fair value was disclosed			
Investment property	-	96,405	96,405
Liabilities measured at fair value			
Derivatives liabilities	-	17,214	17,214



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Hana Microelectronics Public Company Limited and its subsidiaries for the year ended 31 December 2022

	(Unit: Thousand Baht)		
	31 December 2021		
	Level 1	Level 2	Total
Financial assets measured at fair value			
Financial assets at FVTPL	86,898	-	86,898
Overseas marketable equity securities	-	19,165	19,165
Derivatives assets			
Financial assets at FVOCI			
Marketable corporate bonds	1,023,889	-	1,023,889
Quoted bonds	733,208	-	733,208
Local marketable equity securities	97	-	97
Assets for which fair value was disclosed	-	96,405	96,405
Investment property			
(Unit: Thousand Baht)			
	31 December 2022		
	Separate financial statements		
	Level 1	Level 2	Total
Financial assets measured at fair value			
Financial assets at FVOCI	97	-	97
Local marketable equity securities	-	96,405	96,405
Assets for which fair value was disclosed			
Investment property			
(Unit: Thousand Baht)			
	31 December 2021		
	Separate financial statements		
	Level 1	Level 2	Total
Financial assets measured at fair value			
Financial assets at FVOCI	97	-	97
Local marketable equity securities	-	96,405	96,405
Assets for which fair value was disclosed			
Investment property			

33. Financial instruments

33.1 Financial risk management objectives and policies

The Group's financial instruments principally comprise cash and cash equivalents, trade and other receivables, investments and trade and other payables. The financial risks associated with these financial instruments and how they are managed are described below.

Credit risk

The Group is exposed to credit risk primarily with respect to trade and other receivables deposits with banks and financial institutions and other financial instruments. The maximum exposure to credit risk is limited to the carrying amounts of receivables as stated in the statement of financial position.

Trade receivables

The Group manages the risk by adopting appropriate credit control policies and procedures and therefore does not expect to incur material financial losses. Outstanding trade receivables are regularly monitored.

An impairment analysis is performed at each reporting date to measure expected credit losses. The provision rates are based on days past due for groupings of various customer segments with similar credit risks. The Group classifies customer segments by customer type and rating. The calculation reflects the probability-weighted outcome, the time value of money and reasonable and supportable information that is available at the reporting date about past events, current conditions and forecasts of future economic conditions. Generally, trade receivables are written-off if past due for more than one year and not subject to enforcement activity.

Financial instruments and cash deposits

The Group manages the credit risk from balances with banks and financial institutions by making investments only with approved counterparties and within credit limits assigned to each counterparty. The limits are set to minimise the concentration of risks and therefore



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Hana Microelectronics Public Company Limited and its subsidiaries for the year ended 31 December 2022

mitigate financial loss through a counterparty's potential failure to make payments.

The credit risk on debt instruments and derivatives is limited because the counterparties are banks with high credit-ratings assigned by international credit-rating agencies.

Interest rate risk

The Group's exposure to interest rate risk relates primarily to its cash at financial institutions and investments. Most of its financial assets and liabilities bear floating interest rates, or fixed interest rates which are close to the market rate.

As at 31 December 2022 and 2021, significant financial assets and liabilities classified by type of interest rates are summarised in the table below, with those financial assets and liabilities that carry fixed interest rates further classified based on the maturity dates, or the re-pricing date if this occurs before the maturity date.

	Consolidated financial statements as at 31 December 2022				
	Fixed interest rate within 1 year	Floating interest rate	Non-interest bearing	Total	Effective interest rate
	(Million Baht)			(% p.a.)	
Financial assets					
Cash and cash equivalents	153	1,671	551	2,375	0.001 - 3.300
Trade and other receivables	-	-	4,981	4,981	-
Other current financial assets	1,193	-	66	1,259	0.100 - 9.750
	1,346	1,671	5,598	8,615	
Financial liabilities					
Trade and other payables	-	-	4,161	4,161	-
	-	-	4,161	4,161	

	Consolidated financial statements as at 31 December 2021				
	Fixed interest rate within 1 year	Floating interest rate	Non-interest bearing	Total	Effective interest rate
	(Million Baht)			(% p.a.)	
Financial assets					
Cash and cash equivalents	510	2,153	641	3,304	0.001 - 0.500
Trade and other receivables	-	-	4,553	4,553	-
Other current financial assets	2,676	-	19	2,695	0.100 - 7.720
	3,186	2,153	5,213	10,552	
Financial liabilities					
Trade and other payables	-	-	3,506	3,506	-
	-	-	3,506	3,506	

	Separate financial statements as at 31 December 2022				
	Fixed interest rate within 1 year	Floating interest rate	Non-interest bearing	Total	Effective interest rate
	(Million Baht)			(% p.a.)	
Financial assets					
Cash and cash equivalents	-	239	-	239	0.05 - 0.10
Trade and other receivables	-	-	2,102	2,102	-
	-	239	2,102	2,341	
Financial liabilities					
Short-term loan from related party	200	-	-	200	0.80
Trade and other payables	-	-	1,493	1,493	-
	200	-	1,493	1,693	



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Hana Microelectronics Public Company Limited and its subsidiaries for the year ended 31 December 2022

	Separate financial statements as at 31 December 2021				
	Fixed interest rate within 1 year	Floating interest rate	Non-interest bearing	Total	Effective interest rate
	(Million Baht)			(% p.a.)	
Financial assets					
Cash and cash equivalents	-	228	18	246	0.05 - 0.10
Trade and other receivables	-	-	1,631	1,631	-
	-	228	1,649	1,877	
Financial liabilities					
Trade and other payables	-	-	1,544	1,544	-
	-	-	1,544	1,544	

Foreign currency risk

The Group's exposure to foreign currency risk arises mainly from trading transactions that are denominated in foreign currencies. The Group seeks to reduce this risk by entering into forward exchange contracts when it considers appropriate. Generally, the forward contracts will mature within one year.

The balances of financial assets and liabilities denominated in foreign currencies as at 31 December 2022 and 2021 are summarised below.

Foreign currency	Financial assets as at 31 December		Financial liabilities as at 31 December		Average exchange rate as at 31 December	
	2022	2021	2022	2021	2022	2021
	(Million)	(Million)	(Million)	(Million)	(Baht per foreign currency unit)	
Cambodia Riel	921	1,694	-	-	0.0084	0.0082
US Dollar	115	102	77	56	34.5624	33.4199
Japan Yen	-	3	19	20	0.2609	0.2906

As at 31 December 2022 and 2021, the two overseas subsidiary companies had outstanding forward exchange contracts, of which details are presented below.

As at 31 December 2022		
Sold amount (Million USD)	Contractual maturity date	Contractual exchange rate for amount sold (Baht per USD)
120	23 January 2023 - 21 March 2023	34.3500 - 35.8700
As at 31 December 2021		
Sold amount (Million USD)	Contractual maturity date	Contractual exchange rate for amount sold (Baht per USD)
120	31 January 2022 - 21 March 2022	33.2475 - 33.550

Foreign currency sensitivity

The following tables demonstrate the sensitivity of the Group's profit before tax to a reasonably possible change in US dollar exchange rates, with all other variables held constant. The impact on the Group's profit before tax is due to changes in the fair value of monetary assets and liabilities including non-designated foreign currency derivatives as at 31 December 2022 and 2021. The Group's exposure to foreign currency changes for all other currencies is not material.

Currency	2022		2021	
	Change in FX rate (%)	Effect on profit before tax Increase (decrease) (Million Baht)	Change in FX rate (%)	Effect on profit before tax Increase (decrease) (Million Baht)
US dollar	+1	33	+1	15
	- 1	(33)	- 1	(15)

Liquidity risk

The Group manages liquidity risk to meet its obligations and maintain cash balances to cover the liquidity needs. The Group has assessed that it has sufficient working capital to settle financial liabilities and concluded the risk to be low.



