



HANA

Microelectronics Public Company Limited

บริษัท ฮานา ไมโครอิเล็กทรอนิกส์ จำกัด (มหาชน)

**ANNUAL
REPORT
2019**

รายงานประจำปี 2562



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The Group Financial Highlights

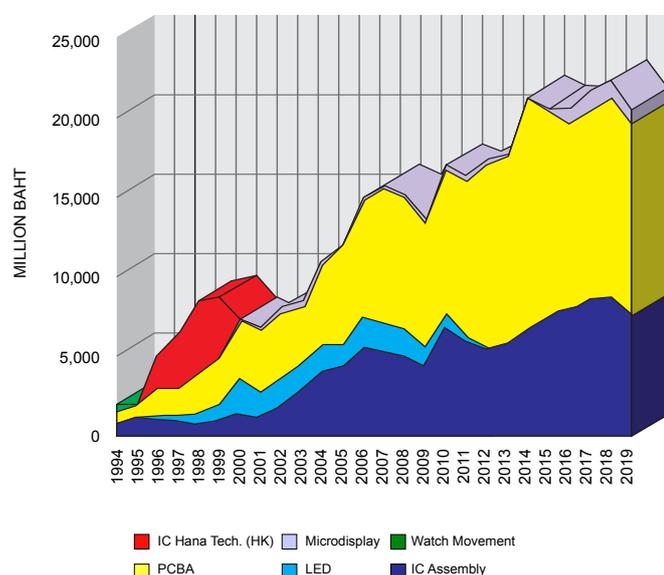
(Million Baht)

	2019	2018	2017	2019/2018
				% change
Total Revenue	21,250	22,853	22,583	-7%
Sales Revenue	20,384	22,264	21,551	-8%
Gross Profit	2,314	3,203	3,214	-28%
Operating Profit	1,408	2,309	2,290	-39%
Net Profit before Non Recurring Items	1,470	2,360	2,357	-38%
Net Profit (Loss) for the year	1,805	2,375	2,888	-24%
Recurring EBITDA*	2,546	3,420	3,374	-26%
Total Assets	24,426	25,368	24,403	-4%
Total Liabilities	3,881	4,285	3,713	-9%
Shareholders Equity	20,546	21,083	20,690	-3%
Net (Cash**) Debt / Equity	-0.23	-0.18	-0.27	
Net Profit (after tax) % Sales	9%	11%	13%	-18%
Recurring EBITDA Margin	12%	15%	16%	-19%
Return on Equity	9%	11%	14%	-22%
Dividend per share (from the profits of)	1.30	2.00	2.00	-35%
Payout ratio	58%	68%	56%	-14%
EPS before Non Recurring Items	1.83	2.93	2.93	-38%
EPS after Non Recurring Items	2.24	2.95	3.59	-24%
Book Value per share (net of treasury shares)	25.53	26.19	25.71	-3%
Net Number of shares outstanding (year end)	804.88	804.88	804.88	0%

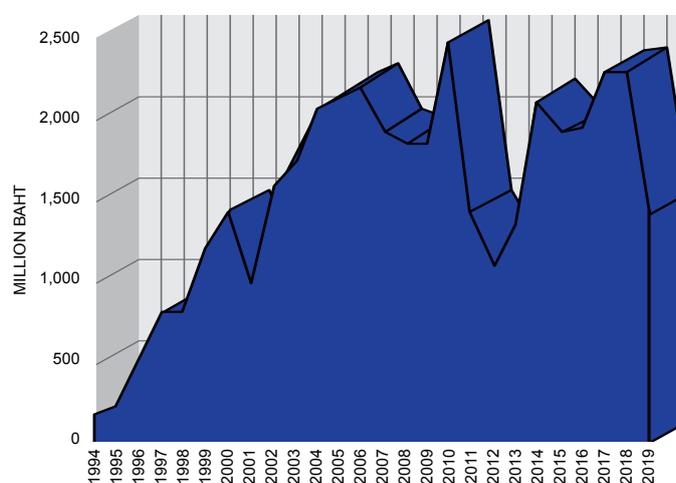
* Operating revenues before deducting of finance cost, income tax expenses, depreciation and amortization

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

Sales Revenue



Operating Profit



Chairman's Statement



Dear Shareholder,

In 2019 the Hana Group was impacted by three major factors. The downturn in the semiconductor cycle, the acceleration of the US China trade dispute and the inexorable strengthening of the Thai baht (which ended 2019 at its highest level for the past six years) all combined to make it a difficult year for the group.

In the first quarter our semiconductor divisions in Thailand and China were significantly impacted by the fall in global semiconductor demand; the fourth largest drop on record. Whilst we saw some stabilization during the year, the increased tension over the US China trade dispute continued to keep the industry under pressure. We had responded by keeping our capital expenditure to an absolute minimum and further worked hard to reduce costs wherever possible. Despite our efforts, revenues decreased by 10% YoY in our semiconductor division in Ayutthaya, and 25% YoY in our semiconductor division in Jiaxing.

Revenues for our microelectronics division in Thailand saw a top line growth of 3% partly as a result of the need to transfer some operations from China but also some real growth coming from our test and measurement customers, and mobile sensor accounts. Despite that, we could not escape the Thai baht strength which as a result reduced our operating profit. In line with our semiconductor operation, we also focused hard on cost reduction throughout the year to limit the currency effect on our earnings. During the year the team worked hard to prepare to introduce SAP S/4HANA Enterprise Resource Planning (ERP) system which went live at the start of 2020. We expect to gain the benefits from this system as we fully deploy it over the course of the year.

Unsurprisingly, our China microelectronics division was hit hard due to the escalations of US tariffs. In order to support those US customers affected, we successfully transferred their accounts to our sister company in Thailand. The management however had taken the difficult but necessary actions to reduce our cost which as a result achieved a very creditable result, despite sales dropping by 25%. Our Jiaxing operations will continue to be influenced by any changes in the US China trade issues which at this time seems to be put on hold with the signing of a first phase deal. Whilst the overall reduction in tariffs has been minimal, nonetheless the escalation has not affected further sectors which is at least positive. Consequently, we shall continue to focus this operation on local sales which have already got off to a good start and are expected to grow in 2020.

In Cambodia, 2019 was the real start of mass production as we ramped up our assembly of remote controls (demand benefiting in this case from the US China trade disputes). Whilst our hope to breakeven by the end of the 2019 have not been realized, we have certainly made strong progress towards this first stage goal by increasing sales 93% for the year. Our focus to add additional accounts in 2020 looks promising as we continue to improve upon the many operational issues initially encountered.

Hana Technologies Ohio, USA suffered a drop in revenues of 19% mainly due to a reduction in the thermal imaging camera business and other consumer devices. Looking forward our RFID tyre tag business looks very promising with a number of new opportunities on the horizon. We believe this will be our main growth driver for the next few years and beyond.

Chairman's Statement

Our key financial performances were as follows:

- Revenues down 8% from THB 22,264 million in 2018 to THB 20,384 million in 2019
- Operating income down 39% from THB 2,309 million to THB 1,408 million
- EBITDA income down 26% from THB 3,420 million to THB 2,546 million
- NPAT down 24% from THB 2,375 million to THB 1,805 million
- Cash and financial investments were similar at THB 8.5 billion at end 2018 & THB 8.5 billion at end 2019

During the year we invested approximately THB 1.1 billion; the majority being for our microelectronics operations in Thailand. Knowing that 2019 would be challenging, we had targeted and achieved to cut our capital expenditure by 50%. With a 2019 EBITDA of THB 2.5 billion we achieved a positive cash flow before dividend payout for the full year.

Despite the challenging year, Hana increased our R&D expenditure in both high and low voltage spectrums and I am delighted to inform you that our patented long range mobile phone charger developed to be placed under a table received a good reception at the Las Vegas 2020 CES show in January. We plan to launch this device in May both B2B & B2C via E-Commerce.

As predicted at the start of the year, 2019 was influenced significantly by exchange rates and the US/China trade tariff war. Whilst we have done our best to navigate through these major factors, it proved extremely difficult to achieve our growth targets and ultimately it became a matter of damage limitation. That said, we recognize that there are shifts seemingly underway towards the decoupling of the world's two biggest economies and what is important now is how Hana positions itself, as the global supply chain starts to reshape in response to these significant changes. With operations both within and outside of China, we are well positioned to adapt.

As we enter 2020, the latest threat to global growth has emerged with the advent of the Coronavirus (Covid-19) in China. Apart from the immediate and significant impact on our China operations, the effects on the supply chain (so dependent on China) will undoubtedly impact all our other operations in the first half of the year. Further, the growth impact on the world's second largest economy will have implications for consumption of autos, mobiles and other consumer electronics. The overall negative impact on the global economy is still unknown but threatens to escalate as the virus continues to spread beyond China. So once again we brace ourselves for further headwinds from this unexpected and turbulent event.

I would like to thank my fellow board members and all the staff of the Hana Group for their hard work and effort in what has been a challenging year. We enter the new decade with measured optimism notwithstanding the most recent Covid-19 event and we remain well positioned to navigate through these challenges, supported with a strong balance sheet.

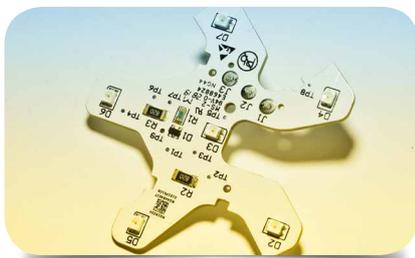


John Thompson
Chairman of the Board of Directors



Operation Review

Hana Microelectronics Public Co., Ltd. (Lamphun)



2019 turned out to be an exciting year for Hana Lamphun. Despite the electronic industry being negatively affected by the downturn in electronics cycle and USA/China trade war, we still managed to achieve continued sales revenue growth in USD terms and have a number of new business opportunities in the pipeline. The major growth was at the RF (Radio Frequency) segment where there are many new projects with a large customer related to the 5G technology. As 5G technology global implementation is in the very early stages we can expect strong future demand in this area.

The US/China trade conflict has been a benefit to Hana Lamphun as some projects were transferred from our affiliate plant in China. We were able to support this sudden requirement as our newly facilitated second floor (12,000 sqm) space at our second factory in Lamphun was completed at the end of 2018. In 2019, we continued to expand by adding more equipment and human resources to cope with the new projects.



In 2019 we also made substantial software investments. We implemented a new ERP system (SAP S/4 HANA) which commenced operations at the beginning of 2020. This new ERP system together with our previous recent investments in Siemens Teamcenter PDM (Product Data Management) and Valor MSS MES (Manufacturing Execution Software) provides us with “state of the art” comprehensive, integrated software to support the business operations to meet our customers current and future requirements.

Automation continued to be a main focus as we strived to reduce costs in a difficult environment in 2019 with continued increases wage and salary costs and the strengthening THB/USD exchange rate. Developing more automated systems also helps us to further improve product quality by reducing human-dependency, and together with the ERP, PDM, MES software implementations lead us closer to Factory 4.0 automated factory concept.



Whilst we continued to upgrade the manufacturing systems, we also continued our people development programs, with the tools of QCC (Quality Control Circle) and Kaizen CIP (Continuous Improvement Program). We also continued talented staff training and development, which encouraged teamwork with a focus on cost-savings, productivity and yield improvement.

It is anticipated that 2020 will be another busy year with the implementation of the new ERP system and the new products. Despite the unclear economic situation of electronic industry, we expect continued growth in 2020.

I would like to thank all our Hana LPN staffs for their dedication and hard work in 2019 and we look forward to 2020 with confidence and readiness to meet our new challenge.

Mr. Wing Keung Chow

Vice President and General Manager

Operation Review

Hana Semiconductor (Ayutthaya) Co., Ltd.



The year 2019 was a year of mixed fortunes for Hana-AYT. Whilst we still shipped more units in 2019, we did experience a slight drop in revenue due to the global business uncertainties and a change in product mix. This coupled with the very strong THB/USD made for a financially challenging year.

Nonetheless, the team at Hana-AYT continued to focus on operational excellence and continuous improvement. These efforts targeted increased automation, quality improvement, technology and people development with some of this automation being developed internally. As a result of these investments we made consistent improvements in our productivity and quality metrics even though we ramped up production of many complicated and custom packages in 2019. From a technology point of view, several of our custom developed and IP protected packaging solutions were introduced into mass production winning more business in these areas. This focus on IP protected custom package will continue in 2020 and beyond.

Cyber Security is a necessary area of high focus in a rapidly evolving integrated world. In 2019, Hana-AYT was one of the first IC Assembly and test companies to be certified for the ISO 27001 Cyber Security Certification which helps us to reduce risk of incursions from cyber criminals.

In 2020, Hana-AYT will strategically invest and focus on products for selected segments of the market which will provide us with a quantifiable differentiator from our competitors. Quality will continue to remain a focus in all areas and at all levels of Hana-AYT since this is the most important criteria that will enable business growth. We look forward to 2020 with a sense of optimism since we truly believe that Hana-AYT offers a reliable and good value supplier choice to our customers with our overall capabilities and ability to scale to support rapid expansion.

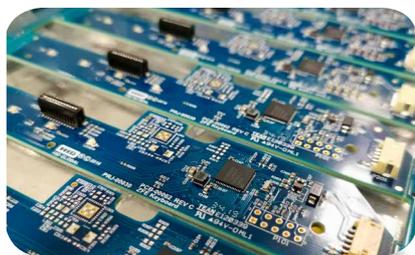
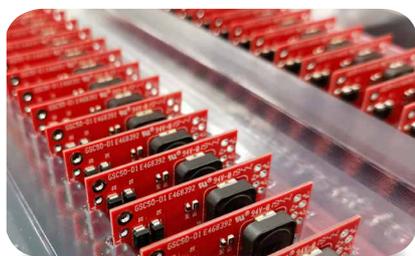
We also believe we have reached the bottom of the cycle assuming no further escalations in US/China trade issue and as such we hope to see volume increases in 2020. With the advent of 5G we are optimistic for an improvement in demand for smart phone sensors packaging, a segment that Hana-AYT is strong in.

A sincere “thank you” to the dedicated employees of Hana-AYT whose unflinching trust and loyalty enables us to be a world class service provider. No matter what the challenge is, the team has always overcome it and it is this core value of teamwork and mutual trust that is our strength. We look forward to 2020 with a sense of optimism knowing very well that Hana-AYT will continue to grow and do well.

Mr. Sanjay Mitra
Vice President and General Manager

Operation Review

Hana Microelectronics (Jiaxing) Co., Ltd.



The year 2019 turned out to be even more difficult for Hana Jiaxing than expected. Sales revenue dropped as a result of our exit of a non-profitable business and the effect of the trade war between the US and China. A large effort was made to execute both short-term and long-term solutions to mitigate the effects of the US tariffs to our customers with the goal of keeping all of affected USA customers within the Hana group.

Despite of the big challenges we faced in 2019, we made good improvements in many key areas. Anticipating the business shrinkage, Hana Jiaxing management took proactive actions to reduce operating costs which helped the operations remain profitable. We focused on providing our customers with better services with excellent product quality, rapid responsiveness, flexibility and competitive price. We made encouraging progress in developing local customers in China. We started to run mass production of the IGBT modules which will be one of the main contributors to the future growth of Hana Jiaxing. We also had more activities to develop our talented employees in Hana Jiaxing.

To further achieve operational excellence, we will further focus on IT automation such as MES (Manufacturing Execution System), quality system improvement and ODM capability development in 2020.

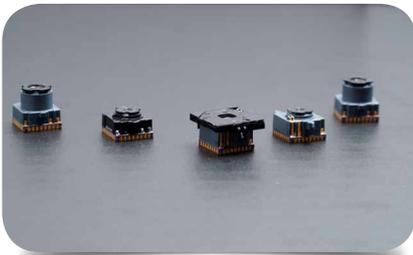
Although we have seen some signs of relief, the tariff issue still remains unresolved for the time being. Nevertheless we remain committed to providing the best support to our US customers, many of whom decided to share the burden and stay with us because of their faith in Hana Jiaxing and their decades long partnership with us. Going forward we will continue to work diligently on new customer development in China and regions outside of the USA to reduce the exposure to what has become now a tech war.

I sincerely thank all our employees for their hard work and dedication in 2019. The business circumstance is anticipated to remain uncertain and challenging in 2020. However, with a strong, dedicated and loyal team, I am confident that we will be able to overcome any difficulties.

Steven Lee
Vice President and General Manager

Operation Review

Hana Technologies, Inc.



Hana Technologies “HTI” enjoyed its fifth consecutive year of strong performance by celebrating its 20th year as part of the Hana Group in 2019. Sales dropped slightly from 2018 numbers on a year-on-year basis, with most of this drop occurring naturally as products matured and prices evolved. HTI’s business portfolio is maturing and moving from novel/new technology to more standardized production. The Telecom market segment continued to grow for HTI in 2019, while the Consumer Electronics customer loading continued to decrease for the second year in a row. The Radio-Frequency Identification (RFID) market was flat for HTI from a revenue standpoint, but continued to strengthen and broaden.



The RFID customer base continued to grow and diversify in 2019. RFID inlay customers increased in numbers, with the largest customer growing another 20% for the second straight year. The number of tire tag customers increased by three fold. Most of these are small projects, and will take years to fully materialize, but HTI is solidifying its position as the leader in the market and is building up to support all of the production needs for the future.



For non-RFID Microelectronics activity, camera module assemblies continued to drop in 2019 contributing to the largest decrease in the market segment. HTI has signed new customers in this area and will build back up its participation in the field. These decreases were not fully off-set by increases in the telecom market. While the telecom market was strong in 2019, HTI will continue to grow in this area with its existing customers and new customers signed during the year. Medical device and reflective display assemblies also continued to grow throughout 2019, but at a slower pace than anticipated. HTI expects that to grow in 2020 as well.

HTI will be working to grow its presence in the under-served markets of medical devices, automotive, and aerospace in 2020. Customer development and support will be the focus for HTI in its established markets of Telecom and RFID. As always, HTI looks forward to working closely with its customers and suppliers to increase its value to the Hana family of companies in the coming year.

Dr. John Erdmann
President and Chief Executive Officer

Operation Review

Hana Microelectronics (Cambodia) Co., Ltd.

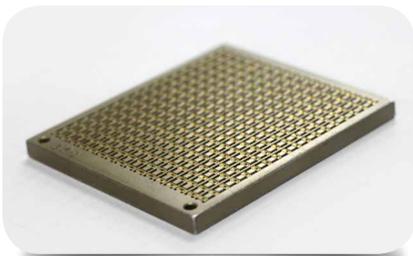


During 2019, Hana Cambodia invested in Surface Mount technology (SMT) machines and automation processes to increase the production capacity and capability due to higher demand from our customers. This was further enhanced with our employee development program and maintaining the international quality standards of IATF 16949:2016, ISO 9001:2015 and TL 9000:2016. We also established the NPI (New Product Innovation) team to provide prompt support and turnaround time for all new products. These increased capabilities will help us to be more competitive and be able to capture more business from existing and new customers.

We will continue to focus on localizing our supply chain development for major electronic raw material components in order to reduce material lead time, save on logistic costs and increase local product content. This will further enhance our competitive advantage.

New customer interest in Hana Cambodia continues to grow due to trade war conflict between China and USA and associated future uncertainties in international trade. We expect to capitalize on the trade conflict event to grow our business further in future.

In 2020, Hana Cambodia will continue to invest and upgrade our machine and human resource capacities in order to meet international manufacturing standards with efficient operations, good quality production and support services in order to meet our future customer expectations.



Mr. Somchai Chantrachirathumrong
General Manager

Hana Board of Directors



1. Mr. Yingsak Jenratha
Independent Director

2. Mrs. Salakchitt Preedaporn
Independent Director

3. Mr. Terrence Philip Weir
Executive Director

4. Mr. Richard David Han
Executive Director

5. Mr. John Thompson
Chairman of the Board of Directors

6. Mr. Winson Moong Chu Hui
Executive Director

Hana Executives



- 1. Mr. Wing Keung Chow**
Vice President and General Manager
Hana-Lamphun Operation
- 2. Ms. Achara Chaicharncheep**
Senior Manager of Finance and Accounting
- 3. Mr. Richard David Han**
Executive Vice Chairman and Chief Executive Officer
- 4. Mr. Winson Moong Chu Hui**
President and Chief Operating Officer
- 5. Mr. Terrence Philip Weir**
Executive Vice President and Chief Financial Officer

Management Team



★Hana Microelectronics Public Co., Ltd. - Headquarter Management

1 2 3 4 5 6 7 8

1. **Mr. Insuk Kim**
Corporate Vice President Technologies & Products Development
2. **Ms. Jirapa Kongmanee**
Senior Manager of Internal Audit
3. **Ms. Vitthuan Pringpuangkeo**
Senior Manager of Corporate Training
4. **Mrs. Puntipa Tanthana**
Senior Director of Corporate Administration and Human Resources
5. **Mrs. Tappawong Na Tarlang**
Director of Corporate Human Resources Business Partners, Training & Administration
6. **Ms. Achara Chaicharncheep**
Senior Manager of Finance and Accounting
7. **Mr. Peter Wuei Hwang**
Director of Business Development
8. **Mr. Chwee Heng Teo**
Director of Strategic Project & Products Development



★Hana Microelectronics Public Co., Ltd. - Lamphun Management

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1. **Mr. Kam Fu Yim**
Director of Quality Management
2. **Mr. Wichai Sukprasertkul**
Senior Director of Operations
3. **Ms. Krongtong Wannawichit**
Senior Manager of Human Resources
4. **Mrs. Napassanun Namwongsa**
Senior Manager of Integrated Management System
5. **Ms. Tipawan Duangkaew**
Senior Manager of Customer Service
6. **Mr. Wing Keung Chow**
Vice President and General Manager
7. **Ms. Kittima Kongsing**
Senior Manager of Production & Material Control
8. **Ms. Chonsita Kitisrivorapot**
Senior Manager of Inventory Control
9. **Mr. Wasan Suthum**
Director of Operations
10. **Mr. Sathit Umpai**
Director of Operations
11. **Mr. Wan Wah Vincent Wong**
Senior Manager of Supply Chain Management
12. **Mr. Somjai Namwongsa**
Senior Manager of Human Resources Development
13. **Mr. Nikorn Tolongtong**
Senior Manager of Customer Service
14. **Mr. Seksit Mulachiwa**
Senior Manager of Procurement
15. **Mr. Thawatchai Kumprasert**
Senior Manager of Management Information System (MIS)
16. **Mr. Ian Donald Ticehurst**
Senior Manager of Corporate Management Information System (Corporate MIS)
17. **Mr. Stephen Boyd**
Senior Manager of Operation
18. **Mr. Pattarapol Kantawang**
Senior Manager of Customer Service
19. **Mr. Tosaporn Musikcharoen**
Senior Manager of Manufacturing Support
20. **Mr. Chukiat Suksatian**
Senior Manager of Operation

Management Team



Hana Semiconductor (Ayutthaya) Co., Ltd. Management

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

1. **Mrs. Thawanvaree Pichitnorakarn**
Senior Manager of Purchasing & Supplier Management
2. **Ms. Suparin Kengradomkij**
Senior Manager of Logistic / Packing and Finished Goods
3. **Ms. Praphaphun Naradilok**
Director of Human Resources and Training
4. **Ms. Areenee Kittisupornpong**
Director of Management Information System (MIS)
5. **Ms. Sirirat Silapapipat**
Director of CSO Operation
6. **Ms. Samantha Kulasinghe**
Senior Director of Manufacturing Support & Service Production Planning, Industrial Engineer
7. **Mrs. Rhodora F. Ceballo**
Senior Manager of Front of Line, Process Engineer and New Product Introduction (NPI)
8. **Mrs. Saowanee Rachatakarn**
Director of Finance
9. **Mr. Michaeljun C. Camba**
Senior Manager Technology Development & Customer Service
10. **Mr. Sithigorn Petchruk**
Senior Manager of Equipment Technical Support
11. **Mr. Pongsak Klongjai**
Senior Manager of Assembly Production
12. **Mr. Paitoon Kungsaranuwat**
Senior Manager TEST-IC Operation
13. **Mr. Pongsakorn Jangsatian**
Senior Manager of Quality System and Quality Engineer (QS & QE)
14. **Mr. Sanjay Mitra**
Vice President and General Manager
15. **Mr. Punsak Eammongkolchai**
Senior Director of IC Manufacturing & Hybrid / Metal Can Operations
16. **Mr. Supakit Tantara**
Director of Assembly Engineering and New Product Introduction (NPI)
17. **Mr. Anake Wannathong**
Senior Manager of CSO Test Operation
18. **Mr. Seri Sukchean**
Senior Manager of Facility, Industrial Engineer & Environment / Safety
19. **Mr. Wanakorn Nonkhunthod**
Director of Supply Chain Management
20. **Mr. Vicente T. Lau, Jr.**
Director of Quality and Reliability Assurance (QRA) Operation



Hana Microelectronics (Jiaxing) Co., Ltd. Management

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1 2 3 4 5

1. **Ms. Lucy Guo**
Senior Manager of Human Resources
2. **Mr. Felix Zheng**
Director of Operations
3. **Mr. Steven Lee**
Vice President and General Manager
4. **Mr. Andy Shen**
Director of Operations
5. **Ms. Jane Li**
Director of Finance & Logistic
6. **Mr. Steven Quah**
Senior Manager of Quality & Reliability Assurance
7. **Mr. KY Chew**
Director of Marketing & Account Management
8. **Mr. SC Ding**
Director of Production & Material Control
9. **Mr. Peter Xu**
Director of Manufacturing Support
10. **Mr. CK Kim**
Director of Product Development & Technical Marketing

Management Team



Hana Technologies, Inc. Management

1 2 3 4 5 6

1. **Mr. Edward M. Stiles III**
Vice President of Quality and IT
2. **Mr. Michael R. Davis**
Financial Controller
3. **Dr. John H. Erdmann**
President and CEO
4. **Mr. Matthew Bucholtz**
Vice President of Operations
5. **Mr. Paul R. Brown, Jr.**
Vice President of Business Development
6. **Mr. D. Scott Worthington**
Vice President of Engineering



Hana Microelectronics, Inc. Management

1 2 3 4 5 6 7 8

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

Management Team



Hana Microelectronics (Cambodia) Co., Ltd. Management



1. **Ms. Bun Sarourn**
Accountant
2. **Ms. Leng Vandy**
Marketing / Customer Service
3. **Mr. Somchai Chantrachirathumrong**
General Manager
4. **Ms. Kim Montha**
Senior Supervisor of Human Resources & Administration
5. **Mr. Warin Samarnso**
Senior Manager of Human Resources
6. **Mr. Narhit Muangnakin**
Senior Manager of Quality and Reliability Assurance (QRA)
7. **Mr. Ya Chey Sitha**
Senior Supervisor of Facility
8. **Mr. Ren Maosheng**
Senior Manager of Operation
9. **Mr. Horn Borey**
Section Manager of Planning Material Control (PMC)
10. **Mr. Khiev Khemrin**
Manager of Supply Chain

Profiles of Directors & Executives

1. Mr. John Thompson

- Independent Director
- Chairman of the Board of Directors
- Chairman of Audit Committee



Age:	55 years old
Date of Appointment:	1 January 2017
Number of years as the director (As of 31 December 2019):	3 years
Working Experience:	<ul style="list-style-type: none"> • 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. • 2005 - present, Independent Director and Audit Committee, Bangkok Post Public Co., Ltd.
Educational Background:	<ul style="list-style-type: none"> • Bachelor (Honours), London University, United Kingdom • Associate Chartered Accountant (ACA), The Institute of Chartered Accountants in England & Wales (ICAEW), United Kingdom
IOD Training Course:	<ul style="list-style-type: none"> • Directors Accreditation Program (DAP) 57/2006
Take the position as the director or management in other companies:	Yes

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.

Shareholding of Mr. John Thompson				Indirect Shareholding	
Number of shares as of 1 January 2019	Movement during the year		Number of shares as of 31 December 2019	Spouse	Minor Child
	Acquisition	Disposition			
0 share	-	-	0 share (0%)	None	None

Profiles of Directors & Executives

2. Mr. Richard David Han

- **Executive Director**
- **Executive Vice Chairman and Chief Executive Officer**
- **Nomination Committee**



Age:	62 years old
Date of Appointment:	26 July 1993
Number of years as the director (As of 31 December 2019) :	26 years
Working Experience:	<ul style="list-style-type: none"> • 2004 – present, Nomination Committee Hana Microelectronics Public Co., Ltd. • 1993 – present, Executive Vice Chairman and Chief Executive Officer, Hana Microelectronics Public Co., Ltd.
Educational Background:	<ul style="list-style-type: none"> • B.A. Business Studies, Westminster, London, United Kingdom • M.B.A. (Marketing) City University, London, United Kingdom
IOD Training Course:	<ul style="list-style-type: none"> • Directors Accreditation Program (DAP) 57/2006 • Understanding the Fundamental of Financial Statements (UFS) 4/2006

Take the position as the director or management in other companies: Yes

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 Commercial Offshore 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	1. Thai British Security Printing Public Co., Ltd.
Position: Executive Director	Position: Executive Director	Position: Non-executive Director

Shareholding of Mr. Richard David Han			Indirect Shareholding		
Number of shares as of 1 January 2019	Movement during the year		Number of shares as of 31 December 2019	Spouse	Minor Child
	Acquisition	Disposition			
1,040,000 shares	-	-	1,040,000 shares (0.129%)	None	None

Profiles of Directors & Executives

3. Mr. Winson Moong Chu Hui

- Executive Director
- President and Chief Operating Officer



Age:	73 years old
Date of Appointment:	26 July 1993
Number of years as the director (As of 31 December 2019):	26 years
Working Experience:	1993 - present, Executive Director, Hana Microelectronics Public Co., Ltd.
Educational Background:	Bachelor of Engineering, Cheng Kong University, Taiwan
IOD Training Course:	Director Accreditation Program (DAP) 117/2015

Take the position as the director or management in other companies: Yes

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 (Jiaying) Co., Ltd. 6. Hana Macau Commercial Offshore Ltd. 7. Hana Microelectronics (Cambodia) Co., Ltd. Position: Executive Director	None	None

Shareholding of Mr. Winson Moong Chu Hui				Indirect Shareholding	
Number of shares as of 1 January 2019	Movement during the year		Number of shares as of 31 December 2019	Spouse	Minor Child
	Acquisition	Disposition			
6,280,000 shares	-	-	6,280,000 shares (0.780%)	None	None

Profiles of Directors & Executives



4. Mr. Terrence Philip Weir

- **Executive Director**
- **Executive Vice President and Chief Financial Officer**
- **Chairman of Corporate Governance Committee**
- **Chairman of Risk Management Committee**

Age:	60 years old
Date of Appointment:	26 July 1993
Number of years as the director (As of 31 December 2019):	26 years
Working Experience:	<ul style="list-style-type: none"> • 2013 – present, Chairman of Corporate Governance Committee, Hana Microelectronics Public Co., Ltd. • 2008 – present, Chairman of Risk Management Committee, Hana Microelectronics Public Co., Ltd. • 1993 – present, Executive Director, Hana Microelectronics Public Co., Ltd.
Educational Background:	Bachelor of Economics, Macquarie University, CPA, Australia
IOD Training Course:	Director Certification Program (DCP) 6/2001, Diploma
Other Trainings:	E-Learning CFO Refresher Course (English Version), by The Stock Exchange of Thailand - December 2019

Take the position as the director or management in other companies: Yes

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 Commercial Offshore 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. Terrence Philip Weir				Indirect Shareholding	
Number of shares as of 1 January 2019	Movement during the year		Number of shares as of 31 December 2019	Spouse	Minor Child
	Acquisition	Disposition			
325,000 shares	250,000	-	575,000 shares (0.071%)	None	None

Profiles of Directors & Executives

5. Mrs. Salakchitt Preedaporn

- Independent Director
- Audit Committee
- Nomination Committee
- Corporate Governance Committee



Age:	58 years old
Date of Appointment:	1 December 2013
Number of years as the director (As of 31 December 2019):	6 years
Working Experience:	<ul style="list-style-type: none"> • 2013 - present, Independent Director and Audit Committee Hana Microelectronic Public Co., Ltd. • 2009 - present, Financial and Accounting Consultant • 1992 - 2009, Accounting Manager S. Napa (Thailand) Co., Ltd. & Group Company
Educational Background:	Bachelor of Accounting, Thammasat University, Thailand
IOD Training Course:	<ul style="list-style-type: none"> • 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:	Adjusted entry items in the Financial Statements for Public Company Limited (General Business), by the Department of Business Development, Ministry of Commerce - November 2019
Take the position as the director or management in other companies:	
Listed company	: None
Non-listed company	: None

Shareholding of Mrs. Salakchitt Preedaporn				Indirect Shareholding	
Number of shares as of 1 January 2019	Movement during the year		Number of shares as of 31 December 2019	Spouse	Minor Child
	Acquisition	Disposition			
10,000 share	250,000	260,000	0 share (0%)	None	None

Profiles of Directors & Executives

6. Mr. Yingsak Jenratha

- Independent Director
- Audit Committee
- Chairman of Nomination Committee
- Corporate Governance Committee



Age:	72 years old
Date of Appointment:	1 December 2013
Number of years as the director (As of 31 December 2019):	6 years
Working Experience:	<ul style="list-style-type: none"> • 2013 – present, Independent Director and Audit Committee Hana Microelectronics Public Co., Ltd. • 2018 – present, Independent Director and Audit Committee G J Steel 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:	<ul style="list-style-type: none"> • 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 Course:	<ul style="list-style-type: none"> • Anti-Corruption for Executive Program (ACEP) 9/2014 • Director Accreditation Program (DAP) 111/2014 • Role of the Nomination and Governance Committee (RNG) 8/2016

Take the position as the director or management in other companies: Yes

Subsidiaries of Hana	Non-listed Company	Listed Company
None	None	Independent Director and Audit Committee, G J Steel Public Co., Ltd.

Shareholding of Mr. Yingsak Jenratha				Indirect Shareholding	
Number of shares as of 1 January 2019	Movement during the year		Number of shares as of 31 December 2019	Spouse	Minor Child
	Acquisition	Disposition			
60,000 shares	20,000	20,000	60,000 shares (0.007%)	None	None

Profiles of Directors & Executives

7. Mr. Wing Keung Chow

- Vice President and General Manager Hana-Lamphun



Age:	60 years old
Date of Appointment:	1 January 2008
Working Experience:	<ul style="list-style-type: none"> • 2008 - Present, Vice President and General Manager Hana Microelectronics Public Co., Ltd. • 2001 - 2007, Vice President Marketing & Customer Services Hana Microelectronics Public Co., Ltd.
Educational Background:	Master Degree of Management, SASIN, Chulalongkorn University, Thailand
IOD Training Course:	None

Take the position as the director or management in other companies:

Listed company	:	None
Non-listed company	:	None

Number of shares as of 1 January 2019	Shareholding of Mr. Wing Keung Chow		Number of shares as of 31 December 2019	Indirect Shareholding	
	Acquisition	Disposition		Spouse	Minor Child
799,500 shares	40,000	110,000	729,500 shares (0.091%)	None	None

Profiles of Directors & Executives

8. Ms. Achara Chaicharncheep

- Senior Manager of Finance and Accounting



Age:	50 years old
Date of Appointment:	14 October 2013
Working Experience:	1996 – present, Senior Manager of Finance and Accounting Hana Microelectronics Public Co., Ltd. (Headquarter)
Educational Background:	Bachelor of Accounting, Kasetsart University, Thailand
IOD Training Course:	None
Other Trainings:	<ul style="list-style-type: none"> • Thai Financial Reporting Standards (TFRS 2019) impact on financial statements and on key performance, by Dharmniti Seminar and Training Co., Ltd. - October 2019 • Accounting practices and tax implications related to Transfer Pricing, by Dharmniti Seminar and Training Co., Ltd. - November 2019

Take the position as the director or management in other companies:

Listed company	:	None
Non-listed company	:	None

Shareholding of Ms. Achara Chaicharncheep			Indirect Shareholding		
Number of shares as of 1 January 2019	Movement during the year		Number of shares as of 31 December 2019	Spouse	Minor Child
	Acquisition	Disposition			
30,000 shares	-	-	30,000 shares (0.004%)	None	None

Hana Overview and Nature of Business

Hana 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 6 manufacturing facilities, which are located in Lamphun and Ayutthaya provinces in Thailand, Jiaxing in China, Ohio in USA and a new manufacturing facility in Koh Kong, Cambodia.

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.

Vision, Mission and Corporate Objectives

In 2019, 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 and to be a good corporate citizen maintaining high corporate, environmental and social practices for the benefit of all stakeholders.

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. Continue to 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. Maintain integrity through business ethics in dealings with all stakeholders

Hana Overview and Nature of Business

Major changes and development of the Company

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

- 2017**
 - Hana Microelectronics Public Co., Ltd., Sahaphat Group Industrial Park branch made the decision to expand the second floor for manufacturing space, which will double the area of the factory, in order to prepare for our new business expansion.
 - A subsidiary, Hana Semiconductor (Ayutthaya) Co., Ltd., built a 3-story building for the warehouse, to meet our capacity expansion.
- 2018**
 - Hana Microelectronics Public Co., Ltd., Sahaphat Group Industrial Park branch expanded its second floor adding an additional 6,000 square meters of production space.
 - A subsidiary, Hana Microdisplay Technologies, Inc. changed its name to Hana Technologies, Inc. to better reflect its broader capabilities.
- 2019**
 - During the year, Hana Technologies Group Limited, a subsidiary company, and Hana Technologies Investments Limited, a subsidiary company of Hana Technologies Group Limited, registered for dissolution of their business. There was no gain/loss on investments in these subsidiary companies.
 - During the year, Hana Semiconductor Holdings Limited, a subsidiary company of Hana Microelectronics International Company Limited, registered for dissolution of its business. There was no gain/loss on investments in this subsidiary company.
 - In June 2019, Hana Microelectronics Enterprise Company Limited, an overseas subsidiary company, additionally invested in 5,910,000 ordinary shares of Power Master Semiconductor Company Limited, amounting to USD 2.5 million or equivalent to Baht 76.86 million. In September 2019, it additionally invested in 5,922,600 ordinary shares, amounting to USD 2.5 million or equivalent to Baht 76.48 million. In December 2019, It additionally invested in 5,781,500 ordinary shares, amounting to USD 2.5 million or equivalent to Baht 75.39 million.
 - As at 31 December 2019, the overseas subsidiary company has invested in 24,158,257 ordinary shares of Power Master Semiconductor Company Limited, amounting to USD 10.49 million or equivalent to Baht 326.30 million, representing 100% of the issued and paid-up share capital of that company.

Hana Overview and Nature of Business

2019 Awards and Recognition



Hana was rated “Excellent” in Corporate Governance Rating (CGR) by the Thai Institute of Directors Association (IOD).



Hana received Eco Factory Award from The Federation of Thai Industries and Eco Excellent Award from Industrial Estate Authority of Thailand. Those awards recognized the Company for its efficiency and strong commitment to responsible operations for sustainable development in 5 aspects: physical, economic, social, environmental and management.



Hana received CSR-DIW Continuous Award 2019, the Standard for Corporate Social Responsibility from the Department of Industrial Work (CSR-DIW). The award recognized the Company for its implementation under given CSR-DIW standards and sustainable development.



Hana received Green Industry Level 4 (Green Culture) Award from the Ministry of Industry as to honor and certify the Company with a high level of environmental friendliness who strongly promote the involvement of all employees on environmental concerns continuously so that it becomes part of the Green Organizational Culture.



Hana Overview and Nature of Business

2019 Awards and Recognition



Prime Minister Prayut Chan-Ocha presented the honor award to Hana Semiconductor (Ayutthaya) Co., Ltd., a subsidiary of the Company, for the excellent organization that supported persons with the disability programs for 7 consecutive years.