Notes to consolidated financial statements

Hana Microelectronics Public Company Limited and its subsidiaries for the year ended 31 December 2022

The table below summarises the maturity profile of the Group's non-derivative financial liabilities and derivative financial instruments as at 31 December 2022 and 2021 based on contractual undiscounted cash flows:

	(Unit: Thousand Baht)		
	As at 31 December 2022		
	Consolidated financial statements		
	Less than 1 year	1 to 5 years	Total
Non-derivatives			
Trade and other payables	4,160,841	-	4,160,841
Lease liabilities	273,954	506	274,460
Total non-derivatives	4,434,795	506	4,435,301
Derivatives			
Derivative liabilities: net settled	17,214	-	17,214
Total derivatives	17,214	-	17,214

	(Unit: Thousand Baht)		
	As at 31 December 2022		
	Consolidated financial statements		
	Less than 1 year	1 to 5 years	Total
Non-derivatives			
Trade and other payables	3,505,876	-	3,505,876
Lease liabilities	8,031	2,910	10,941
Total non-derivatives	3,513,907	2,910	3,516,817

	(Unit: Thousand Baht)		
	As at 31 December 2022		
	Separate financial statements		
	Less than 1 year	1 to 5 years	Total
Non-derivatives			
Short-term loan from related party	200,000	-	200,000
Trade and other payables	1,492,684	-	1,492,684
Total non-derivatives	1,692,684	-	1,692,684

	(Unit: Thousand Baht)		
	As at 31 December 2021		
	Separate financial statements		
	Less than 1 year	1 to 5 years	Total
Non-derivatives			
Trade and other payables	1,544,125	-	1,544,125
Total non-derivatives	1,544,125	-	1,544,125

33.2 Fair value of financial instruments

Since the majority of the Group's financial instruments are short-term in nature or carrying interest at rates close to the market interest rates, their fair value is not expected to be materially different from the amounts presented in the statement of financial position.

The estimated fair value of the derivatives is as follows:

	(Unit: Million Baht)	
	Consolidated financial statements	
	As at 31 December 2022	As at 31 December 2021
	Fair value	Fair value
Derivatives		
Forward exchange contracts - gain	66.6	19.2
Forward exchange contracts - loss	17.2	-



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Hana Microelectronics Public Company Limited and its subsidiaries for the year ended 31 December 2022

The methods and assumptions used by the Group in estimating the fair value of financial instruments are as follows:

For financial assets and liabilities which have short-term maturity, including cash and cash equivalents, accounts receivable, accounts payable and loan, their carrying amounts in the statement of financial position approximate their fair value.

For debts and equity securities, their fair value is generally derived from quoted market prices, or based on generally accepted pricing models when no market price is available.

For fixed deposits with financial institution carrying interest approximate to the market rate, their carrying amounts in the statement of financial position approximate their fair value.

For derivatives, their fair value has been determined by using a discounted future cash flow model and a valuation model technique. Most of the inputs used for the valuation are observable in the relevant market, such as spot rates of foreign currencies, yield curves of the respective currencies and interest rate yield curves. The subsidiaries have considered the counterparty credit risk when determining the fair value of derivatives

During the current year, there were no transfers within the fair value hierarchy.

34. Capital management

The primary objective of the Group's capital management is to ensure that it has appropriate capital structure in order to support its business and maximise shareholder value. As at 31 December 2022, the Group's debt-to-equity ratio was 0.24:1 (2021: 0.21:1) and the Company's was 0.20:1 (2021: 0.20:1).

35. Events after the reporting period

On 27 February 2023, the meeting of the Company's Board of Directors No.1/2023 passed the following resolutions to propose to the Annual General Meeting of the shareholders for approval.

- 35.1 To propose the final dividend payment for the year 2022 to the Company's shareholders at Baht 0.50 per share. Thus, including the interim dividend of Baht 0.50 per share, the total dividend payment for the year 2022 will be Baht 1.00 per share.
- 35.2 To decrease the registered share capital of the Company of Baht 169,525,040 from Baht 974,403,900 to Baht 804,878,860 by cancelling 169,525,040 unissued shares, at the par value of Baht 1.00 per share.
- 35.3 To increase the registered share capital of the Company of Baht 80,487,886, by means of a general mandate, from Baht 804,878,860 to Baht 885,366,746 by issuing 80,487,886 new ordinary shares, at the par value of Baht 1.00 per share.
- 35.4 To allocate the newly-issued ordinary shares to accommodate the share capital increase by means of a general mandate, not exceeding 80,487,886 ordinary shares, at the par value of Baht 1.00 per share, which is not exceeding 10 percent of the total paid-up capital of the Company, for the purposes of offering for sale in the private placement.

36. Approval of financial statements

These financial statements were authorised for issue by the Company's Board of Directors on 27 February 2023.



Attachment 1: Details of the Board of Directors, Executives, and the Corporate Secretary



Age: 58 years old

Date of appointment: 1 January 2017

Number of years as the director: 6 years

Working Experience:

2017 - present Chairman of the Board of Directors, Independent Director and Chairman of Audit Committee
Hana Microelectronics Public Co., Ltd.

2007 - present Executive Director
NT Asset (Thailand) Co., Ltd.

2007 - 2022 Independent Director and Audit Committee
Bangkok Post Public Co., Ltd.

Education Background:

- Bachelor (Honours), London University, United Kingdom
- Associate Chartered Accountant (ACA), The Institute of Chartered Accountants in England & Wales (ICAEW), United Kingdom

IOD Training Courses:

Directors Accreditation Program (DAP) 57/2006

Other Trainings:

Accounting tips that AC should not miss by the Securities and Exchange Commission - January 2022

Family relationship between Directors and Executives: None

Disciplinary record under the Securities and Exchange Act and the Derivatives Act: None

Take the position as the director or management in other companies:

Subsidiaries of Hana	Non-listed Company	Listed Company
None	Executive Director NT Asset (Thailand) Co., Ltd.	Independent Director and Audit Committee Bangkok Post Public Co., Ltd. (Resigned effective on 27 April 2022)

Shareholding of Mr. John Thompson				Indirect Shareholding	
Number of shares as of 1 January 2022	Movement during the year		Number of shares as of 31 December 2022	Spouse	Minor Child
	Acquisition	Disposition			
0 share	-	-	0 share (0%)	None	None



Attachment 1: Details of the Board of Directors, Executives, and the Corporate Secretary



Age: 65 years old

Date of appointment: 26 July 1993

Number of years as the director: 29 years

Working Experience:

2004 - present Nomination Committee
Hana Microelectronics Public Co., Ltd.

1993 - present Executive Director
Hana Microelectronics Public Co., Ltd.