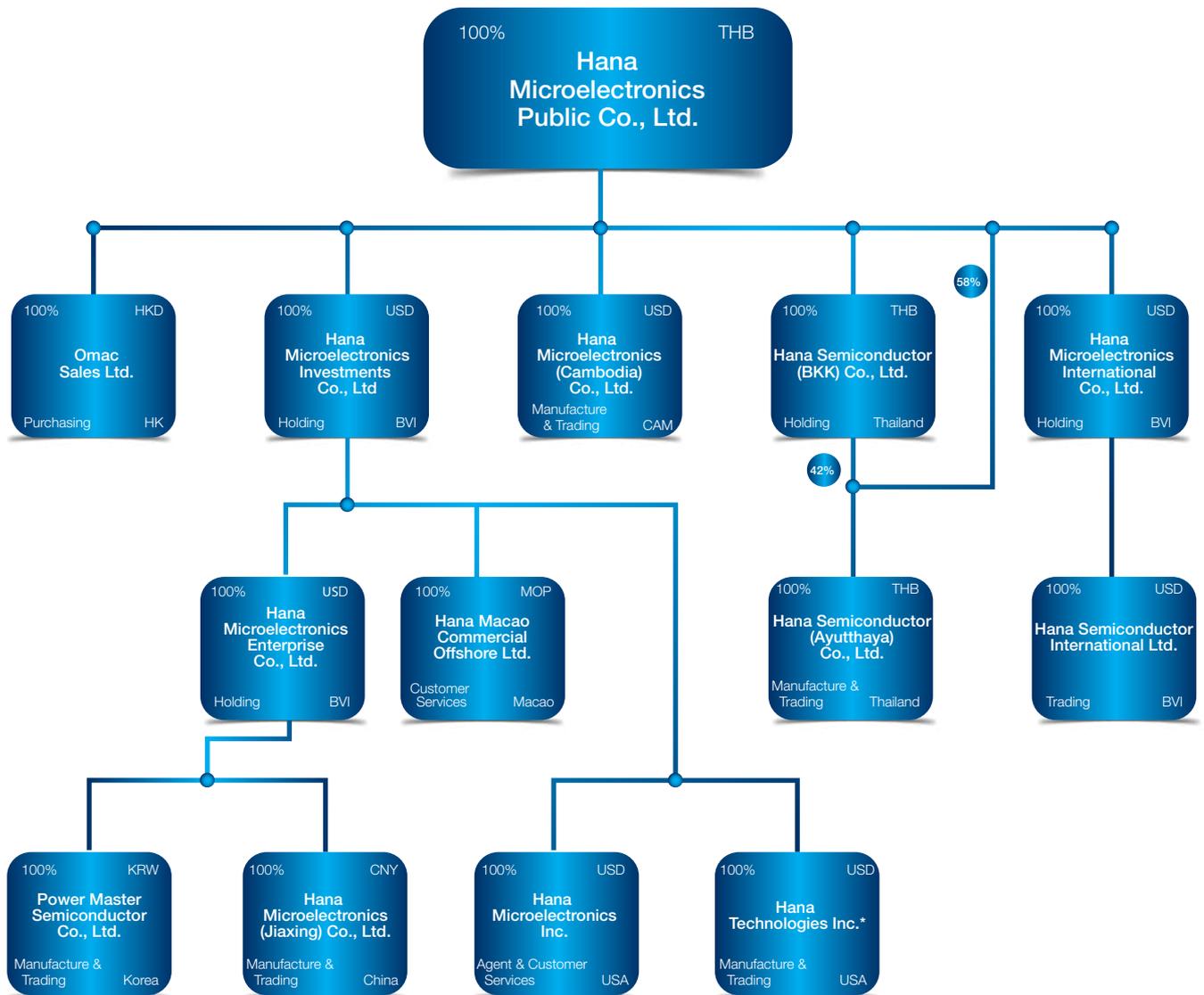
Hana achieved the outstanding role model award for Safety, Occupational Health, and Workplace Environment in 2019 at the national level (gold) granted by the Ministry of Labor, recognizing the Company's outstanding contributions towards environment, health and safety management and practices according to international standards.



Hana received 7 golden awards out of total 11 awards from 2019 Thailand Quality Prize for QCC (Quality Control Circle) granted by Technology Promotion Association (Thailand-Japan) and 2019 Thailand Kaizen Award from the Ministry of Industry. These national awards represent the Company's achieving performance excellence through an integrated strategy of innovation and continuous improvement.

Hana Overview and Nature of Business

Hana Group Structure



* Formerly named Hana Microdisplay Technology, Inc.

Hana Overview and Nature of Business

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.

Manufacturing

Hana Microelectronics Public Co., Ltd.
Hana Semiconductor (Ayutthaya) Co., Ltd.
Hana Microelectronics (Jiaxing) Co., Ltd.
Hana Technologies, Inc.
Hana Microelectronics (Cambodia) Co., Ltd.
Power Master Semiconductor Co., Ltd.

Holding

Hana Semiconductor (BKK) Co., Ltd.
Hana Microelectronics International Ltd.
Hana Microelectronics Investment Ltd.
Hana Microelectronics Enterprises Co., Ltd.

Purchasing

Omac Sales Ltd.

Customer services

Hana Macao Commercial Offshore Ltd.

Trading

Hana Semiconductor International Ltd.

Agent and customer services

Hana Microelectronics, Inc.

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

Holding shares by the Company directly	Type of business	No. of shares/Registered shares (Type of stock - Common stock)
Hana Semiconductor (BKK) Co., Ltd. 65/98 Soi Vibhavadi-Rangsit 64 Junction 2, Kwang Talad Bangkok, Khet Laksi, Bangkok 10210, Thailand	Holding	99,999,994/100,000,000 Baht
Omac Sales Ltd. 16 E, On Fook Industrial Building, 41-45 Kwai Fung Crescent, Kwai Chung, N.T., Hong Kong	Purchasing of electronic components and equipment	99,999/100,000 HKD
Hana Microelectronics International Co., Ltd. P.O. Box 71, Craigmuir Chambers, Road Town, Tortola, British Virgin Islands	Holding	2/2 USD
Hana Microelectronics Investment Co., Ltd. P.O. Box 71, Craigmuir Chambers, Road Town, Tortola, British Virgin Islands	Holding	2/2 USD
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	69,999,993/120,000,000 Baht
Hana Microelectronics (Cambodia) Co., Ltd. Neang Kok Village, Pakkhlung Commune, Mondul Seyma District, Koh Kong Province Cambodia	Manufacturing and trading of electronic components	5,000,000/5,000,000 USD

Hana Overview and Nature of Business

Holding shares by the Company's subsidiaries	Type of business	No. of shares/Registered shares (Type of stock - Common stock)
Hana Semiconductor International Ltd. Rua De Pequim No. 126 EDF. Commercial I TAK C18 Macao, P.R. China	Trading of electronic components	1,851,283/10,000,000 USD Holding shares by Hana Microelectronics International Co., Ltd.
Hana Technologies, Inc. 2061 Case Parkway South, Unit # 6, Twinsburg, Cleveland, Ohio 44087, USA	Manufacturing and trading of electronic components	437,752/ 437,752 USD Holding shares by Hana Microelectronics Investment Co., Ltd.
Hana Microelectronics, Inc. 3100 De La Cruz Blvd, Suite 204, Santa Clara, CA 95054, USA	Agent and customer services	1,000/1,000 USD Holding shares by Hana Microelectronics Investment Co., Ltd.
Hana Microelectronics Enterprise Co., Ltd. Vistra Corporate Services Center, Wickhams Cay II, Road Town, Tortola, British Virgin Islands	Holding	2/2 USD Holding shares by Hana Microelectronics Investment Co., Ltd.
Hana Macao Commercial Offshore Ltd. Rua De Pequim No. 126 EDF. Commercial I TAK C18 Macao, P.R. China	Customer services	1/1 MOP (Macau Pataca) Holding shares by 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	40,000,000/40,000,000 USD Holding shares by 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	50,000,001/120,000,000 Baht Holding shares by Hana Semiconductor (BKK) Co., Ltd.
Power Master Semiconductor Co., Ltd. 77 Cheongam-ro, Nam-gu, Pohang-si, Kyeongbuk, Korea	Manufacturing and trading of electronic components	24,158,257 / 100,000,000 Won Holding shares by Hana Microelectronics Enterprise Co., Ltd.

Hana Overview and Nature of Business

Nature of Business

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 Microdisplay assembly with factories currently located in Thailand, China, USA and Cambodia providing a wide scope of assembly processes serving a diverse range of electronic industries which includes:-

Manufacturing Service	Location	Ultimate Holding
Lamphun plant 1: RF (Radio-Frequency Devices), COB (Chip-on-Board), SMD (Surface Mount Device), Automotive Sensors, PCB Assemble including High Frequency Telecommunication Devices, Computer Components, Medical device Lamphun plant 2: Optical Mouse Sensor, Ink-jet Cartridge, Proximity Sensor, Wafer-Level Probing	Hana Microelectronics Public Co., Ltd., Lamphun plant 1 and 2, Thailand	100%
Integrated Circuit Assembly & Test, Optical Sensors, SOT, SIP, MEMS, Smart Card Module, RF (Radio-Frequency Devices), DIE	Hana Semiconductor (Ayutthaya) Co., Ltd., Thailand	100%
Printed Circuit Board Assembly, COB (Chip-on-Board), CIB (Chip-in-Board), Surface Mount Technology (SMT), Wireless Radio Frequency Product, Micro Coil Winding, Integrated Circuit Assembly & Test, LED	Hana Microelectronics (Jiaxing) Co., Ltd., P.R. China	100%
RFID (Radio Frequency Identification Devices), LCOS (Liquid Crystal on Silicon), MEMS, HTP (high-temperature polysilicon)	Hana Technologies, Inc., USA	100%
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 and Computer Components and Pre-Assembly: Semi-Electronic	Hana Microelectronics (Cambodia) Co., Ltd., Cambodia	100%

Revenue structure by product group

(Unit: Million Baht)

Product	Company	% of share holding by the Company	2019		2018		2017	
			Revenue	%	Revenue	%	Revenue	%
IC ASSEMBLY	HS-AYT & HM-JX	100%	7,573	37	8,649	39	8,653	40
PCBA	HM-LPN, HM-JX & HMC	100%	11,973	59	12,575	56	11,741	55
MICRODISPLAY	HTI	100%	838	4	1,040	5	1,157	5
Total			20,384	100	22,264	100	21,551	100

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.

Hana Overview and Nature of Business

Hana Product Group

1. Printed Circuit Board Assembly (PCBA)

The broad definition of Printed Circuit Board Assembly is placing ICs and other electronics components on a printed circuit board using a procedure known as SMD (Surface Mount Device) technology. Our PCBA products are made in two of our manufacturing plants, Lamphun (Thailand) and in Jiaxing, China. The Company also provides manufacturing services for other products such as COB (Chip-on-Board) Assembly, Wireless Radio Frequency Product and other electronics device (Air Pressure and Temperature Control product, Fiber Optic Device, Wireless Sensor Product, Smart Card Product, Medical Device such as Hearing Aid and etc.). In our Cambodian plant, the Company assembles box build products and other labour intensive assemblies.

2. IC Assembly and Test

Hana provides IC assembly and test operations at our Ayutthaya plant in Thailand and Jiaxing, our plant in China. The Company offers a variety of IC assemblies and test services such as Standard IC products (QFN/DFN package, LGA, MSOP package, SC, SOT, and TSOT package, etc.), LEDs for Automotive Lighting, Optical Mouse, DC-DC Converter Assembly and Fiber Optic Assembly, etc.

3. Microdisplay

Hana Technology Inc. produces Liquid Crystal on Silicon “LCoS” devices which are be used for microdisplays and optical telecommunications components. The plant also produces RFID (Radio Frequency Identification - RFID) passive tags. The products are developed and initially manufactured by the plant in Twinsburg, Ohio, USA The manufacturing of these devices are also performed in both our Ayutthaya and Lamphun plants, where duplicate production lines have been established since 2004.

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. The Company imports most of our major raw materials used in production either directly or through distributors. The Company does not purchase raw materials from any one supplier valued at more than 30 percent of the total purchase of raw materials. The Company orders materials in relation to our customers’ orders using planning software systems to match the customer demand.

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.

Hana Overview and Nature of Business

Production capacity

The production capacity in 2019 is as follows.

(Unit: Pieces/ Year)

Manufacturing Plants	2019		2018		2017	
	Production Capacity	Actual Production	Production Capacity	Actual Production	Production Capacity	Actual Production
A) IC						
• Ayutthaya plant	5,084,970,286	4,661,234,467	5,252,969,000	4,947,572,288	5,066,503,900	4,519,490,902
• Jiaxing plant	1,779,112,000	1,149,903,000	1,781,584,800	1,274,227,000	1,739,000,000	1,117,471,758
B) PCBA						
• Lamphun plant	1,400,000,000	1,200,000,000	1,200,000,000	1,000,000,000	1,200,000,000	1,000,000,000
• Jiaxing plant	39,343,000	27,378,000	57,252,000	43,703,000	76,500,000	46,400,000
• Cambodia plant	22,360,000	18,157,601	36,360,000	29,660,000	27,380,000	26,349,144
C) MICRODISPLAY						
• USA plant	150,700,000	120,320,000	151,000,000	104,550,000	91,000,000	77,280,000

Industry Competitive Condition

In 2019 the electronic markets was weak due to electronics down cycle. The Company remains competitive by providing assemblies to the quality level demanded by the customers at a competitive cost. The management believes that company maintains a competitive cost structure equal or lower than the majority of its competitors.

To compete with our competitors:

1. Hana (Thailand) is focusing towards higher technology and better infrastructure than those in the more labour intensive countries. Thai Baht strengthening in 2019 has increased pressure on margins, however, with the recent trade war with USA situation in China, business is re-flowing back into Thailand.
2. Hana (China) also provides a competitive geographic location but with more corporate technical and administrative support to distinguish them from local competitors.
3. Hana is also planning to cope with the labor cost increase. Our manufacturing plant in Cambodia was established to take advantage of the lower labor cost there as well as to handle the non-China manufacturing requirements.
4. 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.
5. Even with the recent fluctuations in the worldwide economy, Hana has maintained a strong cash flow.
6. Hana has multiple sites which provide alternative production facilities in case any one site experience any difficulty.

Future Projects in Plan

In the Semiconductor divisions, Hana continues to place placing a greater emphasis on design and development of new packaging solutions and has been successful in registering patents for such designs which will broaden our capabilities for our customers.

In the microelectronics division in Lamphun we are implanting SAP to complement Valor and Siemens PDM systems to build a first class manufacturing IT structure. We continue to broaden our capabilities and increase automation to maintain a competitive cost structure.

Hana Overview and Nature of Business

Company General Information

Name:	Hana Microelectronics Public Co., Ltd.
Company registration number:	0107536000773
Contact address:	
Headquarter:	65/98 Soi Vibhavadi-Rangsit 64 Junction 2, Kwang Talad Bangkhen, Khet Lakxi, 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
Website:	www.hanagroup.com
Nature of business:	Electronics Manufacturing Service “EMS” Producer
Registered share capital:	974,403,900 ordinary shares at par value of Baht 1
Paid-up capital:	804,878,860 ordinary shares at par value of Baht 1
Other type of shares:	None
References:	Auditor: EY Office Limited 33 rd Fl., Lake Rajada Office Complex, 193/136-137 New Rajadapisek Road, Bangkok 10110 Thailand Tel.: 66 2264 0777 Fax: 66 2264 0790 Solicitors: Damrongtham Law Office 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 Share Registrar: Thailand Securities Depository 93 Rachadapisek Road, Dindaeng, Dindaeng, Bangkok 10400 Thailand Tel.: 66 2009 9000 Fax: 66 2009 9991 Investors can get more information of the Company from 56-1 report that is posted at www.sec.or.th and www.hanagroup.com

Hana Overview and Nature of Business

Major shareholders

Major Shareholders as of the latest closing registration book on 25 October 2019

Type of Shares: Ordinary shares

No.	Name	No. of Shares	%
1.	OMAC LIMITED, OMAC (HK) LIMITED, RAINBOW JOY LIMITED	253,419,360	31.49
2.	LGT BANK (SINGAPORE) LTD	84,108,700	10.45
3.	THAI NVDR COMPANY LIMITED	59,541,190	7.40
4.	SOUTH EAST ASIA UK (TYPE C) NOMINEES LIMITED	47,828,960	5.94
5.	STATE STREET EUROPE LIMITED	33,853,016	4.21
6.	BNP PARIBAS SECURITIES SERVICES, LONDON BRANCH	17,230,700	2.14
7.	UBS AG LONDON BRANCH	13,307,979	1.65
8.	BNP PARIBAS SECURITIES SERVICES S.A., JERSEY BRANCH	10,989,500	1.37
9.	NORTRUST NOMINEES LIMITED-THE NORTHERN TRUST COMPANY RE IEDP AIF CLIENTS NORTRUST NOMINEES 10 PERCENT ACCOUNT	10,572,019	1.31
10.	ABERDEEN STANDARD GROWTH FUND	10,332,600	1.28

Remark: No. (1) are related companies under Section 258 of the Securities and Exchange Act (No. 4) B.E. 2551.

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 the subsidiaries to pay the Company is 0 - 100% of appropriated earnings.

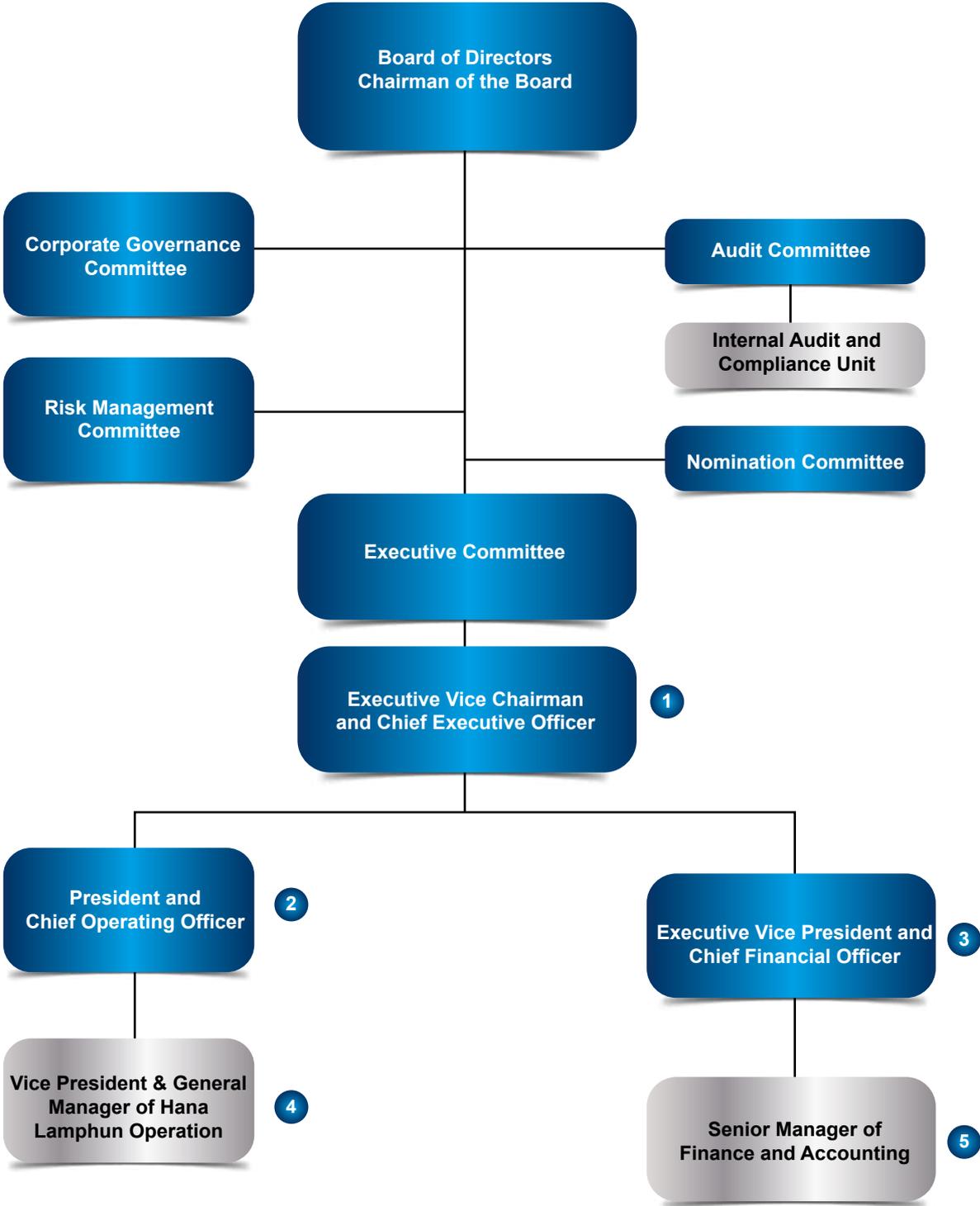
Dividend payment detail	2019	2018	2017
Interim dividend (Baht/share)	0.65	1.00	1.00
Annual dividend (Baht/share)	0.65	1.00	1.00
Total dividend payment (Baht/share)	1.30	2.00	2.00
Total amount paid (Baht)	1,046,342,518	1,609,757,720	1,609,757,720
Percentage of total dividend payment against the net profit	58%	68%	56%

Non-Financial KPI

Non-Financial KPIs are other measures used to assess the activities that the Company sees as important to the achievement of its strategic objectives. Following are the common non-financial KPIs that the Company uses as part of performance management.