Education background:

- B.A. Business Studies, Westminster, London, United Kingdom
- M.B.A. (Marketing) City University, London, United Kingdom

IOD Training Courses:

- Directors Accreditation Program (DAP) 57/2006
- Understanding the Fundamental of Financial Statements (UFS) 4/2006

Other Trainings:

The Net-Zero Standard by United Nation Global Compact Academy - December 2022

Family relationship between Directors and Executives: None

Disciplinary record under the Securities and Exchange Act and the Derivatives Act: None

Take the position as the director or management in other companies:

Subsidiaries of Hana	Non-listed Company	Listed Company
1. Hana Semiconductor (BKK) Co., Ltd. 2. Hana Semiconductor (Ayutthaya) Co., Ltd. 3. Hana Technologies, Inc. 4. Hana Microelectronics, Inc. 5. Hana Microelectronics (Jiaxing) Co., Ltd. 6. Hana Microelectronics Investment Co., Ltd. 7. Hana Microelectronics International Co., Ltd. 8. Hana Microelectronics Enterprise Co., Ltd. 9. Hana Semiconductor International Ltd. 10. Hana Macao Co., Ltd. 11. Omac Sales Ltd. 12. Hana Microelectronics (Cambodia) Co., Ltd. 13. Power Master Semiconductor Co., Ltd.	1. Omac (HK) Limited 2. Omac Limited 3. Rainbow Joy Limited	None
Position: Executive Director	Position: Executive Director	

Shareholding of Mr. Richard David Han				Indirect Shareholding	
Number of shares as of 1 January 2022	Movement during the year		Number of shares as of 31 December 2022	Spouse	Minor Child
	Acquisition	Disposition			
1,040,000 shares	-	-	1,040,000 shares (0.129%)	None	None



Attachment 1: Details of the Board of Directors, Executives, and the Corporate Secretary

3. MR. TERRENCE PHILIP WEIR

- Executive Director
- Executive Vice President and Chief Financial Officer
- Chairman of Corporate Governance and Sustainability Committee
- Chairman of Risk Management Committee

Age: 63 years old

Date of appointment: 26 July 1993

Number of years as the director: 29 years

Working Experience:

2013 - present Chairman of Corporate Governance and Sustainability Committee

2008 - present Chairman of Risk Management Committee

1993 - present Executive Director
Hana Microelectronics Public Co., Ltd.

Educational Background: Bachelor of Economics, Macquarie University, CPA, Australia

IOD Training Background: Director Certification Program (DCP) 6/2001, Diploma

Other Trainings: GRI Standards 2021: The Revised GRI Universal Standards by The Stock Exchange of Thailand and Global Reporting Initiative (GRI) - September 2022

Continuing development course in accounting knowledge (Refreshment):

- DAX (Data Analysis Expressions) Analytics and Dashboard Results by CPA Australia Ltd. - June 2022 (2 hours)
- Discounted Cash Flow Modelling Using Excel by CPA Australia Ltd. - October 2022 (3 hours)
- What if Analysis Using Excel by CPA Australia Ltd. - October 2022 (3 hours)

Remark: Mr. Terrence Philip Weir, an executive director and Chief Financial Officer, has completed 3 courses of refreshment programs in financial and accounting totally 8 hours from CPA Australia Ltd. Those courses were reviewed by the Audit Committee to be beneficial to the Company and related to accounting principles/standards that are consistent with the nature of the Company's business.

Family relationship between Directors and Executives: None

Disciplinary record under the Securities and Exchange Act and the Derivatives Act: None

Take the position as the director or management in other companies:

Subsidiaries of Hana	Non-listed Company	Listed Company
1. Hana Semiconductor (BKK) Co., Ltd. 2. Hana Semiconductor (Ayutthaya) Co., Ltd. 3. Hana Technologies, Inc. 4. Hana Microelectronics, Inc. 5. Hana Microelectronics (Jiaxing) Co., Ltd. 6. Hana Microelectronics Investment Co., Ltd. 7. Hana Microelectronics International Co., Ltd. 8. Hana Microelectronics Enterprise Co., Ltd. 9. Hana Semiconductor International Ltd. 10. Hana Macao Co., Ltd. 11. Omac Sales Ltd. 12. Hana Microelectronics (Cambodia) Co., Ltd. 13. Power Master Semiconductor Co., Ltd.	None	None

Position: Executive Director

Shareholding of Mr. Terence Philip Weir				Indirect Shareholding	
Number of shares as of 1 January 2022	Movement during the year		Number of shares as of 31 December 2022	Spouse	Minor Child
	Acquisition	Disposition			
525,000 shares	50,000 shares	-	575,000 shares (0.0%)	None	None



Attachment 1: Details of the Board of Directors, Executives, and the Corporate Secretary



Age: 58 years old

Date of appointment: 29 April 2022

Number of years as the director: 1 year

Working Experience:

2022 - present Executive Director, Executive Vice President, Chief Operating Officer for Semiconductor and Chief Marketing Officer, Hana Microelectronics Public Co., Ltd.

2012 - present Vice President and General Manager, Hana Semiconductor (Ayutthaya) Co., Ltd.

2009 - present President, Hana Microelectronics, Inc.

2005 - 2009 Vice President and General Manager, Hana Semiconductor (Ayutthaya) Co., Ltd.

2002 - 2004 Customer Specific Operations Director, Hana Semiconductor (Ayutthaya) Co., Ltd.

2001 - 2002 Senior Engineering Manager, Brooks Automation, Inc., Colorado, USA

1991 - 2001 Manufacturing Operations Director, Ramtron International Corporation, Colorado, USA

Educational Background:

- Bachelor of Science (Physics), University of Bombay (Mumbai), India
- Bachelor of Engineering (Computer Engineering), University of Bombay (Mumbai), India
- Master of Science (Electrical Engineering), Montana State University, USA

IOD Training Background:

Director Accreditation Program (DAP) 193/2022 (English Program)

Other Trainings:

None

Family relationship between Directors and Executives: None

Disciplinary record under the Securities and Exchange Act and the Derivatives Act: None

Take the position as the director or management in other companies:

Subsidiaries of Hana	Non-listed Company	Listed Company
1. Hana Semiconductor (Ayutthaya) Co., Ltd. 2. Hana Microelectronics, Inc.	None	None
Position: Executive Director		

Shareholding of Mr. Sanjay Nirendra Mitra				Indirect Shareholding	
Number of shares as of 1 January 2022	Movement during the year		Number of shares as of 31 December 2022	Spouse	Minor Child
	Acquisition	Disposition			
0 shares	-	-	0 shares (0%)	None	None



Attachment 1: Details of the Board of Directors, Executives, and the Corporate Secretary

5. MR. INSUK KIM

- Executive Director
- Executive Vice President, Chief Operating Officer for Microelectronic and Chief Technical Officer

Age:	59 years old
Date of appointment:	29 April 2022
Number of years as the director:	1 year
Working Experience:	
2022 - present	Executive Vice President, Chief Operating Officer for Microelectronics and Chief Technical Officer, Hana Microelectronics Public Co., Ltd.
2016 - 2021	Corporate Senior Vice President and International Manufacturing Operations, Hana Microelectronics Public Co., Ltd.
2006 - 2016	Managing Director, ON Semiconductors Corporation, Singapore and Philippines
2003 - 2006	Engineering Director, STATS ChipPAC Pte. Ltd., Singapore
1989 - 2003	Engineering Director, NXP Semiconductors Co., Ltd., Korea, Thailand, Philippines and Singapore
Educational Background:	Bachelor of Mechanical Engineering, Kyung Hee University Seoul, Korea
IOD Training Background:	Director Accreditation Program (DAP) 193/2022 (English Program)
Other Trainings:	None

Family relationship between Directors and Executives: None

Disciplinary record under the Securities and Exchange Act and the Derivatives Act: None

Take the position as the director or management in other companies:

Subsidiaries of Hana	Non-listed Company	Listed Company
1. Hana Semiconductor (Ayutthaya) Co., Ltd.	None	None
2. Hana Microelectronics (Jiaxing) Co., Ltd.		
3. Hana Microelectronics (Cambodia) Co., Ltd.		
4. Power Master Semiconductor Co., Ltd.		
Position:		
Executive Director		

Shareholding of Mr. Insuk Kim				Indirect Shareholding	
Number of shares as of 1 January 2022	Movement during the year		Number of shares as of 31 December 2022	Spouse	Minor Child
	Acquisition	Disposition			
0 shares	-	-	0 shares (0%)	None	None



Attachment 1: Details of the Board of Directors, Executives, and the Corporate Secretary