KPI	Target	Actual in 2019
1. Training hours per year (average hour per person)	40 hours	50 hours
2. Continuous Improvement Program (CIP) participation rate	70%	97%
3. Customers' satisfaction	80%	86%
4. Zero audit failures (customer audit and 3rd party audit)	0	0
5. Customer complaint handling cycle time	100%	100%
6. Zero type A accidents	0	0

Management Structure



1 - 5 is the Company's Executives according to SEC Regulation

Management Structure

Board of Directors

The Board of Directors consists of six directors of whom three are executive directors and three are independent directors.

The Board of Directors as of 31 December 2019 is as follows.

Name	Position	Appointment Date
1. Mr. John Thompson	Independent Director	01 January 2017
2. Mrs. Salakchitt Preedaporn	Independent Director	01 December 2013
3. Mr. Yingsak Jenratha	Independent Director	01 December 2013
4. Mr. Richard David Han	Executive Director	26 July 1993
5. Mr. Winson Moong Chu Hui	Executive Director	26 July 1993
6. Mr. Terrence Philip Weir	Executive Director	26 July 1993

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.

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.

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

Management Structure

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 Baht 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, social responsibility, 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.

The 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.

Management Structure

Management Team

As of 31 December 2019, the executive of the Company consists of 5 members as follows.

Name	Position
1. Mr. Richard David Han	Executive Vice Chairman and Chief Executive Officer
2. Mr. Winson Moong Chu Hui	President and Chief Operating Officer
3. Mr. Terrence Philip Weir	Executive Vice President and Chief Financial Officer
4. Mr. Wing Keung Chow	Vice President and General Manager
5. Ms. Achara Chaicharncheep	Senior Financial and Accounting Manager

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

Sub-Committees of the Board of Directors

The Board currently has five committees – Executive Committee, Audit Committee, Nomination Committee, Corporate Governance Committee and Risk Management Committee in fulfilling its responsibilities.

Executive Committee:

Structure: The Committee currently comprises of three members.

Term: There is no term limit.

Name	Position
1. Mr. Richard David Han	Executive Vice Chairman and Chief Executive Officer
2. Mr. Winson Moong Chu Hui	President and Chief Operating Officer
3. Mr. Terrence Philip Weir	Executive Vice President and Chief Financial Officer

Management Structure

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 Baht 100,000,000 shall be proposed to the Board for approval
6. To perform other duties as assigned by the Board of Directors

Audit Committee:

Structure: The Audit Committee was formally established since September 10, 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.

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

Name	Position
1. Mr. John Thompson	Chairman
2. Mrs. Salakchitt Preedaporn	Member
3. Mr. Yingsak Jenratha	Member

Mr. John and Mrs. Salakchitt have the expertise and experience to review the financial statements while Mr. Yingsak has the full experience with the electronic company.

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 an independent auditor 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:

Management Structure

- 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 business

If 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

Nomination Committee:

Structure: The Nomination Committee was established in November 2004. It consists of two 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. Mr. Yingsak Jenratha	Chairman
2. Mr. Richard David Han	Member
3. Mrs. Salakchitt Preedaporn	Member

Management Structure

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

Corporate Governance Committee:

Structure: In 2013, the Board established the Corporate Governance Committee that composed of the majority of independent directors.

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

Name	Position
1. Mr. Terrence Philip Weir	Chairman
2. Mr. Yingsak Jenratha	Member
3. Mrs. Salakchitt Preedaporn	Member

Duties and responsibilities of the Corporate Governance Committee:

1. To consider, review and revise the corporate governance policy at least once 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 perform any other duties assigned by the Board

Risk Management Committee:

Structure: The Risk Management Committee was established in 2008. The Committee can appoint their management team of each Hana location responsible for ensuring an appropriate risk management process is in place.

Term: No term limit

Name	Position
1. Mr. Terrence Philip Weir	Chairman
2. Mr. Wing Keung Chow	Member
3. Mr. Sanjay Mitra	Member
4. Mr. Steven Lee	Member
5. Mr. Somchai Chanchirathumrong	Member

Management Structure

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.

Meeting Attendance:

Meeting	Board of Directors	Audit Committee	Nomination Committee	Corporate Governance Committee	Non-Executive Meeting	Annual General Meeting
Total number of meetings in 2019	7	4	3	1	1	1
Number of meeting attended/participated in 2019						
Independent Directors:						
Mr. John Thompson	7/7	4/4	-	-	1/1	1/1
Mrs. Salakchitt Preedaporn	7/7	4/4	3/3	1/1	1/1	1/1
Mr. Yingsak Jenratha	7/7	4/4	3/3	1/1	1/1	1/1
Executive Directors:						
Mr. Richard David Han	7/7	4/4	3/3	-	-	1/1
Mr. Winson Moong Chu Hui	7/7	-	-	-	-	1/1
Mr. Terrence Philip Weir	7/7*	4/4	-	1/1	-	1/1

* Mr. Terrence Philip Weir held the Board of Directors Meeting 1 time through conference call.

Corporate Secretary to the Board of the Directors

The Board has formally appointed 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.

Detail of the corporate secretary:

Name	Education	Experience
Ms. Jirapa Kongmanee	<ul style="list-style-type: none"> Bachelor of Accounting, Bangkok University Master of Business Administration, Butler University (USA) 	<ul style="list-style-type: none"> 1999 – present: The head of internal audit department of Hana Group 2008 – present: Corporate Secretary of the Board of Directors 2013 – present: The head of Compliance Unit

Management Structure

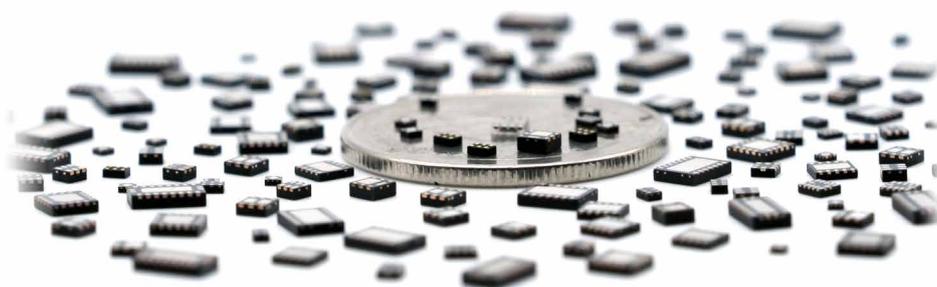
Duties and responsibilities of the corporate secretary are as follows:

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 shareholders meetings
 - Liaise with regulatory agencies such as the SET and ensure disclosure and press release according to the applicable laws

Remuneration 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.



Management Structure

Individual disclosure of remuneration for the Board of Directors in 2019 is as follows.

Name	Position	Meeting Allowance (Baht)	Bonus (Baht)	Total (Baht)
1. Mr. John Thompson	Independent Director Chairman of Board of Directors Chairman of Audit Committee	736,000	-	736,000
2. Mrs. Salakchitt Preedaporn	Independent Director Audit Committee Corporate Governance Committee Nomination Committee	412,500	-	412,500
3. Mr. Yingsak Jenratha	Independent Director Audit Committee Chairman of Nomination Committee Corporate Governance Committee	412,500	-	412,500
4. Mr. Richard David Han	Executive Director Nomination Committee	-	-	-
5. Mr. Winson Moong Chu Hui	Executive Director	-	-	-
6. Mr. Terrence Philip Weir	Executive Director Chairman of Corporate Governance Committee Chairman of Risk Management Committee	-	-	-
Total				1,561,000

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.

Management Structure

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 2019, the total remuneration of 5 executive managements is as follows.

Type of remuneration	Amount (Baht)
Salary	21,434,025
Bonus	2,629,480
Provident fund	1,114,365
Board remuneration	-
Total	25,177,870

Human Resources

As of 31 December 2019, the Company and its subsidiaries had a total number of employees of 10,359. For 2019, the total remuneration including salary, overtimes, bonus, provident funds, etc. was Baht 3,768 million. In Thailand, there were 8,396 employees with Baht 2,940 million paid for remuneration.

Number of employees and remuneration in Thailand:

Number of Employees as of 31 December 2019			
Department	Hana Microelectronics Public Co., Ltd.	Hana Semiconductor (Ayutthaya) Co., Ltd.	Total Employees
CEO Office	2	1	3
Customer Service and Business Development	30	25	55
Finance and Accounting	26	18	44
Human Resources / Administration / Training	98	109	207
Management Information System (MIS)	43	23	66
Operation Support	812	1,008	1,820
Production	2,599	2,966	5,565
Quality Assurance	158	66	224
Supply Chain Management	189	223	412
Total employees	3,957	4,439	8,396

Management Structure

Employees' remuneration	Hana Microelectronics Public Co., Ltd.	Hana Semiconductor (Ayutthaya) Co., Ltd.	Total remuneration
2019	THB 1,363 million	THB 1,577 million	THB 2,940 million

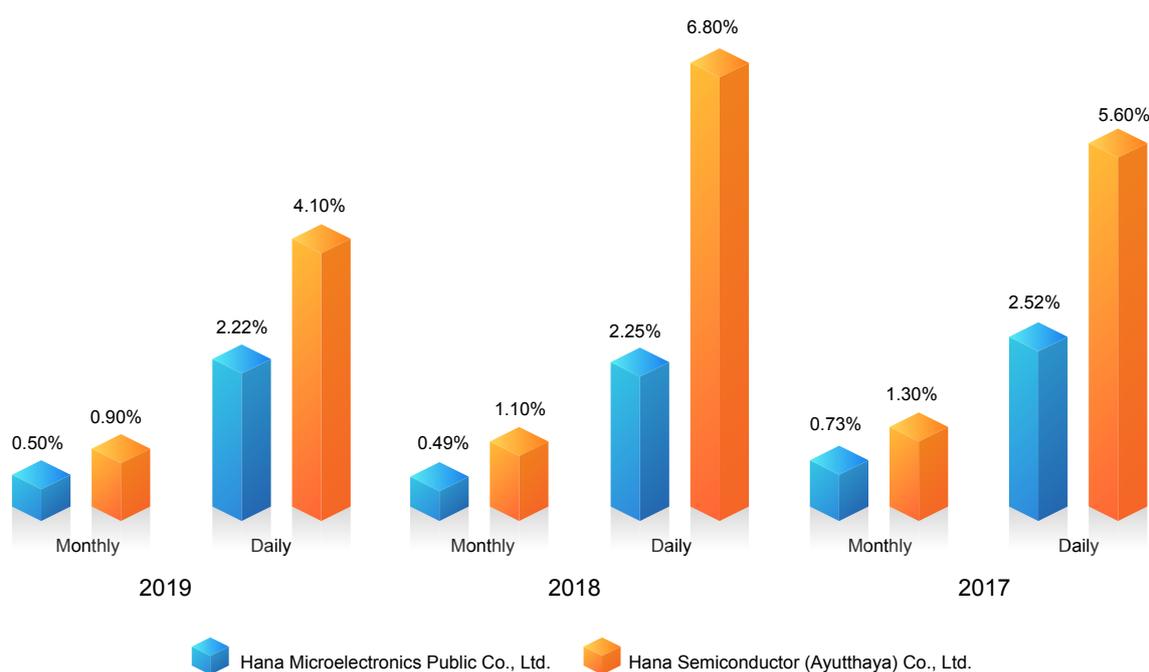
Number of employees' movement in Thailand:

	2019	2018	2017
Number of Employees	8,396	8,622	8,141
Increase / (Decrease)	(226)	481	143
% Change	(2.69%)	5.58%	1.76%

Employees' turnover rates in Thailand:

	2019		2018		2017	
	Monthly	Daily	Monthly	Daily	Monthly	Daily
Hana Microelectronics Public Co., Ltd.	0.50%	2.22%	0.49%	2.25%	0.73%	2.52%
Hana Semiconductor (Ayutthaya) Co., Ltd.	0.90%	4.10%	1.10%	6.80%	1.30%	5.60%

Employees' turnover rates



Corporate Governance

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. The corporate governance policy, which is published on the Company's website, provides the guidelines under which the Board of Directors operates. We will continue to seek improvements to our solid foundation in good corporate governance to achieve sustainable long-term growth.

Compliance with Corporate Governance Code developed by SEC

A compliance program is an important element in the corporate governance. In 2019, the Board of Directors approved the resolutions as proposed by the Corporate Governance Committee to consider and 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 eight principles as follows.

- Principle 1: Establish Clear Leadership Role and Responsibilities of the Board
- Principle 2: Define Objectives that Promote Sustainable Value Creation
- Principle 3: Strengthen Board Effectiveness
- Principle 4: Ensure Effective CEO and People Management
- 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

In 2019, the Board also resolved to approve the non-application areas with the reasons provided so that the Board could review annually.

Compliance with the SET Principles of Good Corporate Governance

The Board of Directors recognizes the importance of continuous compliance with the Principles of Good Corporate Governance for Listed Companies 2012, revised by the Stock Exchange of Thailand that covers the following five key principles.

- Principle 1: Rights of Shareholders
- Principle 2: Equitable Treatment of Shareholders
- Principle 3: Roles of Stakeholders
- Principle 4: Disclosure and Transparency
- Principle 5: Responsibilities of the Board

In 2019, the Company has reviewed our corporate governance practices and there are a couple areas that the Company adapted alternative approaches, having regard to the Company's particular circumstances. As a result, the Company has not complied with certain good corporate governance best practices for the following reasons.

Corporate Governance

Disclosure of non-compliance	Reasons
<p>1. Independent directors more than 50%</p> <p>The independent directors should make up more than 50% of the Board.</p>	<p>The board structure of the Company consists of three independent directors and three executive directors, which is accounted for 50% of the Board, whereby:</p> <p>The Chairman of the Board and the Chief Executive Officer (CEO) is not the same person;</p> <ol style="list-style-type: none"> 1. The Chairman is an independent director; 2. The Chairman and the CEO are not immediate family members; 3. The Chairman is not part of the management team. <p>Furthermore, in 2019 the Board upon the recommendation of the Nomination Committee considered that a current mix of directors with the expertise and experience to fulfill their essential oversight roles is still appropriate.</p>
<p>2. Appointment of Remuneration Committee</p> <p>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.</p>	<p>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.</p>
<p>3. Disclosure of CEO remuneration</p>	<p>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.</p> <p>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.</p>

Corporate Governance

Disclosure of non-compliance	Reasons
<p>4. Adopt an internationally recognized reporting framework</p> <p>The sustainability report should be prepared in form of Global Reporting Initiative (GRI) and more advance to adapt integrated reporting based on IIRC framework.</p>	<p>The Company has not yet prepared the sustainability report in form of GRI and Integrated Reporting. However, the Company has prepared the CSR report in accordance with the CSR-DIW Reporting Initiative, for the third year, which is in line with the industry context in Thailand and is recognized internationally. The report has disclosed on the Company's website (www.hanagroup.com).</p>

In 2019, Hana has adhered to and complied with the good corporate governance for a listed company as recommended by the Stock of Exchange of Thailand in 5 principles as follows.

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.

- **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 2019, the Company held the AGM on 30 April 2019 at 14:00 hrs. at its head office located at 65/98 Soi Vibhavadi-Rangsit 64, Junction 2, Kwang Talad Bangkok, 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 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) 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.

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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 2019, 6 out of 6 directors (100%) attended the meeting which included the chairman of the Board, the chairman of all sub-committees, Chief Executive Officer, Chief Operating Officer and Chief Financial Officer. 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 and kept for further evidence and verification. In addition, the Company arranges the inspector who was 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.

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 2019 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.;
- 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 annual report, 56-1 report, etc.;
- The right to obtain a redress or a rectification for any violations of their rights.

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In 2019, 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 September – 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 "Investor Relation" title "Corporate Governance." However, in 2019 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.

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, executives and employees. 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.

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- 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 2019, no director or executive traded the Company's shares by using inside information.

3. Roles of Stakeholders

Hana recognizes the rights of stakeholders starting from employees, customers, partners, shareholders, competitors, creditors, communities, society and the environment including 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 the stakeholders should benefit all parties in the long run. We have 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. Our key focus is to retain deserving and talented employees while employees' satisfaction is of utmost importance for them to remain happy and also deliver their level best.

Health and safety in the workplace: The combined efforts of the Company and employees are required to improve the health and wellbeing of employees at work. Hana has been certified for the Occupational Health and Safety Management Systems in accordance with ISO 45001. The Company's policy is to provide the safe and proper workplace to protect injury and illness from work. In order to eliminate or reduce health, safety and welfare related risks to our employees, various health and safety management programs have been implemented such as health and safety risk management system including audit, safety activities and safety incentive program to promote health and safety awareness. Employees take part in work environment management, e.g. by reporting hazards, incidents, illness and suggesting measures to be taken.

In 2019, the Company also provided health and safety training for newly hired and existing employees, including our partners and subcontractors, to ensure full awareness occupational hazards, to encourage and promote safety in the workplace.

The accident statistic report is posted on the bulletin board by detailing the target and accident statistics and being updated every day. In 2019, there were 4 cases of accident with small accident or employees take leave less than 3 days but 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.

Accident case	2019	2018	2017
Small accident or employees stop working less than 3 days (case)	4	6	3
Accident that employees stop working more than 3 days (case)	0	0	1
Total	4	6	4

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Employee remuneration: 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 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 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 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.

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Employee training and development: Hana has always recognized the need to develop its employees as the most important asset in the organization. In 2019 there was a series of training programs implemented aimed to enhance its employees' professional expertise and to keep up with the existing business challenges in all Hana plants. A variety of learning and development activities were put in place and supported by executive management such as soft skill managerial training, introduction of Corporate Talent Management Program, on the job learning and close coaching and mentoring by supervisors.

The people's development aims to enhance employees' well-being, knowledge and competency which are the key contribution to Hana's ongoing success. The Company has committed its resources to develop employees to perform more productively in key areas of knowledge, skills and other positive mindset training which also increase confidence and happiness in the plants.

In 2019, the Company and its subsidiaries developed our employees as following major areas.

Hana Microelectronics Public Co., Ltd. (Hana Lamphun)

Corporate Talent Management Program: Hana Lamphun Talent Program in 2019 was very dynamic and full of learning and knowledge sharing activities. In addition to practical managerial training courses conducted by the corporate trainers and in-house instructors where the Talents were challenged by individual and team assignments. The program has enhanced the engagement between managers and these young Talents with knowledge sharing session where managers shared their valuable real case studies.

Furthermore, we continued interplant Talent activities to promote knowledge sharing and collaboration among Hana group. This year the interplant workshops were set in Bangkok, Ayutthaya and Lamphun facilities in Thailand. The Talent representatives had great opportunities to work in cross-cultural context with Talents from the Company and its subsidiaries. They were given an opportunity to expose themselves, received guidance and got inspired by Hana executives. Talent 2018-2019 Program has completed successfully and will create values for the future of the Hana group.

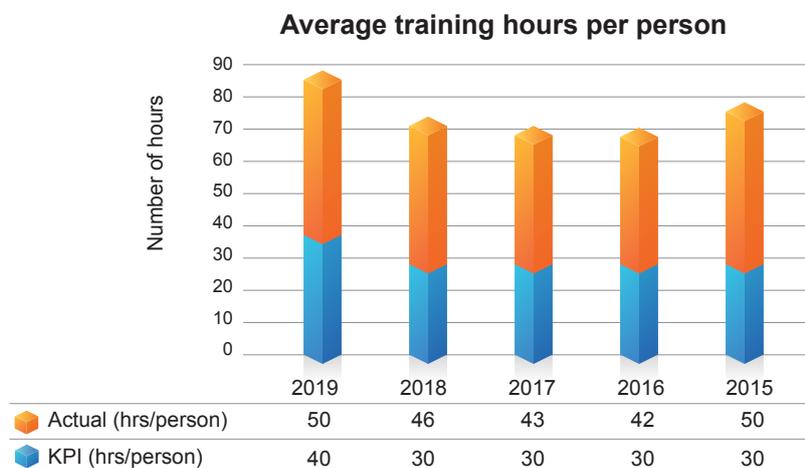
Training and People Development: Hana value our employees and focus on enhancing competency of our people to excel in their current roles and responsibilities as well as to be ready for future challenges and growth. The shared vision would bring individuals and the organization towards the greater performance and sustainable success.

In 2019, the Company provided trainings to employees totally 199,780 hours for total 3,957 employees, which were for daily employees 123,835 hours and for monthly employees 75,945 hours.

The average training hours increased to 50 hours per person in 2019. The major focus was in introducing and embedding new knowledge and skill sets related to the implementation of a new ERP system at Lamphun plant which was scheduled to launch in early 2020. Moreover, enhancing workplace learning and realizing the value of experiences inhabiting within our people as valuable sources of knowledge, the Company continued to promote knowledge sharing in all levels within an organization. In 2019, there are 72 in-house trainers who shared their expertise in training classes. The General Manager acted as a role model and conducted several managerial training courses. In collaboration with Corporate Training as well as external experts, we organized total 5,501 courses in 2019.

The average training per person per year for monthly and daily employees versus the KPI in 2019 compared with previous years is as follows.

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In 2019, a wide range of courses was provided to employees, which can be broken down into the following categories:

Training courses (type)	Number of training hours			%
	Daily employees	Monthly employees	Total hours	
Professional certification	10,509	2,036	12,545	6.28
Professional re-certification	43,440	5,963	49,403	24.73
Technical skills	13,559	15,295	28,854	14.44
Quality	30,171	12,140	42,311	21.18
General	6,328	4,678	11,006	5.51
Management skills	2,261	13,943	16,204	8.11
Safety & EMS	9,980	3,935	13,915	6.97
Computer skills	1,488	17,823	19,311	9.67
Multi-Skills	5,113	117	5,230	2.62
Job transfer	986	15	1,001	0.50
Total	123,835	75,945	199,780	100

Hana Semiconductor (Ayutthaya) Co., Ltd. (Hana AYT)

Corporate Talent Management Program: Valuable techniques to help grow business were delivered to this group of new generation staff at Hana AYT. The Talents were closely coached by the plant General Manager and management team in topics that are essential for their growth including customer relationship management, disruption and transformation, technology and innovation, value contribution and crisis management. This provided a good chance for them to interact with top management and gain experience to lighten up their visions in work and life.

Career Development Program (CDP): Hana AYT provides CDP candidates and key staff with exclusive training and opportunities that support both professional and personal development. The program aims to prepare the individual to get ready for any tasks and possess the necessary confidence, determination and teamwork to succeed in any situation.

Hana Institute of Technology (Ayutthaya) HIT: Hana AYT succeeded to minimize employee turnover by continued collaborating with the Office of the Non-Formal and Informal Education (NCER) to open the technician classroom for interested and potential employees with the vocational certificate degree in electronic field. Hana AYT provided the facilities and equipment where daily employees can pursue their technical skills during working hours. Upon graduation, their career paths along with job promotion and salary adjustment will be granted in accordance with the conditions met with

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the Company's criteria. Hana AYT still continues developing its people in all levels with knowledge and technical skills to cope with future technology needs.

In 2019, Hana AYT provided training of 415,803 hours for total 4,439 employees, which were for daily employees 357,222 hours and for monthly employees 58,581 hours, resulting in an average training per person is 94 hours per year.

Hana Microelectronics (Jiaxing) Co., Ltd. (Hana JX)

In 2019, Hana JX continued to focus on people development needs, pay more attention to training enhancement, actively organized and coordinated employees to participate in various types of training. Over the past year, 6,334 hours of training hours were provided to monthly employees, with a total of 45 training sessions, including 7 management courses, 10 technical courses, 13 quality courses and 15 other comprehensive courses; 247,562 hours of training were provided to daily employees, including job theory, on the job training and other trainings.

Hana Microelectronics (Cambodia) Co., Ltd.

With the growth of business in 2019, Hana Cambodia still continues to develop their workforce and management team particularly the technical and skill training for local employees. 2019 also included sending local Cambodian staffs for overseas training in Hana group. Trainings was on areas of operation related technical skills, inventory system management and leadership skills. The increase of in-house training has grown by 30% aiming to prepare the workforce for the new business.

In 2019, Hana Cambodia achieved ISO 9001:2015 and TL 9000:2016 and plan to gain certification of ISO 14001 (Environment Management System), ISO 45001 (Occupational Health and Safety) and ESD System in 2020.

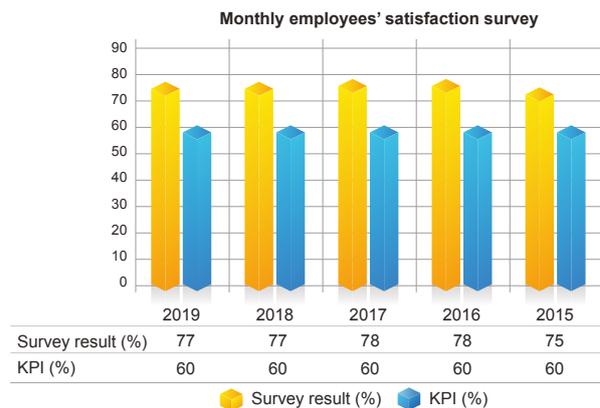
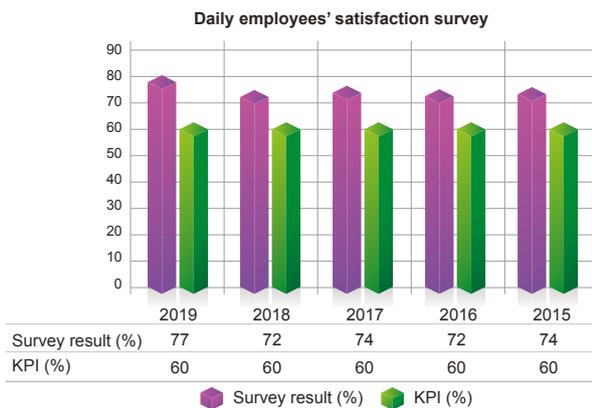
The Company provided a total 13,394 training hours for a total 426 employees including 10,945 for daily employees and 2,449 hours for monthly employees resulting in an average training per person of 31 hours per year.



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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 2019 compared with the previous years:



Human rights

The Company believes that respect of human rights is an important part of being a good corporate citizenship. The Company has upheld human rights in every activity we do and we do not tolerate such discrimination of others. There will be no child labour or abusive hiring. Our Human Resource representatives provide advice and counsel to employees and managers to address issues involving human and labour rights. The Company also establishes a welfare committee as an internal channel of communication to develop a consensus between employees and the Company. In 2019, the Company has no claim or report of human right violations from employees, business partners, or local communities.

Customers

Hana places the highest value on our customers. The Company aims to meet or exceed our customers' expectation for product quality, delivery, reliability, and competitive prices. Hana has been accredited to Quality Management System (QMS) with the aim to deliver high quality products on time. Our policy is to strive for the customer satisfaction, zero defects, and meeting the international standard 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 the supply chain management particularly for the customers so that we could coordinate such business activities and processes to minimize their total costs and maximize their effectiveness in the marketplace including problems' solving solutions of their complaints or recommendations by meeting their needs and honoring commitments. Customer partnership is a foundation of success that also requires commitment to build long-term relationships by creating synergies of knowledge, security, and adaptability for both parties.

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In 2019, Hana Lamphun received the award from its key customer in recognition of valuable contribution and strategic partnership. Hana Cambodia also received the award from its principal customer in recognition of being a value and important strategic partner for their business.



A Customer Feedback Procedure exists under the control of quality, in order to ensure that the customer feedback is identified, analytics are required and action plans are put in place and feedback to the customers to satisfactory resolution. Performance measurement parameters have been developed as part of the business and Quality Management System and a significant number of these are aimed at assessing and improving customer satisfaction. Our customer satisfaction surveys conducted yearly help the Company to get actionable customer feedback and to focus on the importance of fulfilling and exceeding customer expectations.

Customers' satisfaction survey vs. KPI of year 2019 compared with the previous years:



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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

Hana promotes fair and open competition and aims at developing and securing long term relationship with suppliers and contractors. Procurement of goods and services shall be conducted in a manner of the highest ethical standards, which assure a quality end product, as well as the continued confidence of customers, suppliers, and other stakeholders. The hire of services or the purchase of goods will be based solely upon price, quality, service, and delivery. Procurement actions will be based on the 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

The US-China trade war hit the semiconductor sector in the fourth quarter of 2018 and carried on through 2019. The performance of semiconductor industry has been tied to the fate of the trade war between the world's two largest countries and such situation and implementation of tariffs has impacted supply chain in term of price and supply of raw materials. However, with the long term relationship and good support from our key partners and suppliers, we are able to manage the situation with minimal impact aside from our China plant.

Hana has a long history of establishing strong partnerships with our key suppliers, based on trust and adherence to our business code of conduct. We share with them our fair and transparent working principles, standard business code of conduct as well as our ethics and commitment to corporate social responsibility and safety. The following areas are important to us and it is essential that our suppliers and business partners respect them.

- Hana manages our business and treat our suppliers and business partners in a manner that exemplifies our honesty, ethics, integrity and in full compliance with applicable laws and regulations, and this applies to every business decision in every area of the Company, from Board of Directors and management to every employee.
- Hana strives to maintain professional and mutually beneficial partnership with suppliers, distributors and representatives who are an integral link in our achievement. We always conduct supplier and vendor negotiations and selection in a transparent manner and for the best interest and benefit of Hana.

The timely procurement of necessary raw materials and components is critical and to avoid the supply problem, we work diligently to develop close relationship with multiple suppliers. We also encourage appropriate, honest, constructive and timely communication within the Company and with the key suppliers.

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In 2019, the electronic industry has been in a downturn and we are being careful in managing our supply chain to prevent the shortage/excess in our raw material supply and finished goods on-time delivery to customers. We conduct suppliers' business review and site visits each quarter and use these activities as a tool to develop and strengthen relationship with our key business partners. Suppliers' relation, communication and collaboration are the key to our success.



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.

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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 2019, 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 2019, 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.

The Company has been certified by international standards for Occupational Health, Safety and Environment (OHSAS 18001 and TIS 18001) and 2019 has achieved the new ISO 45001 certification 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 (refer to Corporate Social Responsibility Section). The Board supports the training of all employees to achieve a better understanding and create awareness of the environment. In 2019, various environmental training courses had been provided to 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 14000 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.

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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.

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 2019, 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 2019, 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, at which time management received training from the corporate trainers. 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 2019, the Company received the signed acknowledgement from 1,834 suppliers, which was accounted for 100% from the goal of 100%.

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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 2019, the risk assessment including the compliance with the anti-corruption policy was reported to the Board for consideration.

Certification: The Company has been certified as a member of Thailand's Private Sector Collective Action Coalition Against Corruption (CAC) 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.

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
Sr. Corporate Administration and Human Resources Director	Mrs. Puntipa Tanthana	puntipat@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, Kwaeng Talad Bangkhen, Khet Laksi, Bangkok 10210, Thailand

Any whistleblower in Hana group should initially make a complaint 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 2019, the Board did not receive any complaints about corruption/fraud, breach of business ethics and corporate governance, 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.

Corporate Governance

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 annual report as well as 56-1 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 2019, the Company participated in investor relation's events and presentations as follows.

Participation events	Domestic	Foreign	Total
Non-deal roadshow	4	2	6
Meetings at the Company's headquarters (No. of organization)	14	16	30
Total investor meetings and phone calls (No. of organization)	28	38	66
The Company's site visit	3	4	7

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
Mr. Terrence Philip Weir	Finance	terry@hanabk.th.com	0 2551 1297	0 2551 1299
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

Corporate Governance

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 2019, there was no conflict of interest from directors and executives reported to the Board.

5. Responsibilities of the Board of Directors

The Board of Directors consists of 6 directors which are 3 executive directors and 3 independent directors whose is accounted for 50% of the Board. The Board would increase the number of the independent director whenever that will be suitable for the size and structure of the business. The Chairman of the Board is not the same person who holds the Chief Executive Officer position and the chairman is an independent director.

Board diversify

The Company is open wide to the diversity of the structure of the Board of Directors. The person who will serve as a director should provide complementary qualification to the existing directors such as expertise in specific field, gender, etc. As part of adopting our diversity policy, the Board had nominated a female independent director to serve as its member.

Nomination of director and independent director

The Board of Directors gives emphasis on the transparency of director nomination. The Company has the policy to use a professional search firm, IOD director pool for new director recruitment or personal recommendation. In addition, the Company has the policy to give the right to minority 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 2019, 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 which the Board considers based on 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.

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.

Corporate Governance

- 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 executive director is to be experienced 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.

Corporate Governance

- 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.

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.

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 2019, the Company held 7 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

Corporate Governance

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. In 2019, the Board invited the General Manager of Hana Ayuthaya plant to attend the Board’s meeting in order to provide additional business information and to allow independent directors to visit the plant. 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 2019, the independent directors conducted a meeting without attendance of management one time on 13 November 2019. The meeting was conducted with the participation of internal and external auditors.

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. In 2019, the Company provided the factory visit for independent directors to interact with factory management and employees in order to help them to gain more understanding and update our business activities, operation and production technology.

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 2019, the director attended following training courses/seminar.

Name	2019 Training course/seminar
1. Mr. Terrence Philip Weir, an executive director	• E-learning CFO Refresher Course (English Version), by The Stock Exchange of Thailand
2. Mrs. Salakchitt Preedaporn, an independent director	• Adjusted entry items in the Financial Statements for Public Company Limited (General Business), by the Department of Business Development, Ministry of Commerce

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In addition, the Board also encourages the corporate secretary to develop her knowledge for proper execution of duties and responsibilities. The corporate secretary, Ms. Jirapa Kongmanee, had attended following training courses.

- Corporate Secretary Program organized by Thai Institute of Directors Association (IOD)
- Effective Minute Taking organized by Thai Institute of Directors Association (IOD)
- CS Seminar for key documentation keeping organized by SEC

In 2019, the corporate secretary further attended the training courses/seminars held by the SET, Thai Investors Association and other institutions such as:-

- Human Right Driven Faction of Listed Companies' Sustainable competitiveness in accordance with UN Guiding Principles on business and Human Rights (UNGPs) by The Securities and Exchange Commission (SEC) and National Human Rights Commission of Thailand (NHRC)
- Transfer Pricing 2019 by NYC Management Co., Ltd.
- Green Gas Reporting by Stock Exchange of Thailand (SET) and Thailand Greenhouse Gas Management Organization (Public Organization)
- Enhancing Good Corporate Governance based on CGR Scorecard by The Thai Listed Companies Association and Stock Exchange of Thailand (SET)
- Business and human rights for business sectors in the Thai capital market by The Securities and Exchange Commission (SEC) and National Human Rights Commission of Thailand (NHRC)
- PwC Thailand Seminar on Warning Signs of Fraud by Pricewaterhousecoopers Thailand

Service on Other Boards

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

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 2019, the overall performance of the Board's group was assessed at "very good" ranking. The Board also has conducted the performance evaluation of an individual director using the self-assessment method with evaluation criteria. In 2019, the corporate secretary concluded the Board's individual performance and reported to the Board's meeting with the average performance was "very good" ranking.

Corporate Governance

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 2019, each sub-committee got the average score as “very good”.

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 2019, the independent directors assessed the CEO with satisfactory performance.

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.

Managing the CEO succession plan is the Board’s responsibility. In 2019, the Board reviewed the succession plan 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.

Business ethics

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 2019 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 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.

Corporate Governance

For the available whistleblowing channels, no compliant or dispute regarding ethical issue was reported in 2019.

Auditor's remuneration

In 2019, 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 Baht 2,450,000.

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

Audit fee

(Unit: Baht)

Company	Auditor name	2019	2018
Hana Microelectronics Public Co., Ltd.	Ms. Kamontip Lertwitworatep	2,450,000	2,270,000
Hana Semiconductor (Ayutthaya) Co., Ltd.	Ms. Kamontip Lertwitworatep	1,260,000	1,160,000
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		4,200,000	3,920,000

Non-audit fee

(Unit: Baht)

Company	Non-audit fees	2019	2018
Hana Microelectronics Public Co., Ltd.	1. BOI audit fee	360,000	360,000
	2. Inventory destruction fee	60,000	40,000
Hana Semiconductor (Ayutthaya) Co., Ltd.	1. BOI audit fee	270,000	270,000
	2. Inventory destruction fee	0	0
Total		690,000	670,000

For the financial year ended 31 December 2019, 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.

Internal Control and Risk Management

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 2019, 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. 7 held on 17 December 2019 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.

Internal Control and Risk Management

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.

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.

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.



Related Party Transactions

Related Transactions in 2019:

According to the Note 7 on related party transactions of the consolidated financial statements for the year ended 31 December 2019, 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.

In 2019, 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.

Related Party Transactions

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.

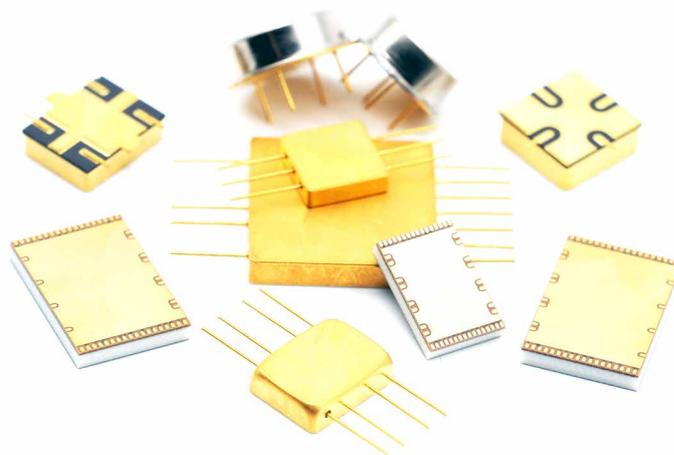
Policy of related transactions in future:

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.



Corporate Social Responsibility



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.

CSR Policy, Vision, Strategies and Sustainable Development:

Policy: The Board of Directors commits that the Company will conduct business with respect to its economic, social, and environmental responsibilities, as well as for other stakeholders. The Board also commits that the Company's business will be conducted in an open, honest, and ethical manner. Hana and its subsidiaries recognize 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.

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

Strategy: Hana's business environment is highly competitive. The Company seeks to expand its sales each year and to continually improve the capabilities and productivity of its production processes. Whilst doing so the management and staff are mindful of the CSR policies for sustainable development and review each change to ensure compliance with the CSR objectives toward sustainable development with regards to the economic, social and environmental impact. In addition, the Company and its subsidiaries have established CSR committees at each plant with representatives from different departments which focus on the Company's relationship with our stakeholders.

Corporate Social Responsibility



CSR Development: In 2019, Hana received CSR-DIW Continuous Award from the Department of Industrial Works for sustainable development for the third year 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.

Stakeholders Prioritization:

Our key stakeholder groups are identified as follows.

Stakeholders	Engagement Approach	Expectation/Concerns	Implementation
Shareholder/Investor	<ul style="list-style-type: none"> Analyst meeting Annual General Meeting of Shareholders Annual Report, 56-1 Report, Press Release ESG scorecard 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

Corporate Social Responsibility

Stakeholders	Engagement Approach	Expectation/Concerns	Implementation
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 Labour 	<ul style="list-style-type: none"> Quality management system Supply chain management Code of conduct, Electronic Industry Citizenship Coalition (EICC) Code of Conduct Occupational health, safety and labour Green product Productivity improvements Cost reduction programs Working to grow with new and existing customers
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 and safety Career development 	<ul style="list-style-type: none"> Employee Relation Committee Occupational health, safety and Labour Career development program
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 Feedback from Industrial Estate Recruitment Procurement 	<ul style="list-style-type: none"> Operate with no impact to the environment Social contribution 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

Our Priorities:

Following are our sustainability development efforts on areas that are of greatest interest and concerns to our stakeholders.

Economy

1. Strong cash flow and continuous dividend payment
2. Good business governance
3. Ethic and anti-corruption

Corporate Social Responsibility

Social

1. Occupational Health, Safety and Labour policies
2. Labour practice
3. Community and social interaction

Environment

1. Environmental policy and management
2. Efficient use of resources
3. Minimize environmental impact

In 2019, the Company and its subsidiaries operated our businesses by integrating with CSR principles of the Stock Exchange of Thailand as follows.