6. MRS. SALAKCHITT PREEDAPORN

- Independent Director
- Audit Committee
- Nomination Committee
- Corporate Governance and Sustainability Committee
- Risk Management Committee

Age: 61 years old

Date of appointment: 1 December 2013
(Resignation effective on 30 November 2022)

Number of years as the director: 9 years

Working Experience:

2020 - 2022	Risk Management Committee
2013 - 2022	Independent Director, Audit Committee, Nomination Committee and Corporate Governance and Sustainability Committee
2009 - present	Hana Microelectronic Public Co., Ltd. Financial and Accounting Consultant
1992 - 2009	Accounting Manager S. Napa (Thailand) Co., Ltd. & Group Company

Educational Background: Bachelor of Accounting, Thammasat University

IOD Training Background:

- Risk Management for Committee Program (RMP) 2/2013
- Director Accreditation Program (DAP) 107/2014
- Director Certification Program (DCP) 205/2015
- Nomination Committee Best Practice Guideline (M-ND) 1/2017

Other Trainings:

- Accounting tips that AC should not miss by The Securities and Exchange Commission - January 2022
- Accounting tips that AC should not miss by The Securities and Exchange Commission Episode 2- July 2022

Family relationship between Directors and Executives: None

Disciplinary record under the Securities and Exchange Act and the Derivatives Act: None

Take the position as the director or management in other companies:

Subsidiaries of Hana	Non-listed Company		Listed Company	
None	None	None	None	None

Shareholding of Mrs. Salakchitt Preedaporn				Indirect Shareholding	
Number of shares as of 1 January 2022	Movement during the year		Number of shares as of 31 December 2022	Spouse	Minor Child
	Acquisition	Disposition		Spouse	Minor Child
0 share	-	-	0 share (0%)	None	None



Attachment 1: Details of the Board of Directors, Executives, and the Corporate Secretary

7. MR. YINGSAK JENRATHA

- Independent Director
- Audit Committee
- Chairman of Nomination Committee
- Corporate Governance and Sustainability Committee
- Risk Management Committee

Age:	75 years old
Date of appointment:	1 December 2013 (Resignation effective on 30 November 2022)
Number of years as the director:	9 years
Working Experience:	
2020 - 2022	Risk Management Committee Hana Microelectronic Public Co., Ltd.
2013 – 2022	Independent Director, Audit Committee, Chairman of Nomination Committee and Corporate Governance and Sustainability Committee Hana Microelectronics Public Co., Ltd.
2010 – 2011	Management Advisor International Precision Product Co., Ltd.
2008 -2009	Vice President and General Manager Hana Microelectronics Co., Ltd. (Jiaxing), China

- Educational Background:**
- Bachelor of Art in Political Sciences, Chaingmai University, Thailand
 - Mini MBA, Kasetsart University, Thailand
 - Operation Management Certificate from GIBA (Graduated Institute of Business Administration), Chulalongkorn University, Thailand
- IOD Training Background:**
- Anti-Corruption for Executive Program (ACEP) 9/2014
 - Director Accreditation Program (DAP) 111/2014
 - Role of the Nomination and Governance Committee (RNG) 8/2016
- Other Trainings:**
- Accounting tips that AC should not miss by the Securities and Exchange Commission - January 2022
 - Accounting tips that AC should not miss by the Securities and Exchange Commission Episode 2- July 2022

Family relationship between Directors and Executives: None

Disciplinary record under the Securities and Exchange Act and the Derivatives Act: None

Take the position as the director or management in other companies:

Subsidiaries of Hana	Non-listed Company	Listed Company	
		Independent Director and Audit Committee	G J Steel Public Co., Ltd.
None	None		

Number of shares as of 1 January 2022	Shareholding of Mr. Yingsak Jenratha			Indirect Shareholding	
	Movement during the year		Number of shares as of 31 December 2022	Spouse	Minor Child
	Acquisition	Disposition			
0 share	-	-	0 share (0%)	None	None



Attachment 1: Details of the Board of Directors, Executives, and the Corporate Secretary

8. MS. PORNPHAN ABHAMONGKOL

- Independent Director
- Audit Committee
- Nomination Committee
- Corporate Governance and Sustainability Committee
- Risk Management Committee

Age:	58 years old
Date of appointment:	1 January 2022
Number of years as the director:	1 year
Working Experience:	<p>January 2022 - present Independent Director, Audit Committee, Nomination Committee, Corporate Governance and Sustainability Committee and Risk Management Committee Hana Microelectronics Public Co., Ltd.</p> <p>2015 - present Freelance Consultant (Finance)</p> <p>2013 - 2015 Director, Head of Client Management Department, BNP Paribas Bangkok Branch</p>
Educational Background:	<ul style="list-style-type: none"> • Bachelor of Business Administration (Finance & Banking), Assumption University • Master of Business Administration, Assumption University

- IOD Training Background: Director Accreditation Program (DAP) 190/2022
- Other Trainings:
- Accounting tips that AC should not miss by the Securities and Exchange Commission - January 2022
 - Final Call: PDPA Onboarding by the Securities and Exchange Commission - May 2022
 - Accounting tips that AC should not miss by the Securities and Exchange Commission Episode 2- July 2022

Family relationship between Directors and Executives: None

Disciplinary record under the Securities and Exchange Act and the Derivatives Act: None

Take the position as the director or management in other companies:

Subsidiaries of Hana	Non-listed Company	Listed Company
None	None	None

Shareholding of Ms. Pornphan Abhamongkol				Indirect Shareholding	
Number of shares as of 1 January 2022	Movement during the year		Number of shares as of 31 December 2022	Spouse	Minor Child
	Acquisition	Disposition			
0 share	-	-	0 share (0%)	None	None



Attachment 1: Details of the Board of Directors, Executives, and the Corporate Secretary

9. MRS. SUNUN THONGBAI

- Independent Director
- Audit Committee
- Nomination Committee
- Corporate Governance and Sustainability Committee
- Risk Management Committee

Age:	61 years old
Date of appointment:	1 December 2022
Working Experience:	
2022 - present	Independent Director, Audit Committee, Nomination Committee, Corporate Governance and Sustainability Committee and Risk Management Committee Hana Microelectronics Public Co., Ltd.
2012 - 2019	Vice President and Director Media Logistics Co., Ltd.
2002 - 2007	Finance & Administration Director Pacific Marketing & Entertainment Group Ltd.
2001 - 2002	Group Finance Director The Minor Food Group Public Company Limited
1997 - 1999	General Manager Jotun Powder Coatings (Thailand) Ltd.
1992 - 1997	Finance & Administration Manager Jotun Powder Coatings (Thailand) Ltd.
1986 - present	Freelance Auditor (CPA)

Educational Background:

- Bachelor of Accounting, Thammasat University
- Master of Business Administration, Thammasat University

IOD Training Background:

Other Trainings:

Family relationship between Directors and Executives: None

Disciplinary record under the Securities and Exchange Act and the Derivatives Act: None

Take the position as the director or management in other companies:

Subsidiaries of Hana	Non-listed Company	Listed Company
None	None	None

Shareholding of Mrs. Sunun Thongbai				Indirect Shareholding	
Number of shares as of 1 January 2022	Movement during the year		Number of shares as of 31 December 2022	Spouse	Minor Child
	Acquisition	Disposition			
0 share	-	-	0 share (0%)	None	None



Attachment 1: Details of the Board of Directors, Executives, and the Corporate Secretary

10. MR. STEPHANUS JOSEPHUS HENDRIKUS BRADER

- Independent Director
- Audit Committee
- Nomination Committee
- Corporate Governance and Sustainability Committee
- Risk Management Committee

Age: 61 years old

Date of appointment: 1 December 2022

Working Experience:

2022 - present Independent Director, Audit Committee, Nomination Committee, Corporate Governance and Sustainability Committee and Risk Management Committee
Hana Microelectronics Public Co., Ltd.

2012 - 2021 Managing Director
Allegro MicroSystems (Thailand) Co., Ltd.

2010 - 2012 General Manager
Fokker Elmo (Langfang) Electrical System Co., Ltd., China

2007 - 2009 General Manager
NXP Semiconductors (Beijing) Ltd., China

2002 - 2007 Vice President & General Manager
NXP Semiconductors Philippines Inc., Philippines

Educational Background:

Bachelor of Technology in Physical Electronics (honors), University of Bradford, United Kingdom

IOD Training Background:

Director Accreditation Program (DAP) 198/2022

Other Trainings:

- The Net-Zero Standard by United Nation Global Compact Academy - December 2022
- Setting Science-Based Targets by United Nation Global Compact Academy - December 2022

Family relationship between Directors and Executives: None

Disciplinary record under the Securities and Exchange Act and the Derivatives Act: None

Take the position as the director or management in other companies:

Subsidiaries of Hana	Non-listed Company	Listed Company
None	None	None

Shareholding of Mr. Stephanus Josephus Hendrikus Brader				Indirect Shareholding	
Number of shares as of 1 January 2022	Movement during the year		Number of shares as of 31 December 2022	Spouse	Minor Child
	Acquisition	Disposition			
0 share	-	-	0 share (0%)	None	None



Attachment 1: Details of the Board of Directors, Executives, and the Corporate Secretary



Age:	55 years old
Date of appointment:	1 January 2022
Working Experience:	
2022 - present	Vice President and General Manager Hana-Lamphun
2008 - 2021	Vice President of Operations Hana-Lamphun
Educational Background:	Bachelor of Engineering (Electronics Engineering) King Mongkut's Institute of Technology Ladkrabang

IOD Training Background:	None
Other Trainings:	<ul style="list-style-type: none"> Advanced PCB design techniques for cost-effectiveness and professional workshop by APCB Electronics (Thailand) Co., Ltd. - August 2022 Excellent plastic injection molding design & manufacturing process by CESsystems Co., Ltd. - August 2022

Awards:

- QCC Promoter Award from Technology Promotion Association (Thailand-Japan) - February 2022
- Outstanding Management Alumni Award from King Mongkut's Institute of Technology Ladkrabang Engineering Alumni Association - August 2022

Family relationship between Directors and Executives: None

Disciplinary record under the Securities and Exchange Act and the Derivatives Act: None

Take the position as the director or management in other companies:

Subsidiaries of Hana	Non-listed Company	Listed Company
None	None	None

Shareholding of Mr. Wichai Sukprasertkul				Indirect Shareholding	
Number of shares as of 1 January 2022	Movement during the year		Number of shares as of 31 December 2022	Spouse	Minor Child
	Acquisition	Disposition			
0 share	-	-	0 share (0%)	None	None



Attachment 1: Details of the Board of Directors, Executives, and the Corporate Secretary



Age: 53 years old

Date of appointment: 14 October 2013

Working Experience:
1996 – present
Finance and Accounting Senior Manager
Hana Microelectronics Public Co., Ltd. (Headquarter)

Educational Background: Bachelor of Accounting, Kasetsart University

IOD Training Background: None

Continuing development course in accounting knowledge (Refreshment):

- NPAEs Principle by Dharmniti Seminar and Training Co., Ltd.
- October 2022 (6.5 hours)
- Value Added Tax: VAT by Dharmniti Seminar and Training Co., Ltd. - November 2022 (7.5 hours)

Remark: Ms. Achara Chaicharncheep is the registered accountant and has qualifications and conditions in accordance with the rules specified in the notification of the Department of Business Development. She has completed the continual knowledge development program on professional accounting which shall be not lesser than 12 hours each calendar year which the number of hours of continuous knowledge development in the accounting profession shall be not lesser than 6 hours.

Family relationship between Directors and Executives: None

Disciplinary record under the Securities and Exchange Act and the Derivatives Act: None

Take the position as the director or management in other companies:

Subsidiaries of Hana	Non-listed Company	Listed Company
Senior Manager of Financial and Accounting Hana Semiconductor (BKK) Co., Ltd.	None	None

Shareholding of Ms. Achara Chaicharncheep				Indirect Shareholding	
Number of shares as of 1 January 2022	Movement during the year		Number of shares as of 31 December 2022	Spouse	Minor Child
	Acquisition	Disposition			
20,000 shares (0.002%)	-	-	20,000 shares (0.002%)	None	None



Attachment 1: Details of the Board of Directors, Executives, and the Corporate Secretary

13. MS. JIRAPA KONGMANEE

- The Corporate Secretary
- Senior Manager of Internal Audit
- The Head of Compliance Unit

Age: 55 years old

Date of appointment: 11 August 2008

Working Experience:

1999 - present Senior Manager of Internal Audit
Hana Microelectronics Public Co., Ltd.

2008 - present Corporate Secretary
Hana Microelectronics Public Co., Ltd.

2013 - present The Head of Compliance Unit
Hana Microelectronics Public Co., Ltd.

Educational Background:

- Bachelor of Accounting, Bangkok University
- Master of Business Administration, Butler University, USA

IOD Training Background:

- Corporate Secretary Program (IOD) 19/2006
- Effective Minute Taking (IOD) 4/2006

Other Trainings:

- AGM Checklist 2022 by Thai Investors Association - January 2022
- Understanding Key Global ESG Ratings by the Stock Exchange of Thailand - March 2022
- THSI Exclusive Coaching by the Stock Exchange of Thailand - April 2022
- Final Call : PDPA Onboarding by the Securities and Exchange Commission - May 2022
- Connecting Corporates and Investors through Environmental Disclosure by the Securities and Exchange Commission - June 2022
- CGR Workshop 2022 by Thai Institute of Directors Association - June 2022
- CGR 2023 Coaching by Thai Institute of Directors Association - September 2022
- GRI Standards 2021: The Revised GRI Universal Standards by the Stock Exchange of Thailand and Global Reporting Initiative (GRI) - September 2022

Family relationship between Directors and Executives: None

Disciplinary record under the Securities and Exchange Act and the Derivatives Act: None

Take the position as the director or management in other companies:

Subsidiaries of Hana	Non-listed Company	Listed Company
None	None	None

Shareholding of Ms. Jirapa Kongmanee				Indirect Shareholding	
Number of shares as of 1 January 2022	Movement during the year		Number of shares as of 31 December 2022	Spouse	Minor Child
	Acquisition	Disposition			
0 share	-	-	0 share (0%)	None	None



Attachment 2: Details of the Directors of Subsidiaries

The Company and its subsidiaries	The Company and its subsidiaries												The Related Companies			
	Hana Microelectronics Public Co., Ltd.	Hana Semiconductor (BKK) Co., Ltd.	Hana Semiconductor (Ayutthaya) Co., Ltd.	Hana Technology, Inc.	Hana Microelectronics, Inc.	Hana Microelectronics (Jiaxing) Co., Ltd.	Omac Sales Ltd.	Hana Microelectronics Investment Ltd.	Hana Microelectronics International Ltd.	Hana Microelectronics Enterprises Co., Ltd.	Hana Semiconductor International Ltd.	Hana Macao Co., Ltd.	Hana Microelectronics (Cambodia) Co., Ltd.	Power Master Semiconductor Co., Ltd.	Omac Ltd.	Omac (HK) Ltd.
List name of Directors and Executives																
1. Mr. John Thompson*	X															
2. Mr. Richard David Han	//	//	//	//	//	//	//	//	//	//	//	//	//	//	//	//
3. Mr. Terrence Philip Weir	//	//	//	//	//	//	//	//	//	//	//	//	//	//	//	//
4. Mr. Sanjay Nirendra Mitra	//		//													
5. Mr. Insuk Kim	//		//													
6. Ms. Porphanh Abhamongkol*	/															
7. Mrs. Salakchitt Preedaporn*	/															
(Has resigned effective on 30 November 2022)																
8. Mr. Yingsak Jenratha*	/															
(Has resigned effective on 30 November 2022)																
9. Mrs. Sunun Thongbai*	/															
(Appointed on 1 December 2022)																
10. Mr. Stephanus Josephus Hendrikus Brader*	/															
(Appointed on 1 December 2022)																
11. Mr. Wichai Sukprasertkul	///															
12. Ms. Achara Chaicharncheep	///	///														