1. Corporate Governance

The Board realizes and commits to conduct business with the good corporate governance in conformance with OECD Principles of Corporate Governance as a key international standard 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. Due to our continued development of good corporate governance, the Company received an “excellent or five-star” CG rating as evaluated by Thailand Institute of Directors (IOD) in 2019.

The Board continues making development of good corporate governance practices in order to create maximum benefits to shareholders and other stakeholders resulting in sustainable corporate performance over the long term.

2. Fair Operating Practice

Fair and open competition: Hana conduct its business in compliance with competition laws and regulations, advising employees to realize the important of fair competition policy, avoiding and anti-monopoly trading, not asking for and not receiving or paying any benefits that are not honest with trading partners or government officers, and not seeking the confidential information of competitors by fraudulent, dishonest, inappropriate, immoral or illegal acts.

Safeguard the property right of others: Hana respects the rights of tangible and intellectual property of others by not engaging in any activity that violates such rights e.g. using a superior market power to make abuse, making fake products or violating intellectual property right, etc.

Customer relationship management: The customer satisfaction surveys are conducted annually to improve the Company’s products, services and other business processes in order to meet the customers’ needs and requirements enabling the Company to maintain and expand its customer base in the long term.

Our responsible principle toward customers is to operate our business in compliance with applicable laws, rules and regulation as well as compliance with the Electronic Industry Citizenship Coalition (EICC) which is the code of conduct for electronic industry best practices.

Promote value supply chain: The Company is taking its efforts to build open business relationships and ensure fair and even-handed dealings with its suppliers, cooperative and support CSR activities in aiming at building a sustainable society in full partnership with its suppliers such as ensure to comply with established purchasing procedure. The Company also encouraged its business partners to respect human rights and threat their employees fairly by requiring suppliers to sign

Corporate Social Responsibility

on acknowledgement and compliance with the code of conducts for suppliers as well as performing the supplier audit in order to develop a sustainable business relationship.

3. Anti-Corruption

Hana has been a signatory company of Thailand's Private Sector Collective Action Coalition Against Corruption (CAC) since 2013, with the objective to support the Coalition against Corruption aiming to counter corruption in any forms. The Company was certified as a member of Thailand's Private Sector Collective Action Coalition Against Corruption since 2015.

The Company realizes the importance of the fight against corruption. The written anti-corruption and related policies have been established with the monitoring process to ensure that employees and concerned parties comply with the policies and anti-corruption programs. The Company also provides whistleblowing channels, set up an anti-corruption committee with the senior management as a chairman, does corruption risk assessment, employees' training as well as participating with partners to fight against corruption. In addition, the Company organizes activities to promote the honesty and integrity of employees and business partners as part of anti-corruption measures. In 2019, there were 288 employees and partners awarded for this project, which affirms that the Company has supported the fighting corruption through the implementation of policies and effective mechanisms to prevent corruption at company and industry levels.



4. Respect of Human Rights

Hana respects the basic human rights of individuals. The Company has policies to ensure that there shall be no human right violation, all employees treated equally and operate in a workplace that is free from discrimination. The Company has the career development program for employees to enhance their knowledge and skills and open opportunities for future growth. Employees' remuneration shall be the same standard for men and women. Open communication and direct engagement between workers and management are the best ways to resolve workplace and compensation issues. The Company respects the rights of workers' councils in accordance with local laws. Workers shall be able to communicate openly with management without fear of reprisal, intimidation or harassment. Employee satisfaction surveys have been regularly conducted to provide management with the knowledge and tools to build positive employee relations and a positive work environment. Channels of complaint are also opened to all employees while protecting employees who report violations or wrongdoing in the Company.

In 2019, the Company had no major issues regarding labour and human rights from our key customers' in-depth audits, where those audits had focused on anti-discrimination, anti-harassment and abuse, prevention of involuntary labour and underage labour, working hours, compensation, freedom of association, and etc.

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5. Fair Labour Treatment

Non-discrimination in employment: 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.

In addition, 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. In 2019, Hana Semiconductor (Ayutthaya) Co., Ltd., a subsidiary of the Company, joined the International Day of Persons with Disabilities having the theme of "Empowering persons with disabilities and ensuring inclusiveness and equality". Hana Ayutthaya received a prize of "The excellent organization that support persons with disabilities" by the Office of the National Development and Disabilities, the Ministry of Social Development and Human Security by empowerment and supporting disability programs for 7 consecutive years. Hana Ayutthaya also received a prize of the excellent organization that supported persons with disabilities in Ayutthaya province. This represents our commitment to promote and create opportunities for hiring people with disabilities and improving their well-being.



Not using forced labour or child labour: The Company does not use trafficked, forced labour or child labour. The Company shall comply with applicable laws whether laws prohibiting complaints to support slavery or trafficking, and shall not use or enter into the agreement for forced labour including slavery such as assign employees to certain types of work which they either do not willing to do or as punishment. Employees are free to resign from the employment by giving advanced notice and the Company shall not keep their identification cards, passport or work permit with the Company as part of employment obligation.

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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 employee, medical treatment, educational fund granted for children of low income employees, employees' cooperatives and other welfares such as group life and accident insurances, annual health check, special vaccination such as Influenza vaccine, Fitness Center, library at certain location, etc.

There are also long service awards for employees to honor and recognize their contribution over a period of years. The Company also provides the reward program to recognize exemplary performance of employees who have excellent work attendance, no record of disciplinary action, significant contributions and innovations to reduce the Company's cost or improve efficiency, or demonstrated their ability and willingness to work positively, respectfully, and effectively with others, etc.



The Company provides pregnancy care support for pregnant employees by providing training regarding midwifery and newborn care, gift sets and pregnancy allowance per month. In 2019, the Company provided the support to pregnant employees and scholarships for employees' children over Baht 1 million.

Safety, health and environment at the workplace: The Company focuses on the work environment that is safe for both physical and mental health. The Company was certified for OHSAS 18000 and TIS 18001 which was an international and Thai's occupational health and safety management system since 2005 and the Company has certified to a new ISO 45001 replacing OHSAS 18001 standard in 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 as follows.

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1. Conserve natural resources and energy effectively to prevent pollution and minimize generation of all wastes.
2. Provide the safe and proper workplace and equipment in order to prevent any accident and incidence from occurrence.
3. Strictly comply with labour and other applicable legal and regulations and provide full support to customers' requirements with regard to occupational health, safety, environment, including social and labour accountability (e.g., Electronic Industry Citizenship Coalition (EICC) Code of Conduct.)

The main content of this policy has been communicated to employees at all levels through the Company's noticeboard, the intranet website, and post on employee's ID card as the guidelines for employees to perform their work with the same objectives. 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.



In 2019, Hana Lamphun received a gold award for excellent Safety, Occupational Health and Environment in the workplace at a country level, given by the Ministry of Labour. This shows the importance and cooperation between employers and employees in developing the labor relations and welfare system to improve the quality of life of our employees.



Hana Lamphun received the certification for the 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 until 30 September 2020. This project has extensive benefits for the Company, its employees and society as healthy employees are productive and increase the efficiency of the work whereas improve the organization quality and reduce the burden on the government as well as generate income for the government in the form of more taxes. As a result, it is good for the economy and society as a whole.

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Recreational activities for employees: The Company realizes the importance of employees by arranging various recreational activities as part of the Company's strategy to develop and build relationships between management and employees, as well as creating a "family" culture within the organization which allows employees to enjoy their work. In 2019, the Company and its subsidiaries provided a variety of recreational activities for employees such as sport day, Team Building, birthday party, Songkran party, Mother's Day and other major festivals of each Hana location, etc.



The Company also held a "Teacher's Day" to honor employees who dedicated their times and efforts being a volunteer teacher or lecturer to train staff. In 2019, there were totally 73 internal instructors joining the knowledge sharing program.



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The Company also arranged, meet the management meetings with staff, with a quarterly meeting with existing and new employees including senior staff level and twice a year with all employees. In addition, the Board and executives also arranged the visit to a new factory in Cambodia. This is a good opportunity for management to meet and discuss with employees so that we can have 2-way communication so enable management to bring such feedback for improvement plan and minimize the gap between management and staff as well.



6. Customer Responsiveness

The products and services that we make are safe and not harmful to consumers and related parties. The Company 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.
- ISO/TS 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.

In addition, the Company promotes fair trading and has the policy to assess customer satisfaction both before and after sale to improve customer satisfaction and continuous improvement.

Quality improvement program: It is the policy of the Company to encourage all employees to participate in improving their own work processes i.e., reduce defect in production line, reduce cycle time, reduce error and customer complaints and improve quality through multiple initiative projects such as Quality Control Circles (QCC), improvement project, special projects assigned by the chairman for employees level supervisors or engineers and technicians, employees' suggestion, small group activity, and continuous improvement program (CIP). Our quality improvement programs have been continuously developed and recognized by both internal and external organizations.

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National quality award: 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 2019. In 2019, the Company received the 5 golden awards for the Manufacturing QCC Prize and Junior Manufacturing QCC Prize, and one silver award for Task Achieving Prize: totally 6 awards. The group activity program aims at employees' involvement at all levels to participate in continuous quality improvement as an approach to find problems and ways to improve the quality of products and production processes so enable the enhancement of productivity and quality as well as create a high level of motivation and enthusiasm of our workforce.



7. Environmental Care

Environmental management: As Hana has its manufacturing sites located in industrial estates, there are a number of control and management systems and standards to prevent pollution and impact to the environment and community. The Company also has been certified for environmental management system ISO 14001 since 1999. The Company operates its business in compliance with the requirements of industrial and environmental legislation and applicable laws. There is the environmental committee responsible for overseeing the environmental management and the effective implementation.

Use of resource efficiency: In 2019, the Company implemented the programs to efficiently utilize the resources, reduce and prevent pollution to the environment and the community as follows:

Electricity: The Company invested in various projects to reduce energy consumption such as install heating coils in Fresh Air Unit to recover waste heat from cleaning machines, improve compress air pipes to reduce pressure drop, install air pressure's booster regulators for machines that need pressure more than 90 PSI, adjust cold water temperature to suit seasonal weather, modify machinery and equipment for energy conservation in the wastewater treatment plant of the factory which was subsidized by the Department of Alternative Energy Development and Efficiency, etc. As a result, the Company can save more than 665,000 kilowatt-hours per year and reduce CO2 emissions over 460,000 Kg CO2e per year, which is worth more than 2.2 million baht per year for the reduction of electricity consumption.

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Hana Ayutthaya, a subsidiary, has continued implementing energy efficiency improvement programs by joining the energy conservation project with the Department of Alternative Energy Development and Efficiency Ministry of Energy. This included repairing the Auto Drain system of compressed air systems as non-financial investment. The financial investments included installation of compressed air booster pump, improvement of exhaust pipes for machinery resulting in the energy saving for 642,000 kilowatt-hours per year and reduce the amount of CO₂ emissions by more than 445,000 Kg CO₂e per year which reduced electricity consumption by 2.1 million baht per year.

Water quality: The Company established a list of 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 wastewater system is monitored on a daily basis to ensure that the wastewater treatment is under control and better than the government standards. The waste water from the production process was treated and filtered to increase the recycled water usage by 42.50% in 2019 enabling the water savings of 115,000 cubic meters per year, worth 2.7 million baht per year.

Hana Ayutthaya has implemented water saving program continuously with the project to increase the ability to recycle waste water which can reduce the cost of water supply by more than 1.4 million baht per year.

Air quality: The control of air emissions are in line with the standards and related laws. The Company has air pollution list its sources, pollutant and its types, pollutant concentration, pollution control and treatment, measures identified and implemented to achieve reductions in air pollution. The Company monitors and does preventive maintenance of equipment related to various air pollution controls and performs measurement of air quality in the workplace. From the implementation, the air quality expelled from our factory is 20% better than the regulation required.

Noise level: The Company maintains machinery and equipment in good condition and provides personal protective equipment (such as ear plugs, ear muffs, etc.) to employees who work in a noisy environment. In working areas where noise levels exceed 85 decibels, the hearing health check-up for those employees have been provided periodically.

Illumination measurement: Insufficient or excessive illumination could cause the employees' fatigue. The Company has provided the assessment and measurement of the intensity of the light on a periodic basis as to determine whether improvement measures are needed to protect employees.

Heat stress measurement: The Company annually measures to identify whether those employees who may be at risk from heat stress are suffering from any heat related illnesses. The heat stress measurement has been in line with the standard requirement.

Waste management: Hana 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 the separation of waste into three categories: general waste, recycle waste and hazardous waste. The waste disposition is managed according to legal standards of the Department of Industrial Works.

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Chemicals and hazardous substances: In addition to ISO14001 certification, our manufacturing plant in China has been certified for IECQ QC080000:2005 Hazardous Substance Process Management “HSPM” since 2008. IECQ accreditation creates competitive advantage in compliance with laws and operations with the highest industry standards as we have the processes in place to properly manage our products to be free from hazardous substances.



Reducing the environmental impact:

Hana recognizes and places the importance on reducing the environmental impact caused by our business activities. The Company promotes the improvement of production processes and sustainable innovation to reduce the effects that may occur through important projects as follows.



Green Industry: The Company has taken steps to improve and develop clean energy for long term sustainability that aim to meet the applicable green industry standards. In 2019, our 2 Lamphun factories have been certified as “Green Industry Level 4” or “Green Culture” presenting that everyone in the organization provides cooperation to work toward an environmentally friendly manner in all aspects of business operations until becoming part of the corporate culture.

The following are the outcomes that the Company would benefit from being the Green Industry.

- Reduce impact on the environment and the community; as a result, reduce complaints and reduce the risk of future obligations.
- Create positive image and attitude towards the industry for a more environmentally friendly; resulting in a better understanding and acceptance between the industry and the surrounding community.
- Create more job employment related to environment fields, increase worker safety and satisfactory in the workplace.
- Reduce the use of resources and energy; resulting in cost savings and enhance competitive advantage.

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Eco-Factory: Hana Lamphun received the Eco-Factory Award in the large factory category by focusing on creating an economic balance, society and environment under the framework of sustainable development in terms of physical, economic, social, environmental and management dimensions. The award has recognized that the Company have a good management system, safe environment, using resources and energy efficiently, minimal waste and support society and stakeholders for sustainable development.

Eco-Excellence: Hana Lamphun received the Eco-Excellence Award by honor the Company to develop and elevate the quality of life in communities and improve the quality of the environment based on the balance of economic, society and environment through the cooperation and networks of the enterprises, government and communities working together to achieve a common goal.

Environmental Governance Award: The Company was certified as an excellent for the project to promote public participation in the supervision of factories in the Industrial Estate (White Flag, Green Star) by applying the principles of good governance, environment and social responsibility.



Green Partner Program: Our Lamphun, Ayutthaya and China plants have been certified to the standards of our customers in the project of Green Partner Program regarding environmental management systems by controlling the use of chemicals in the production, prohibiting the use of dangerous substances, discontinuing and reduction in the usage of such substances that impact to the environment such as the use of lead solder inside the product. Further, it is not allowed to use material to make the product or packaging that is harmful such as lead, mercury, etc.



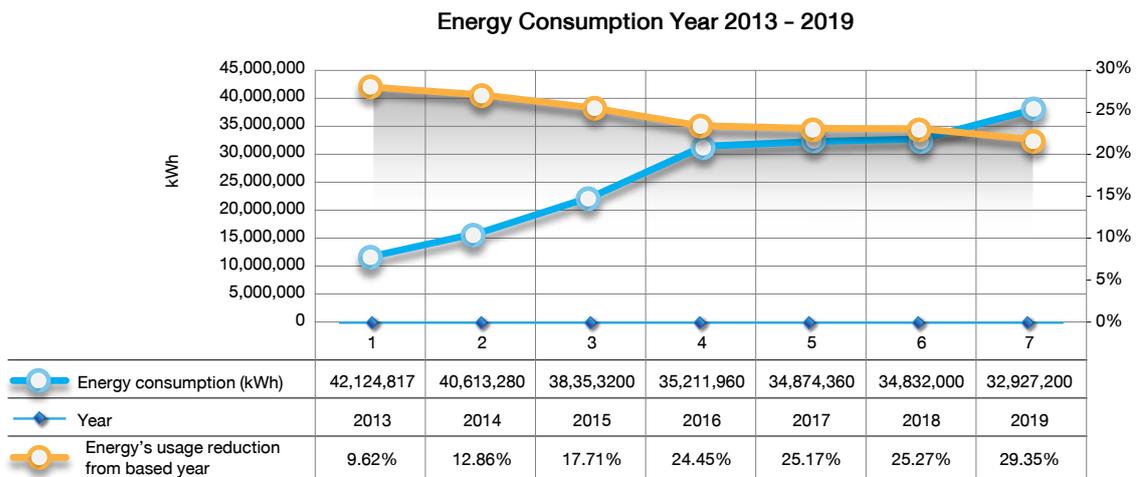
Thailand Kaizen Award: Hana Lamphun received the Kaizen Silver Award for the improvement of the efficiency of the wastewater treatment system from the canteen as to save cost of wastewater treatment and reduce water pollution. The award reflects that employees value the importance of reducing their impact on the environment by developing creative works for continuous improvement for environment conservation.

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In summary, Hana Microelectronics Public Co., Ltd. consumed energy and released carbon dioxide in 2019 compared to prior years as follows.

Key energy measurement	2019	2018	2017	2016	Reference
Electricity Consumption/ Revenue (kWh/MB)	5,468.12	5,386.90	5,752.62	5,821.49	Total electricity consumption divided by million baht of revenue
CO2 Emission/Revenue (Kg CO2e/MB)	2,854.36	2,811.96	3,002.87	3,265.85	Total CO2 emissions divided by million baht of revenue
Recycled Water Consumption (% of total water consumption)	42.50%	43.68%	44.53%	41.92%	
Environmental Issues	None	None	None	None	

From 2013 to 2019, the Company has implemented energy saving programs and continued to implement energy conservation measures. As a result, the Company electricity consumption is in the downward trend as follows.



Future energy conservation execution: Hana executed two long term Power Purchase Agreements with Constant Energy's subsidiary in Thailand (Solar Rooftop CE1 Co., Ltd.) to install solar panels on the roofs of the three factories of Hana in Lamphun and Ayutthaya Provinces. The installation will be completed and ready for use in 2020. The three plants will have total 3 MW capacity. The renewable power generation will result in a reduction of costs, combined with a reduction of CO2 emissions of 3,000 tonnes per year.

This energy conservation project will benefit Hana and society as follows.

- Help reduce the operational costs
- Solar cells act as roof shades which reduce the temperature below the roof, reducing the need for air conditioning which can keep electricity costs down.
- The electricity is made from sunlight which is a clean renewable energy source and helps reduce global warming.
- Reduce the peak demand for electricity in the daytime

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Complaint procedures: The Company assigned environmental supervisors and operators, to receive training and registration as required by law, to communicate information with the community and residents living around. The Company also has the procedure for complaints and resolving complaints arising from the operations of the Company. In 2019, the Company has no major environmental complaints from the employees or the community.

8. Social and Community Development

The Company participates with the community to support social stability and to be a good corporate citizen through following projects.

Career development and income generation for the community: “Mushroom greenhouse for community” is a project whereby Hana Lamphun built small-scale mushroom greenhouse farm from its unused equipment and provided knowledge on farming system to the community as a learning resource for interested persons to participate and make a part time income from it, or run it as a community food project.



Educational support: Hana aims to contribute to the development of society by providing educational support to the children and young people who will lead the next generation in growing up with their full potential and to achieve career planning and the national development driven.

- **Knowledge sharing** – Hana Lamphun hosted the student visit program for academic institutions such as Thammasat University at Lampang Center, Chiangmai University, New Life Foundation and many other universities to broaden their understanding of industrial knowledge, the view of production planning and a factory tour for students to observe the real workplace. Nearly 213 students received the hands-on experiences from this project.



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- Support the academic needs** - The Company provided scholarships and donated books, school supplies, sports equipment, food and cloth for students from local elementary school to college ages in Lamphun, Chiangmai, Chiangrai, Mae Hong Son, Ayuthaya and other provinces in Thailand including Koh Kong in Cambodia and Jiaxing in China.



Support the youth and people within the communities: The Company arranged various projects to improve the quality of life and strengthen the good relationship between the Company and the communities as below.