X = Chairman of the Board

/ = Director

// = Executive Director

/// = Executive Management

* = Independent Director

**Board Skill Matrix**

Name	Mr. John Thompson	Mr. Richard David Han	Mr. Terrence Philip Weir	Mr. Sanjay Nirendra Mitra	Mr. Insuk Kim	Ms. Pornphan Abhamongkol	Mrs. Sunun Thongbai	Mr. Stephanus Josephus Hendrikus Brader
Position	Independent Director	Executive Director	Executive Director	Executive Director	Executive Director	Independent Director	Independent Director	Independent Director
Age	58	65	63	58	59	58	61	61
Gender	M	M	M	M	M	F	F	M
Leadership and Strategy	X	X	X	X	X	X	X	X
C-Suite Executive		X	X	X	X		X	X
Electronic Industry Knowledge		X	X	X	X			X
Accounting/Finance Knowledge	X	X	X			X		
Operations		X		X	X			X
Risk Management	X		X			X		X
International Business	X	X	X	X	X	X	X	X
Marketing		X		X				
Legal and Governance	X		X					
Information Technology				X				



Attachment 3: Details of the Head of the Internal Audit and Compliance Unit

Head of the Internal Audit and Compliance Units

Name:	Ms. Jirapa Kongmanee
Educational Background:	<ul style="list-style-type: none">Bachelor of Accounting, Bangkok UniversityMaster of Business Administration, Butler University, USA

Working Experience:

1999 – present:	<ul style="list-style-type: none">Senior Manager of Internal Audit, Hana Microelectronics Public Co., Ltd.
2008 – present:	<ul style="list-style-type: none">Corporate Secretary, Hana Microelectronics Public Co., Ltd.
2013 – present:	<ul style="list-style-type: none">The Head of Compliance Unit, Hana Microelectronics Public Co., Ltd.

Training:

Internal Audit Role in Governance, Risk and Control, Business Management Skills, Business Analysis and Information Technology, COSO Internal Control Framework, including training course related to the new laws and new accounting standards.

- To report the key audit results including major risks and management actions to senior management and the Audit Committee
- To perform other related assignments

Duties and Responsibilities of the Head of Compliance Unit:

- To prepare compliance audit planning and propose the audit plan to the Audit Committee for approval
- To supervise the compliance audit works according to the audit plan or adjust the audit scopes as deemed necessary
- To prepare the audit report with recommend improvement to be in line with established relevant regulations, applicable laws, internal policies and procedures and specification including ethical standards
- To report the compliance audit results and management actions to senior management and the Audit Committee
- To perform other related assignments

Duties and responsibilities of the Head of Internal Audit:

- To prepare risk-based audit planning and propose the audit plan to the Audit Committee for approval
- To supervise the audit works according to the audit plan or adjust the audit scopes as deemed necessary
- To prepare the audit report and follow-up on internal audit with recommend improvement for effectiveness of internal control including coordinating with external auditors on matters related to the internal control system of the organization
- To evaluate existing fraud and corruption risk management framework with recommendation of potential gaps of anti-corruption controls in the processes



Attachment 4 Business Asset and Details of Asset Appraisal

As of 31 December 2022, the Company and its subsidiaries have major operating fixed assets of property, plant, machinery and equipment in the consolidated financial statements as below details.

1) Land and land improvement

Location	Company	Purpose of Use	Net Book Value (Million Baht)		Obligations
			Owned asset	Right of use under lease	
Bangkok, Thailand		Headquarters	123.6	-	None
Northern Region Industrial Estate, Lamphun, Thailand	Hana Microelectronics Public Co., Ltd.	PCBA Factory – Plant 1	51.0	-	None
Sahapat Group Industrial Park, Lamphun, Thailand		PCBA Factory – Plant 2	75.2	-	None
Hi-Tech Industrial Estate, Ayutthaya, Thailand	Hana Semiconductor (Ayutthaya) Co., Ltd.	IC Factory	106.4	-	None
Xingcheng Industrial Zone, Jiaxing, China	Hana Microelectronics (Jiaxing) Co., Ltd.	PCBA and IC Factories	27.9	-	None
Koh Kong Special Economic Zone, Koh Kong, Cambodia	Hana Microelectronics (Cambodia) Co., Ltd.	PCBA Factory	-	123.3	None
Total Net Book Value			384.1	123.3	

2) Building and leasehold improvement

Location	Company	Purpose of Use	Net Book Value (Million Baht)		Obligations
			Owned asset	Right of use under lease	
Bangkok, Thailand		Office/ Headquarters	94.5	-	None
Northern Region Industrial Estate, Lamphun, Thailand	Hana Microelectronics Public Co., Ltd.	PCBA Factory – Plant 1	162.3	-	None
Sahapat Group Industrial Park, Lamphun, Thailand		PCBA Factory – Plant 2	651.9	-	None
Hi-Tech Industrial Estate, Ayutthaya, Thailand	Hana Semiconductor (Ayutthaya) Co., Ltd.	IC Factory	217.9	-	None
Xingcheng Industrial Zone, Jiaxing, China	Hana Microelectronics (Jiaxing) Co., Ltd.	PCBA and IC Factories	178.3	-	None
Koh Kong Special Economic Zone, Koh Kong, Cambodia	Hana Microelectronics (Cambodia) Co., Ltd.	PCBA Factory	240.6	-	None
Twinsburg, Ohio, USA	Hana Technology Inc.	Microdisplay Factory	-	267.8	None



2) Building and leasehold improvement (Cont.)

Location	Company	Purpose of Use	Net Book Value (Million Baht)		Obligations
			Owned asset	Right of use under lease	
Cheongju-si Chungcheongbuk-do, Korea		Office/Factory	365.8	-	None
Bucheon-si Gyeonggi-do, Korea	Power Master Semiconductor Co., Ltd.	Sales and R&D	-	-	None
Hong Kong	Omac Sales Ltd.	Office	56	1.3	None
Macao	Hana Macao Ltd.	Office	1.9	44.9	None
Total Net Book Value			1,969.2	-	

3) Machinery and Equipment

Location	Company	Purpose of Use	Net Book Value (Million Baht)		Obligations
			Owned asset	Right of use under lease	
Northern Region Industrial Estate, Lamphun, Thailand		PCBA Factory – Plant 1	255	-	None
Sahapat Group Industrial Park, Lamphun, Thailand	Hana Microelectronics Public Co., Ltd.	PCBA Factory – Plant 2	457	-	None
Hi-Tech Industrial Estate, Ayutthaya, Thailand	Hana Semiconductor (Ayutthaya) Co., Ltd.	IC Factory	2,164.9	-	None
Xingcheng Industrial Zone, Jiaxing, China	Hana Microelectronics (Jiaxing) Co., Ltd.	PCBA and IC Factories	1,500.4	-	None
Koh Kong Special Economic Zone, Koh Kong, Cambodia	Hana Microelectronics (Cambodia) Co., Ltd.	PCBA Factory	23.4	-	None
Twinsburg, Ohio, USA	Hana Technology Inc.	Microdisplay Factory	166	5.2	None
Bucheon-si Gyeonggi-do, Korea	Power Master Semiconductor Co., Ltd.	R&D and production	2,274.8	-	None
Total Net Book Value			6,842.8	5.2	