- To enhance safety and environmental awareness for the youth, the Company provided helmets to children and emphasized safety discipline when riding motorcycles, and provided reflective traffic shirts for polices in the Industrial Estate, and in cooperation with the Lamphun Safety Personnel Club to donate water purifiers to the needy children through the project of “Bring safety to children”
- To support the Industrial Estate project, the Company provided financial donation and medical equipment for patients in local communities.
- To donate bicycles to the community for the Eco-Tourism project of the village in Pa Sang District
- To support the improvement of the roads accessing to schools in remote areas, support funds to build slope protection from mountains for poor students, and renovate playground project of the municipality in Lamphun
- To donate cash and necessary items to people with disabilities in order for them to find a career for their living

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Social contribution activities: To encourage employees to care for society and help others, our employees have been joined society benefitting activities initiated by the Company as follows.

- **Employee and family assistance program:** Hana and employees provided financial support and necessary supplies to help victims of natural disasters and those who suffered from illnesses such as cancer, stroke, chronic kidneys, house fires, storms, floods, etc.



- **Environmental conservation:** The implementation of environmental conservation or restoration projects by raising awareness among employees and communities in order to realize the importance of natural resources and promote environmental sustainability through the following activities:

SAY NO TO FOAM - Hana Lamphun joined ceremony of LAMPHUN SAY NO TO FOAM Campaign at Ban Klang Municipality, Lamphun and we successfully implemented Hana Say No to Foam practice within the factory by encouraging employees not to use foam for food packaging and use containers that are safe for health and friendly to nature instead.

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Reduce pollution projects: Employees of Hana Lamphun and the community gathered together to clean up trash on the streets in the municipality area, including planting more than 400 trees, and 170 kinds of plants in the community around the estates and support funds and building dams with the Department of Forestry and the Industrial Estate.



Animal conservation activities: Hana Ayutthaya donated money to free 7 buffaloes' lives and to further donate those buffalos to help farmers to use in their agricultural farms allowing farmers to have better incomes and well-being. In addition, Hana Lamphun supported the project of local animals (White Lamphun Cattle) at Dr. Thiam Chokwatana Research Center under the CSR-DIW project and the activity of releasing various kinds of fishes into the river to preserve biodiversity.



- **Blood donation:** Hana Employees joined with the Thai Red Cross for blood donation. In 2019, there were 2,019 employees donated blood more than 732,950 milliliters.



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- **Underprivileged and disabled support:** The Company seeks to contribute to improve the quality of life and reduce inequities for the underprivileged in society. The Company and its subsidiaries have allocated its budget and held CSR activities with employees with the total donation to the below charities that have been reviewed and rated by Giving Back Association.

Foundation for Rehabilitation & Development of Children and Family (FORDEC) – Hana HQ made a donation to FORDEC amounting to Baht 100,000 in order to support the underprivileged children for the scholarships, milk and lunch.



The SET Foundation – Hana Ayuttaya made a donation to The SET Foundation for 21 scholarships amounting to Baht 210,000 to the needy students of Takfa Technology and Management Collage.



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- **Other social activities:** Hana HQ donated funds to build the bathrooms for the needy school in Saraburi. In addition, Hana Ayutthaya employees joined the marathon organized by Prasat Thong Subdistrict Municipality in order to support the purchase of medical equipment for Bang Pa-in Hospital and other needy institutions in town.



9. Innovation and its Dissemination

The Company has invested in Manufacturing Execution System to modify the traditional manufacturing process and automate production processes which can increase the competitiveness advantage of the Company by improving product quality, increasing operating efficiency, responding to higher customer requirements, managing labour issues in regards to both labour costs and labour shortages, as well as reducing waste and environmental impact.

Geared towards corporate excellence by Kaizen: From joining the competition with Thailand Kaizen Award in 2019 which was organized by the Technology Promotion Association Thailand - Japan, Hana Lamphun won 5 awards from the contest with 2 golden awards, 2 silver awards and 1 bronze award. The golden award granted was for the Automation Kaizen by achieving the invention of automated equipment to improve production process. Having promoted employees to participate in the continuous improvement program applying the concept of creativity and innovation, the Company is able to meet the customers' needs and expectation. With the invention of an automatic sorting machine, the Company can reduce waiting times by more than 6 times and increase UPH 7 times which are better than the target. In addition, the new equipment can reduce a number of headcount from 17 to 2 workers per day. As a result, the Company can benefit with the cost saving of Baht 305,347 per month or Baht 3,664,169 per year.

The other golden award was for the Project Kaizen from designing the more advance equipment to reduce the process time and increase efficiency of Tire Tag assembly processes. The new development increased efficiency and effectiveness as employees can work easier with more convenient methods so reduce working time and able to produce products with consistent outcome as there is a checking system in the shop floor to prevent cross-process work. As a result, the Company takes advantage of cost savings of Baht 36,127,550 per year and is able to implement this new system to be used with other Tire Tag modules.

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The factory automation projects applying Kaizen have been successfully implemented from developing the thinking process, brainstorming to increase the capacity and efficiency of the production process, eliminating waste (Lean Manufacturing) and bringing into the practice of employees. With the development of innovative applications using Kaizen successfully, this could raise the Company's operations to a higher standard and strengthen the Company's competitiveness.



Audit Committee Report

The Audit Committee of Hana Microelectronics Public Company Limited is composed of three 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 2019. The meeting attendance of each committee is as follows.

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

In 2019, 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 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 2019 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, as well as considering the risk assessment and risk control measures. From the review, the Audit Committee found no deficiency and concluded that the Company has adequate internal control and risk management systems which are appropriate to the business.
- 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 2019, 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 transactions 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.

Audit Committee Report

- 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 2019, 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.

The Audit Committee concludes its satisfaction with the accuracy, completeness and creditability of 2019 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



Nomination Committee Report

The Nomination Committee consists of three directors, of which two 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 2019, 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

In respect of the candidate nominations for new director appointments in the shareholders' meeting in 2019, 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.

The Nomination Committee believes the candidate nomination for director appointment process is proper and transparent and in compliance of its charter.



Mr. Yingsak Jenratha
Chairman of Nomination Committee



Corporate Governance Committee Report

The Corporate Governance Committee consists of three directors, of which two are the independent directors. The Corporate Governance Committee has performed its responsibilities in compliance with the Corporate Governance Committee Charter approved by the Board of Directors.

In 2019, 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

The Committee reviewed the application of 2017 CG Code's Principles and Sub-Principles that are suitable for the Company's business, and proposed to the Board of Directors to consider and review the application and non-application or "apply or explain" items.

The Committee annually reviewed the corporate governance policy and established its sub-policies in compliance with the new CG Code to ensure the policy updated and in line with the international standards, laws, criteria, rules and regulations as well as reviewed the compliance and proposed recommendations including conducted corporate governance self-assessment with related checklists of Thai Institute of Directors Association (IOD), the Stock Exchange of Thailand, the Office of the Securities and Exchange Commission and the Thai Investors Association.

From our continuous implementation and improvement of good corporate governance, the Company was assessed with "Excellent" recognition level (5 stars) on corporate governance of Thai listed companies. Scored 100 points in the evaluation of the quality of Annual General Meetings of Shareholders for the year 2019 (AGM checklist) of listed companies by the Thai Investors Association.

The Committee believes that the implementation of good corporate governance with continuous development shape the growth and the future of the Company and long term sustainability to our stakeholders.

Mr. Terrence Philip Weir
Chairman of Corporate Governance Committee



Management Discussion and Analysis

Overall Group Performance

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

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

Past Performance Analysis

Revenue Analysis

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

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

The annual sales split was:

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

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

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

Management Discussion and Analysis

Operating Profit Analysis

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

Payout Analysis

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

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

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

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

Financial Status

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

Asset Quality

Accounts Receivable

Most of customers are well known and have good reputation in the IC, and electronics industry.

Provision is made of amounts outstanding over 90 days and amounts which the management believe may be doubtful. Accounts receivable were 64 days in 2019, 63 days in 2018 and 63 days in 2017.

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

Management Discussion and Analysis

Inventory

In general, Hana's production is based on clients' order, consequently, the majority of inventory are raw materials, expendable tools and work in process with little finished goods pending for customer delivery. The group companies normally write-off out-of-date inventory, and make provision for aged inventory and depletion in the value of fixed assets, if material, each quarter.

Inventory days were 98 days in 2019, 89 days in 2018, and 77 days in 2017.

Liquidity

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

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

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

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

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

Capital Expenditure

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

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

Source of Financial Capital

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

Management Discussion and Analysis

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

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

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

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

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

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

Foreign Exchange Rates

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

Exceptional Items

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

Subsequent Event

None

Risk Factors

With due recognition by the Board of Directors of Hana Microelectronics Public Company Limited 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 the supervision of the organization's risk management practices in a systematic manner.

The Risk Management Committee has formulated risk management policies as follows:

1. To enable the Company to manage any probable risks in an efficient manner, with such management procedures implemented in a sound and systematic manner.
2. To promote preventive risk management procedures to be carried out in a swift, transparent, accurate, and complete manner on a systematic and consistent basis.
3. 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.
4. To facilitate risk management procedures to be implemented in an appropriate manner well conforming to the Company's mission and policy.

For such purpose, the Risk Management Committee has engaged in the evaluation and analysis of those risks possibly affecting the organization, covering both internal and external risk factors, setting priorities for the risk management plan, as well as engaging in regular follow-up on the implementation of such plans and informing the Board of such plan and potential material risk management issues.

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

1. Risk Factors which effect to the Company Group's Business

a) Strategic Business Risk

- **Change in major customer base 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.

To minimize the impact of customer risk, 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 economics 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 Brexit-related uncertainty, US/China trade war, novel disease, etc.

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

Risk Factors

b) Operational Risk

- **Equipment technology change risk**

Changes in manufacturing technology could make existing equipment obsolete.

The Company minimizes this risk through regular purchases of the latest capital equipment to upgrade the Companies' manufacturing capabilities.

- **Hazard Risk**

A factory could partial or whole destruction 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.

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. At the group's major facilities in Thailand the Company has additional flood protection to reduce the risk of damage from flood.

- **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.

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 the executive level focus on replacing the incumbents of key positions particularly at the executive level and provide for the continued managerial development.

- **Skilled workforce risk**

The Company could face with inability to source suitably skilled staff and insufficient direct labour.

Each Hana division has experienced HR staffs and has programs to review remuneration levels each year in comparison with the Company's competitors. The Company also has training programs and staff development programs to increase the employee skill levels.

- **Material supply chain risk**

The Company could face with inability of our suppliers to deliver materials consistently, on time and in accordance with specification.

To minimize supply chain interruption, each Hana division has experienced supply chain management team where the key materials are approved by the customers for each product produced and critical materials have multiple sourcing options. Further risk migration for managing supply chain risk and disruption includes evaluating alternative inbound logistics options, enhancing allocated available to promise capability and opening channels of communication with key customers.

- **Information security risk**

The Company could be affected by cyberattacks such as hardware, systems, network, customer data and

Risk Factors

intellectual property that can cause damage to our business, affect our bottom line as well as our business' standing and customer trust.

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.

c) Financial Risk

Other risk factors which may affect the Company are exchange rates movements of the Thai Baht, political risk and changes in interest rates and collection of receivables. However, the Company's sales revenues and material costs are almost wholly in USD which provides a natural hedge. Capital expenditure is also in USD as the machines are mostly imported from the region.

As all the groups 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. $(1 - 0.60) \times \text{Sales Revenue} \times 10\%$).

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

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

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.

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.

- **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.

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.

e) Environmental Risk

A number of assessments have been considered to determine the environmental risks for both quantitative and qualitative water management, air pollution, waste management and 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

Risk Factors

management to reduce the volumes of waste and control waste streams according to the hierarchy for different methods of treatment has been executed. In addition, electrical is primary energy use for our productions so the amount of greenhouse gas emissions is low. The Company has been implementing various projects to reduce the use of electricity continuously. In this regard, the Company organized a campaign for all employees to realize the conservation of the environment by strengthening the culture of environmental preservation by providing knowledge and training to staffs on the environment and various activities in accordance with the specified policies and plans.

f) Shareholders' investment risk

The Company doesn't have any significant risks for shareholders' investment. There are no conflicts of interests amongst major shareholders and no other conditions that may affect shareholders outside of normal business as the Company. All shareholders have equal rights and the Company maintains good financial standing.

2. Emerging Risk Management

A climate change brings warmer temperatures, the greenhouse effect, increased water pollution, and more frequent and extreme weather events causing severe impacts on the sustainability of an environmental dimension, social dimension and the economic dimension which creates both risks and opportunities to the business. The Company therefore emphasizes on the management and control of risks toward climate change with both short and long terms including monitoring the emerging 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 disruptions. We are minimizing consumption of, and reusing, resources in response to increased demand and decreased availability and reliability. The Company has been investing in automation technology transformation for the changes in production and consumption patterns so could create environmental improvements compared with the processes used in the past. As electricity demand escalated, with supply depending largely on fossil fuels, concerns arose about carbon dioxide emissions contributing to possible global warming. Solar roof project is the execution plan that Hana implement and we shall regularly assess rooms for innovation, exploration, and collaboration to help fight climate change.

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.

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 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 2019 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 2019, 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 2019, 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 as issued by the Federation of Accounting Professions as relevant to my audit of the financial statements, and I have fulfilled my other ethical responsibilities in accordance with the Code. 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.

Independent Auditor's Report

I examined the revenue recognition of the Group by

- Assessing and testing the Group's information technology general controls and 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.
- 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 period-end.
- 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 the Note 4.4 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 internal controls of the Group 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 a significant accounting estimate 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 the Note 4.12 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.

Independent Auditor's Report

I assessed and tested the Group's internal control 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.

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.

Independent Auditor's Report

- 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.

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.



Certified Public Accountant (Thailand) No. 4377

EY Office Limited

Bangkok: 24 February 2020

Statement of financial position

Hana Microelectronics Public Company Limited and its subsidiaries

As at 31 December 2019

(Unit: Baht)

	Note	Consolidated financial statements		Separate financial statements	
		2019	2018	2019	2018
Assets					
Current assets					
Cash and cash equivalents	6	5,434,979,009	4,081,336,162	577,211,336	237,904,042
Short-term investments	8	3,132,585,955	3,985,333,619	-	-
Trade and other receivables	7, 9	3,340,723,349	3,831,672,196	1,508,440,693	1,523,937,147
Inventories	10	4,518,387,301	5,222,839,582	2,332,078,879	2,459,278,112
Current portion of long-term fixed deposits with financial institution	12	450,179,552	480,072,336	-	-
Other current assets		137,873,840	155,141,408	58,722,840	50,433,780
Total current assets		17,014,729,006	17,756,395,303	4,476,453,748	4,271,553,081
Non-current assets					
Investments in subsidiary companies	11	-	-	3,583,449,264	3,583,449,338
Other long-term investments	13	135,790,090	146,121,100	97,000	97,000
Investment property	14	72,303,750	72,303,750	72,303,750	72,303,750
Property, plant and equipment	15	6,901,862,057	7,179,238,446	2,727,807,057	2,637,492,387
Land leasehold rights	16	115,504,445	127,127,511	-	-
Intangible assets	17	160,934,116	51,507,746	30,154,598	34,666,062
Deferred tax assets	24	1,173,780	13,071,409	2,276,247	2,065,930
Other non-current assets		23,885,071	22,547,441	10,000	10,000
Total non-current assets		7,411,453,309	7,611,917,403	6,416,097,916	6,330,084,467
Total assets		24,426,182,315	25,368,312,706	10,892,551,664	10,601,637,548

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

Statement of financial position (continued)

Hana Microelectronics Public Company Limited and its subsidiaries

As at 31 December 2019

(Unit: Baht)

	Note	Consolidated financial statements		Separate financial statements	
		2019	2018	2019	2018
Liabilities and shareholders' equity					
Current liabilities					
Short-term loans from financial institutions	18	500,000,000	-	500,000,000	-
Short-term loan from related party	7	-	-	210,000,000	-
Trade and other payables	7, 19	2,252,054,338	3,421,408,524	1,381,316,534	1,332,899,464
Short-term provisions	20	301,540,000	324,498,000	-	-
Income tax payable		22,447,412	37,278,272	6,595,456	2,400,609
Other current liabilities		105,660,618	130,407,869	21,727,972	24,918,884
Total current liabilities		3,181,702,368	3,913,592,665	2,119,639,962	1,360,218,957
Non-current liabilities					
Provision for long-term employee benefits	21	698,864,226	371,589,984	327,677,243	142,704,747
Total non-current liabilities		698,864,226	371,589,984	327,677,243	142,704,747
Total liabilities		3,880,566,594	4,285,182,649	2,447,317,205	1,502,923,704
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	22	456,462,666	456,462,666	100,000,000	100,000,000
Unappropriated		18,441,803,280	18,237,930,334	5,817,136,617	6,470,616,002
Other components of shareholders' equity		(880,748,067)	(139,360,785)	-	-
Total shareholders' equity		20,545,615,721	21,083,130,057	8,445,234,459	9,098,713,844
Total liabilities and shareholders' equity		24,426,182,315	25,368,312,706	10,892,551,664	10,601,637,548

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

Income statement

Hana Microelectronics Public Company Limited and its subsidiaries
For the year ended 31 December 2019

(Unit: Baht)

	Note	Consolidated financial statements		Separate financial statements	
		2019	2018	2019	2018
Revenues					
Sales	26, 27	20,384,421,819	22,264,260,113	9,246,883,112	8,970,635,269
Interest income		183,557,023	196,114,572	1,008,285	4,983,551
Dividend income	11	66,375	2,014,305	176,066,360	892,563,000
Gain on exchange		334,338,305	15,125,213	27,873,159	76,455,347
Other income		347,883,131	375,334,838	35,429,412	43,435,115
Total revenues		21,250,266,653	22,852,849,041	9,487,260,328	9,988,072,282
Expenses	23				
Cost of sales		18,070,411,302	19,060,852,408	8,204,337,469	7,720,777,397
Selling and distribution expenses		145,183,198	157,596,459	42,077,230	38,217,959
Administrative expenses		1,108,588,601	1,111,889,106	375,196,877	339,020,090
Total expenses		19,324,183,101	20,330,337,973	8,621,611,576	8,098,015,446
Profit before finance cost and income tax expenses		1,926,083,552	2,522,511,068	865,648,752	1,890,056,836
Finance cost		(13,234,384)	(6,751,744)	(9,521,264)	(2,193,730)
Profit before income tax expenses		1,912,849,168	2,515,759,324	856,127,488	1,887,863,106
Income tax expenses	24	(108,264,709)	(140,536,726)	(9,820,826)	(6,035,764)
Profit for the year		1,804,584,459	2,375,222,598	846,306,662	1,881,827,342
Profit attributable to:					
Equity holders of the Company		1,804,584,459	2,375,222,598	846,306,662	1,881,827,342
Earnings per share	25				
Basic earnings per share					
Profit attributable to equity holders of the Company		2.24	2.95	1.05	2.34
Number of weighted average ordinary shares (shares)		804,878,860	804,878,860	804,878,860	804,878,860

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

Statement of comprehensive income

Hana Microelectronics Public Company Limited and its subsidiaries

For the year ended 31 December 2019

(Unit: Baht)

	Note	Consolidated financial statements		Separate financial statements	
		2019	2018	2019	2018
Profit for the year		1,804,584,459	2,375,222,598	846,306,662	1,881,827,342
Other comprehensive income:					
<i>Other comprehensive income to be reclassified to profit or loss in subsequent periods:</i>					
Gain (loss) on change in value of available-for-sale investments	8.2	140,226,245	(145,926,981)	-	-
Exchange differences on translation of financial statements in foreign currency - net of income tax	24	(881,613,527)	(207,293,463)	-	-
Other comprehensive income to be reclassified to profit or loss in subsequent periods - net of income tax		(741,387,282)	(353,220,444)	-	-
<i>Other comprehensive income not to be reclassified to profit or loss in subsequent periods</i>					
Actuarial loss - net of income tax	21, 24	(272,661,394)	(18,992,426)	(171,735,928)	(7,419,702)
Other comprehensive income not to be reclassified to profit or loss in subsequent periods - net of income tax		(272,661,394)	(18,992,426)	(171,735,928)	(7,419,702)
Other comprehensive income for the year		(1,014,048,676)	(372,212,870)	(171,735,928)	(7,419,702)
Total comprehensive income for the year		790,535,783	2,003,009,728	674,570,734	1,874,407,640
Total comprehensive income attributable to:					
Equity holders of the Company		790,535,783	2,003,009,728	674,570,734	1,874,407,640