**Details of leasing agreement:****1. Land leasing agreement for Hana in China**

Purpose of use: Factory
Counterparty: Xiuzhou District, China Government (Lessor) and Hana Microelectronic (Jiaxing) Co., Ltd. (Tenant)
Contract period: 8 May 2004 - 11 March 2054 (50 years)

2. Land leasing agreement of Hana in Cambodia

Purpose of use: Factory and Dormitory
Counterparty: Koh Kong Sez Co., Ltd. (Lessor) and Hana Microelectronic (Cambodia) Co., Ltd. (Tenant)
Contract period: 1 December 2013 - 30 November 2063 (50 years)

3. Land and office leasing agreement of Hana in USA

Purpose of use: Factory
Counterparty: J.C.J. Co., Ltd. (Lessor) and Hana Technology, Inc. (Tenant)
Contract period: 1 April 2020 - 31 March 2023 (3 years)

4. Land leasing agreement of Hana Macao

Purpose of use: Office
Counterparty: Macao Special Administrative Region of the People's Republic of China (Lessor) and Hana Macao Co., Ltd. (Tenant)
Contract period: The contract ends on 19 December 2049 (50 years)

5. Land leasing agreement of Omac in Hong Kong

Purpose of use: Office
Counterparty: Hong Kong Special Administrative Region of the People's Republic of China (Lessor) and Omac Sales Ltd. (Tenant)
Contract period: The contract ends on 30 June 2047 (50 years)

6. Land leasing agreement of Power Master in Korea

6.1 Purpose of use: Office/Factory
Counterparty: Korean Government (Lessor) and Power Master Semiconductor Co., Ltd. (Tenant)
Contract period: 3 January 2019 – 2 January 2029 (renewal every 10 years)

6.2 Purpose of use: Sales and Research and Development
Counterparty: Entech E&C Co., Ltd. (Lessor) and Power Master Semiconductor Co., Ltd. (Tenant)
Contract period: 1) Floor 7th, 1 December 2021 - 30 November 2022 and 1 December 2022 - 30 November 2023 (1 year)
2) Floor 5th, 7 May 2021 - 6 May 2023 (2 year)



Attachment 5: The Company's Corporate Governance and Business Code of Conduct Policy

The Company has disclosed the policy of Corporate Governance, Business Code of Conduct, related policies and Charters of the Board and the Sub-Committees on the Company's website as follows.

Corporate Governance Policy and related policies:

<https://www.hanagroup.com/Investor/CGrelated>

- Corporate Governance Policy
https://www.hanagroup.com/Files/CGpolicy2021_en.pdf
- Corporate Code of Conduct
https://www.hanagroup.com/Files/corporate-code-of-conduct_en.pdf
- Business Code of Conduct of the Board of Directors
https://www.hanagroup.com/Files/code-of-conduct_en.pdf
- Anti-Corruption Policy
https://www.hanagroup.com/File/ViewPDF?filename=%2FFiles%2Fanti-corruption-policy_n_en.pdf
- Whistle Blowing Policy
https://www.hanagroup.com/Files/Whistleblower2021_en.pdf



Sustainability:

<https://www.hanagroup.com/Investor/Sustainability>

- Sustainability Policy
https://www.hanagroup.com/Files/Sustainability_Policy_en.pdf

Charters of the Board and Sub-Committees:

<https://www.hanagroup.com/Investor/Charters>



Attachment 6: The Audit Committee Report



The Audit Committee of Hana Microelectronics Public Company Limited is composed of four independent directors. Members of the Committee meet the qualification and the scope of work is in accordance with the rules and regulations of the Stock Exchange of Thailand.

In performing its oversight responsibilities, the Audit Committee held 4 meetings during 2022 with the following meeting attendance of each committee.

Committee	Meeting Attendance
1. Mr. John Thompson, Chairman	4 of 4 times
2. Mrs. Salakchitt Preedaporn	4 of 4 times
3. Mr. Yingsak Jenratha	4 of 4 times
4. Ms. Pornphan Abhamongkol	4 of 4 times

In 2022, the Audit Committee has performed its duties and responsibilities assigned by the Board of Directors and the Charter of the Audit Committee as follows.

Review the financial statements of the Company and its subsidiaries to ensure the compliance with generally accepted accounting principles, and the disclosure of the notes to the financial statements including the judgments used in preparing financial statements in accordance with the financial reporting standards. The Audit Committee agreed with the auditors that the financial performance and cash flows of the Company and its subsidiaries for financial year ending 31 December 2022 presented substantial fairly and disclose with generally accepted accounting principles and financial reporting standards. Such disclosure has also made adequately and timely manner.

- Review the adequacy and efficiency of the internal control system by evaluating the internal controls, approving the annual audit plan, reviewing the audit reporting, considering the risk assessment and risk control measures, as well as considering the qualification of the head of the internal audit department. From the review, the Audit Committee concluded that the Company has adequate internal control and risk management systems which are appropriate to the business and the head of the internal audit has the necessary education, experiences and relevant trainings appropriate to the performance of her duties.



Attachment 6: The Audit Committee Report

- Review the connected transactions to ensure no possible conflict of interests and in compliance with the Securities and Exchange Acts. The Company also has the policy that a director and an executive shall report his interest or a related person's interest which may cause conflicts of interest and the policy to require the board to approve the major transactions. In 2022, the Company's business transactions with related parties arose in the ordinary course of business under the commercial terms and bases agreed upon between the Company and those related parties. There was no connected transaction give rise to potential conflict of interests.
 - Review to ensure compliance with rules and regulations of the Securities and Exchange Commission and applicable regulatory requirements and the board policies. The Audit Committee concludes that the Company has complied with the applicable laws, regulations and established policies.
 - Recommend the appointment of the external auditors and their remuneration by giving due consideration to their experience, knowledge, ability, reliability, staff and workload, as well as the independence of auditors in performing such duties. Such auditors must be approved by the Securities and Exchange Commission (SEC). The Audit Committee has proposed to the board to seek further approval from the shareholders' meeting. For financial year ending 31 December 2022, the Audit Committee recommended to appoint Ms. Kamontip Lertwitworatep and/or Mrs. Sarinda Hirunprasurtwutti and/or Mr. Wichart Lokatekrawee of EY Office Limited as the auditors of Hana Microelectronics Public Co., Ltd. for a total remuneration of Baht 2,450,000, and the non-audit service fees of Baht 510,000 for verifying the compliance with the conditions of Board of Investment tax privileges to obtain an income tax exemption for the accounting period ending 31 December 2022 including the inspection of the destruction of obsolete inventories whereby the non-audit fee is equivalent to 21% of the audit fees. The Audit Committee is of the opinion that the non-audit services have not affect the auditors' independence in the performance of the Company's financial statements as the auditors can plan the audits and use standard audit procedures to obtain sufficient evidence and express an opinion on the audit report independently.
 - Communicate with the external auditors on important matters by convening a special meeting for consideration of problems or restrictions arising during the audits. For the financial year ending 31 December 2022, the auditors were able to perform their duties and exercise their independent judgment under relevant auditing standards with the Company's providing assistance and cooperation.
- The Audit Committee concluded its satisfaction with the accuracy, completeness and creditability of 2022 financial statements' preparation and reporting, the adequacy of internal control systems and risk management, the compliance with applicable laws and regulations including reasonable related party transactions. As a result, the Audit Committee concluded no significant deficiency or irregularity.

Mr. John Thompson

Chairman of Audit Committee



Attachment 6: The Nomination Committee Report



The Nomination Committee consists of four directors, of which three are the independent directors. The Committee is to assist the Board of Directors to review annually the size and composition of the Board and to maintain the appropriate balance of skills, knowledge, experiences, and diversity to support the Company's strategies including the clear and transparent appointment process for directors. The Committee is responsible for selection and screening of candidate's qualifications and proposing the suitable candidates to the Board. The Board subsequently proposes to the shareholders' meeting for approval according to the nomination processes.

In 2022, the Committee held 3 meetings and the meeting attendance of each director is as follows.

Committee	Meeting Attendance
1. Mr. Yingsak Jenratha, Chairman	3 of 3 times
2. Mrs. Salakchitt Preedaporn	3 of 3 times
3. Mr. Richard David Han	3 of 3 times
4. Ms. Pornphan Abhamongkol	3 of 3 times

In respect of the candidate nominations for new director appointments in the shareholders' meeting in 2022, the Company invited shareholders to propose candidates for election to the Board. The policies and procedures to allow shareholders to propose candidates for the election of the Board are posted on the Company's website. However, there were no proposed candidates to the Committee from the shareholders in previous year. Therefore, the Nomination Committee reviewed those directors whose term expired by rotation in accordance with the Company's Articles of Association. The Committee has considered that those directors can continue to make further contribution to the Board and the Company.

In 2022, there was no any member of independent director whose tenure exceeding 9 years. There are 2 directors, Mrs. Salakchit Preedaporn and I, have completed the tenure of an independent director's term limit of nine years in November 2022 therefore we expressed the resignation in order to strictly conform to the Company's corporate governance policy. To nominate the candidates to replace the retired directors, the Nomination Committee considered and screened qualified persons to be appointed as the directors who have the proper qualifications in line with the Company's business strategies, including the Board's diversity policy. The independent directors shall have full

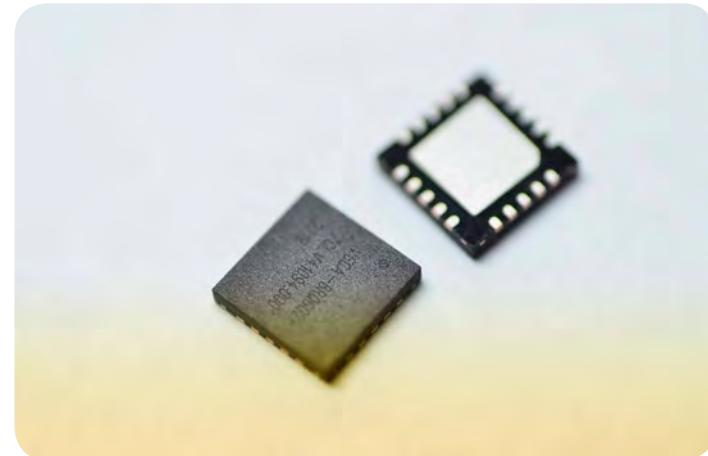


Attachment 6: The Nomination Committee Report

qualifications met the definition of independent directors according to the Company's good corporate governance policy, which set qualifications sticker than the rules of the Office of the Securities and Exchange Commission and the Stock Exchange of Thailand. The Committee reviewed candidates from the Director Pool database of the Thai Institute of Directors Association in addition to other sources and proposed to the Board of Directors for consideration.

The Nomination Committee believes the candidate nomination for director appointment process is proper and transparent and in compliance of its Charter. The Committee also considered and reviewed the CEO succession planning policy and the qualification criteria (job description) for potential successors as well as overseeing the progress of development plan and proposed to the Board of Directors for consideration.

In 2022, the Nomination Committee reviewed the current Board structure and the composition of the directors. The Committee was particularly strong in establishing the right size and mix of members of the Board with a good balance of the core skills, knowledge and experience (director skills matrix) align with business strategies for the business to remain effective in achieving the goals.


Mr. Vingsak Jenratha

Chairman of Nomination Committee



Attachment 6: The Risk Management Committee Report



To support the Board of Directors in overseeing the organization's risk management, the Board of Directors has appointed the Risk Management Committee forming at a board-level structure which consists of an executive director as the chairman and 3 independent directors as the members. The Risk Management Committee defined their roles in risk oversight and governance and has performed their responsibilities in compliance with the Risk Committee Charter approved by the Board.

In 2022, the Committee held 1 meeting and the meeting attendance of each committee is as follows.

Committee	Meeting Attendance
1. Mr. Terrence Philip Weir, Chairman	1 of 1 time
2. Mrs. Salakchitt Preedaporn	1 of 1 time
3. Mr. Yingsak Jenratha	1 of 1 time
4. Ms. Pornphan Abhamongkol	1 of 1 time

The Committee reviewed the risk management policies and guidelines, considered risk identification, measurement and mitigation for both enterprise and environment, social, and governance (ESG) risks, as well as reviewed new risks and emerging risks to make them correspond to the change of businesses in order to reduce material risks of the Company and reported the key risk profile to the Board in order for the Board to obtain a high level understanding of the current status of significant risks and opportunities of the Company.

The Committee believes that the Company has adequate risk management oversight and stay within their risk appetite.

Mr. Terrence Philip Weir

Chairman of Risk Management Committee



Attachment 6: The Corporate Governance and Sustainability Committee Report



The Corporate Governance and Sustainability Committee consists of four directors with the majority of independent directors and have the roles and responsibilities according to the Charter approved by the Board of Directors.

In 2022, the Committee held 1 meeting and the meeting attendance of each committee is as follows.

Committee	Meeting Attendance
1. Mr. Terrence Philip Weir, Chairman	1 of 1 time
2. Mrs. Salakchitt Preedaporn	1 of 1 time
3. Mr. Yingsak Jenratha	1 of 1 time
4. Ms. Pornphan Abhamongkol	1 of 1 time

In 2022, the Committee conducted an annual review of the corporate governance policy while ensuring the application of good corporate governance principles that are suitable for the Company's business, including corporate governance self-assessment with related checklists of the Thai Institute of Directors Association (IOD), the Stock Exchange of Thailand, the Office of the Securities and Exchange Commission and the Thai Investors Association. The Committee reviewed the sustainability policy including approved the Company's material prioritization, review ESG risk assessment, the sustainability targets as well as monitored operational results on environment, social responsibility, and governance of the Company.



Attachment 6: The Corporate Governance and Sustainability Committee Report

From our continuous ESG implementation and development, Hana has been assessed as "excellent" recognition level (5 stars) on corporate governance of Thai listed companies as evaluated by Thailand Institute of Directors (IOD) for nine consecutive years, since 2013. Hana also received the recognition for good corporate governance among ASEAN listed companies in the ASEAN Asset Class Publicly Listed Companies 2021 that received an ASEAN CG Scorecard of great than 97.50 points, for the second year. The Company also qualified as the second year for THSI list (Thailand Sustainability Investment) in 2022 which was based on the annual sustainability assessment by the Stock Exchange of Thailand's (SET). In addition, Hana is ranked among the top 100 listed companies, achieving the outstanding performance of ESG and we also received the Sustainability Disclosure Acknowledgement Award from Thaipat Institute, which recognized our outstanding effort towards sustainability disclosure and reporting of SDG target 12.6. As such, this reflects the recognition of the Company's contribution to society, commitment to the environment with an emphasis on the principles of good governance.

Despite potential uncertainties ahead, we look forward to uphold our commitment to the practice of good corporate governance with social and environmental responsibility in accordance to the national and international development goals.

Mr. Terrence Philip Weir

Chairman of Corporate Governance and Sustainability Committee





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