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

Statement of changes in shareholders' equity

Hana Microelectronics Public Company Limited and its subsidiaries
For the year ended 31 December 2019

(Unit: Baht)

Note	Consolidated financial statements							Total shareholders' equity	
	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	Surplus (deficit) on changes in value of available-for-sale investments	Exchange differences on translation of financial statements in foreign currency			
Balance as at 31 December 2017	804,878,860	1,723,218,982	443,691,136	17,504,229,412	214,568,508	(708,849)	213,859,659	20,689,878,049	
Profit for the year	-	-	-	2,375,222,598	-	-	-	-	2,375,222,598
Other comprehensive income for the year	-	-	-	(18,992,426)	(145,926,981)	(207,293,463)	(353,220,444)	(372,212,870)	
Total comprehensive income for the year	-	-	-	2,356,230,172	(145,926,981)	(207,293,463)	(353,220,444)	2,003,009,728	
Dividend paid	-	-	-	(1,609,757,720)	-	-	-	(1,609,757,720)	
Unappropriated retained earnings transferred to statutory reserve	-	-	12,771,530	(12,771,530)	-	-	-	-	
Balance as at 31 December 2018	804,878,860	1,723,218,982	456,462,666	18,237,930,334	68,641,527	(208,002,312)	(139,360,785)	21,083,130,057	
Balance as at 31 December 2018	804,878,860	1,723,218,982	456,462,666	18,237,930,334	68,641,527	(208,002,312)	(139,360,785)	21,083,130,057	
Profit for the year	-	-	-	1,804,584,459	-	-	-	1,804,584,459	
Other comprehensive income for the year	-	-	-	(272,661,394)	140,226,245	(881,613,527)	(741,387,282)	(1,014,048,676)	
Total comprehensive income for the year	-	-	-	1,531,923,065	140,226,245	(881,613,527)	(741,387,282)	790,535,783	
Dividend paid	-	-	-	(1,328,050,119)	-	-	-	(1,328,050,119)	
Balance as at 31 December 2019	804,878,860	1,723,218,982	456,462,666	18,441,803,280	208,867,772	(1,089,615,839)	(880,748,067)	20,545,615,721	

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

Statement of changes in shareholders' equity (continued)

Hana Microelectronics Public Company Limited and its subsidiaries
For the year ended 31 December 2019

(Unit: Baht)

	Note	Separate financial statements					Total shareholders' equity
		Issued and paid up share capital	Share premium	Retained earnings	Unappropriated		
			Appropriated Statutory reserve	Unappropriated			
Balance as at 31 December 2017		804,878,860	1,723,218,982	100,000,000	6,205,966,082		8,834,063,924
Profit for the year		-	-	-	1,881,827,342		1,881,827,342
Other comprehensive income for the year		-	-	-	(7,419,702)		(7,419,702)
Total comprehensive income for the year		-	-	-	1,874,407,640		1,874,407,640
Dividend paid	29	-	-	-	(1,609,757,720)		(1,609,757,720)
Balance as at 31 December 2018		804,878,860	1,723,218,982	100,000,000	6,470,616,002		9,098,713,844
Balance as at 31 December 2018		804,878,860	1,723,218,982	100,000,000	6,470,616,002		9,098,713,844
Profit for the year		-	-	-	846,306,662		846,306,662
Other comprehensive income for the year		-	-	-	(171,735,928)		(171,735,928)
Total comprehensive income for the year		-	-	-	674,570,734		674,570,734
Dividend paid	29	-	-	-	(1,328,050,119)		(1,328,050,119)
Balance as at 31 December 2019		804,878,860	1,723,218,982	100,000,000	5,817,136,617		8,445,234,459

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

Statement of cash flows

Hana Microelectronics Public Company Limited and its subsidiaries

For the year ended 31 December 2019

(Unit: Baht)

	Consolidated financial statements		Separate financial statements	
	2019	2018	2019	2018
Cash flows from operating activities				
Profit before tax	1,912,849,168	2,515,759,324	856,127,488	1,887,863,106
Adjustments to reconcile profit before tax to net cash provided by (paid from) operating activities:				
Depreciation	1,124,916,350	1,097,447,509	396,275,286	380,613,735
Amortisation expenses	13,218,037	13,181,599	4,828,714	4,679,701
Allowance for doubtful accounts (reversal)	(17,071,058)	10,396,743	-	-
Reduction of inventories to net realisable value (reversal)	8,489,115	42,690,044	(6,948,334)	32,781,543
Write-off obsolete and damaged inventories	(24,939,813)	(15,828,268)	(15,560,919)	(15,828,268)
Dividend income from subsidiary companies	-	-	(175,999,985)	(892,500,000)
Dividend income from other companies	(66,375)	(2,014,305)	(66,375)	(63,000)
Loss (gain) on disposals/write-off equipment and intangible assets	1,477,034	25,536,081	976,308	(6,937,355)
Reduction of allowance for impairment loss on assets	(47,022,123)	(20,875)	(4,936,485)	(20,875)
Provision for vacation	707,725	4,019,058	-	2,112,040
Provision for long-term employee benefits	89,845,003	33,089,806	37,829,082	12,316,616
Gain on sales/redemption of short-term investments	(20,580,472)	(7,304,835)	-	-
Revaluation gain on investments in securities held for trading	(28,812,533)	(12,493,870)	-	-
Unrealised loss (gain) on exchange	(47,777,395)	18,515,850	(28,495,253)	18,961,559
Unrealised gain on forward contracts	(45,838,544)	(50,138,831)	-	-
Interest income from short-term investments	(114,166,796)	(134,156,492)	-	-
Interest paid	6,795,479	-	7,278,767	-
Profit from operating activities before changes in operating assets and liabilities	2,812,022,802	3,538,678,538	1,071,308,294	1,423,978,802

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

Statement of cash flows (continued)

Hana Microelectronics Public Company Limited and its subsidiaries

For the year ended 31 December 2019

(Unit: Baht)

	Consolidated financial statements		Separate financial statements	
	2019	2018	2019	2018
Operating assets (increase) decrease				
Trade and other receivables	481,962,970	2,933,095	(19,382,508)	(216,935,389)
Inventories	720,902,979	(1,166,827,701)	149,708,486	(729,319,734)
Other current assets	58,808,752	62,434,855	(11,087,606)	(28,572,931)
Operating liabilities increase (decrease)				
Trade and other payables	(689,159,370)	152,498,034	112,107,256	278,711,922
Other current liabilities	(26,587,538)	28,716,953	(3,190,911)	805,770
Cash from operating activities	3,357,950,595	2,618,433,774	1,299,463,011	728,668,440
Cash paid for long-term employee benefits	(36,190,944)	(7,855,331)	(25,551,704)	(5,202,967)
Cash paid for income tax	(110,394,684)	(130,616,291)	(4,877,107)	(6,351,382)
Net cash from operating activities	3,211,364,967	2,479,962,152	1,269,034,200	717,114,091
Cash flows from investing activities				
Decrease (increase) in fixed deposits with financial institutions	29,892,784	(14,681,539)	-	-
Decrease in short-term investments	736,028,095	2,122,148	-	250,000,000
Interest income from short-term investments	108,548,781	169,107,185	-	-
Proceeds from sales/redemption of short-term investments	306,338,819	403,998,228	-	-
Decrease in investments in subsidiary companies	-	-	74	-
Dividend income from subsidiary companies	-	-	175,999,985	892,500,000
Dividend income from other company	66,375	2,014,305	66,375	63,000
Acquisitions of property, plant and equipment and intangible assets	(1,407,023,401)	(1,908,216,736)	(482,980,248)	(426,827,030)
Proceeds from disposals of equipment	73,693,502	11,696,932	1,121,931	9,375,814
(Increase) decrease in other long-term investments	10,331,010	(80,662,300)	-	-
(Increase) decrease in other non-current assets	(1,337,630)	75,923,564	-	3,413,113
Net cash from (used in) investing activities	(143,461,665)	(1,338,698,213)	(305,791,883)	728,524,897

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

Statement of cash flows (continued)

Hana Microelectronics Public Company Limited and its subsidiaries
For the year ended 31 December 2019

(Unit: Baht)

	Consolidated financial statements		Separate financial statements	
	2019	2018	2019	2018
Cash flows from financing activities				
Increase in short-term loans from financial institutions	500,000,000	-	500,000,000	-
Increase in short-term loan from related party	-	-	210,000,000	-
Interest paid	(5,884,904)	-	(5,884,904)	-
Dividend paid	(1,328,050,119)	(1,609,757,720)	(1,328,050,119)	(1,609,757,720)
Net cash used in financing activities	(833,935,023)	(1,609,757,720)	(623,935,023)	(1,609,757,720)
Increase (decrease) in cash and cash equivalents	2,233,968,279	(468,493,781)	339,307,294	(164,118,732)
Translation adjustment	(880,325,432)	(206,708,227)	-	-
Net increase (decrease) in cash and cash equivalents	1,353,642,847	(675,202,008)	339,307,294	(164,118,732)
Cash and cash equivalents at beginning of year	4,081,336,162	4,756,538,170	237,904,042	402,022,774
Cash and cash equivalents at end of year (Note 6)	5,434,979,009	4,081,336,162	577,211,336	237,904,042
Supplemental cash flow information				
Non-cash related transactions from investing activities				
Net increase (decrease) in accounts payable for purchases of plant and equipment	(420,313,686)	350,801,768	1,088,712	(31,740,371)
Revaluation gain (loss) from changes in fair value of investments	140,226,245	(145,926,981)	-	-

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 2019

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 dated 11 October 2016, 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”):

Company's name	Nature of business	Country of incorporation	Percentage of shareholding	
			2019	2018
			Percent	Percent
Held by the Company				
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 Technologies Group Limited	Holding company	Cayman Islands	-	100
Hana Microelectronics (Cambodia) Company Limited	Manufacture and trading of electronic components	Cambodia	100	100
Hana Semiconductor (Ayutthaya) Company Limited	Manufacture and trading of electronic components	Thailand	58	58
Held through the subsidiary companies				
Hana Semiconductor International Limited	Trading of electronic components	British Virgin Islands	100	100
Hana Semiconductor Holdings Limited	Holding company	British Virgin Islands	-	100
Hana Technologies Investments Limited	Holding company	Cayman Islands	-	100
Hana Technologies, Inc.	Manufacture and trading of electronic components	USA	100	100
Hana Microelectronics, Inc.	Agent and customer services	USA	100	100
Hana Microelectronics Enterprises Company Limited	Holding company	British Virgin Islands	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
Hana Semiconductor (Ayutthaya) Company Limited	Manufacture and trading of electronic components	Thailand	42	42
Power Master Semiconductor Company Limited	Manufacture and trading of electronic components	South Korea	100	100

Notes to consolidated financial statements

Hana Microelectronics Public Company Limited and its subsidiaries
For the year ended 31 December 2019

- 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 subsidiary companies 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 subsidiary companies 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

(a) Financial reporting standards that became effective in the current year

During the year, the Company and its subsidiaries have adopted the revised (revised 2018) and new financial reporting standards and interpretations which are effective for fiscal periods beginning on or after 1 January 2019. 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 Company's and its subsidiaries' financial statements. However, the new standard involves changes to key principles, which are summarised below.

TFRS 15 Revenue from Contracts with Customers

TFRS 15 supersedes the following accounting standards together with related interpretations.

TAS 11 (revised 2017)	Construction Contracts
TAS 18 (revised 2017)	Revenue
TSIC 31 (revised 2017)	Revenue - Barter Transactions Involving Advertising Services
TFRIC 13 (revised 2017)	Customer Loyalty Programmes
TFRIC 15 (revised 2017)	Agreements for the Construction of Real Estate
TFRIC 18 (revised 2017)	Transfers of Assets from Customers

Entities are to apply this standard to all contracts with customers unless those contracts fall within the scope of other standards. The standard establishes a five-step model to account for revenue arising from contracts with customers, with revenue being recognised at an amount that reflects the consideration to which an entity expects to be entitled in exchange for transferring goods or services to a customer. The standard requires entities to exercise judgement, taking into consideration all of the relevant facts and circumstances when applying each step of the model.

This standard does not have any significant impact on the Company's and its subsidiaries' financial statements.

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(b) Financial reporting standards that will become effective for fiscal years beginning on or after 1 January 2020

The Federation of Accounting Professions issued a number of new and revised financial reporting standards and interpretations, which are effective for fiscal years beginning on or after 1 January 2020. 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 except the following new standards which involve changes to key principles, which are summarised below.

Financial reporting standards related to financial instruments

A set of TFRSs related to financial instruments consists of five accounting standards and interpretations, as follows:

Financial Reporting Standards:

TFRS 7	Financial Instruments: Disclosures
TFRS 9	Financial Instruments

Accounting Standard:

TAS 32	Financial Instruments: Presentation
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Financial Reporting Standard Interpretations:

TFRIC 16	Hedges of a Net Investment in a Foreign Operation
TFRIC 19	Extinguishing Financial Liabilities with Equity Instruments

These TFRSs related to financial instruments make stipulations relating to the classification of financial instruments and their measurement at fair value or amortised cost (taking into account the type of instrument, the characteristics of the contractual cash flows and the Company's business model), calculation of impairment using the expected credit loss method, and hedge accounting. These include stipulations regarding the presentation and disclosure of financial instruments. When the TFRSs related to financial instruments are effective, some accounting standards, interpretations and guidance which are currently effective will be cancelled.

The management of the Group expects the adoption of these accounting standards to result in the following adjustments.

- Classification and measurement of investments in equity instruments of non-listed companies - The Group is to measure investments in equity instruments of non-listed companies at fair value and to classify the investments as financial assets at fair value, through either profit or loss or through other comprehensive income. If the Group elects to present subsequent changes in the fair value of the investment through other comprehensive income, the election is irrevocable.
- Recognition of credit losses - The Group is to recognise an allowance for expected credit losses on its financial assets, and it is no longer necessary for a credit-impaired event to have occurred. The Group applies the simplified approach to consider impairment of trade receivables.

The management of the Group is currently evaluating the impact of these standards on the financial statements in the year when they are adopted.

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TFRS 16 Leases

TFRS 16 supersedes TAS 17 Leases together with related Interpretations. The standard sets out the principles for the recognition, measurement, presentation and disclosure of leases, and requires a lessee to recognise assets and liabilities for all leases with a term of more than 12 months, unless the underlying asset is low value.

Accounting by lessors under TFRS 16 is substantially unchanged from TAS 17. Lessors will continue to classify leases as either operating or finance leases using similar principles to those used under TAS 17.

The management of the Company and its subsidiaries is currently evaluating the impact of this standard on the financial statements in the year when it is adopted.

4. Significant accounting policies

4.1 Revenue 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 recognised on an accrual basis based on the effective interest rate.

Dividends

Dividends are recognised when the right to receive the dividends is established.

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 Trade accounts receivable

Trade accounts receivable are stated at the net realisable value. Allowance for doubtful accounts is provided for the estimated losses that may be incurred in collection of receivables. The allowance is generally based on collection experiences and analysis of debt aging.

4.4 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.

4.5 Investments

- a) Investments in securities held for trading of a subsidiary are stated at fair value. Changes in fair value of these securities are recorded in the income statement.

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- b) Investments in available-for-sale securities are stated at fair value. Changes in the fair value of these securities are recorded in other comprehensive income, and will be recorded in the income statement when securities are sold.
- c) Investments in debt securities, both due within one year and expected to be held to maturity, are recorded at amortised cost. The premium/discount on debt securities is amortised/accreted by the effective rate method with the amortised/accreted amount presented as an adjustment to the interest income.
- d) Investments in non-marketable equity securities, which the subsidiary classifies as other investments, are stated at cost net of allowance for impairment loss.
- e) Investments in subsidiaries are accounted for in the separate financial statements using the cost method.

The fair value of marketable securities is based on the latest bid price of the last working day of the year as quoted on the Stock Exchanges in which the securities are issued. The fair value of debt instruments is determined based on quoted market price in the debt instruments markets.

The weighted average method is used for computation of the cost of investments.

In the event the Company and its subsidiaries reclassify investments from one type to another, such investments will be readjusted to their fair value as at the reclassification date. The difference between the carrying amount of the investments and the fair value on the date of reclassification are recorded in profit or loss or recorded as other components of shareholders' equity, depending on the type of investment which is reclassified.

On disposal of an investment, the difference between net disposal proceeds and the carrying amount of the investment is recognised as income or expenses in the income statement.

4.6 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.

4.7 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

Depreciation is included in determining income.

No depreciation is provided on land, construction in progress and machinery under installation.

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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.

4.8 Intangible assets

Intangible assets are carried at cost less any accumulated amortisation and any accumulated impairment losses (if any).

Intangible assets with finite lives are amortised on a systematic 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.

The useful lives of the intangible assets, which are computer software, are 5 - 10 years.

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 assets

At the end of each reporting period, the Company and its subsidiaries perform impairment reviews in respect of the property, plant and equipment 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 Company and its subsidiaries estimate 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 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.

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4.12 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 Company, the subsidiaries and their employees have jointly established a provident fund. The fund is monthly contributed to by the employees, the Company and the subsidiaries. The fund's assets are held in a separate trust fund and the Company's and the subsidiaries' contributions are recognised as expenses when incurred.

Defined benefit plans

The Company and its subsidiaries have obligations in respect of the severance payments they must make to employees upon retirement under labor law. The Company and its subsidiaries treat 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 Company and its subsidiaries have set up provision for vacation which is calculated in accordance with the Company's policy and formula, taking into consideration the employee's salary, the number of service years and the unused vacation days.

4.13 Provisions

Provisions are recognised when the Company and the subsidiaries have 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.

4.14 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.

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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 Company and its subsidiaries recognise deferred tax liabilities for all taxable temporary differences while they recognise 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 Company and its subsidiaries review and reduce 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 Company and its subsidiaries record deferred tax directly to shareholders' equity if the tax relates to items that are recorded directly to shareholders' equity.

4.15 Derivatives

The Company and its subsidiaries have 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.

4.16 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 Company and its subsidiaries apply 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 Company and its subsidiaries measure 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:

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 Company and its subsidiaries determine 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.

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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 2019 and 2018 as reflected in the statements of financial position and cash flows consist of the following:

(Unit: Thousand Baht)

	Consolidated financial statements		Separate financial statements	
	2019	2018	2019	2018
Cash	1,260	2,306	258	246
Bank deposits	4,111,374	2,114,985	576,953	237,658
Fixed deposits with maturity not over 3 months	1,322,345	1,964,045	-	-
Total cash and cash equivalents	5,434,979	4,081,336	577,211	237,904

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As at 31 December 2019, bank deposits in savings accounts and fixed deposits carried interests between 0.001 and 2.250 percent per annum (2018: 0.001 and 3.500 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
	2019	2018	
Transactions with subsidiary companies (eliminated from the consolidated financial statements)			
Sales of goods	153	146	Prices agreed between the parties due to the uniqueness of products sold to each customer
Dividend income	176	892	Declared rate
Purchase of materials	423	259	Cost plus mark up
Service fee expenses	8	9	Rates stipulated in the agreement
Purchase of assets	27	-	Cost plus mark up

As at 31 December 2019 and 2018, the balances of the accounts between the Company and those related parties are as follows:

(Unit: Thousand Baht)

	Consolidated financial statements		Separate financial statements	
	2019	2018	2019	2018
Trade receivables (Note 9)				
Trade receivables - related parties				
Subsidiary companies	-	-	21,259	23,706
Total trade receivables - related parties	-	-	21,259	23,706
Trade and other payables (Note 19)				
Trade payables - related parties				
Subsidiary companies	-	-	709,103	329,110
Total trade payables - related parties	-	-	709,103	329,110
Other payables - related parties				
Subsidiary companies	-	-	483	-
Total other payables - related parties	-	-	483	-
Total trade and other payables	-	-	709,586	329,110

Movements of short-term loan from related party during the year were as follows:

(Unit: Thousand Baht)

	Balance as at 31 December 2018	During the year		Balance as at 31 December 2019
		Increase	Decrease	
Short-term loan from related party				
Hana Semiconductor (BKK) Company Limited	-	210,000	-	210,000
Total short-term loan from related party	-	210,000	-	210,000

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Short-term loan from related party

As at 31 December 2019, the Company had short-term loan from the subsidiary amounting to Baht 210 million, which is due in May 2020, bearing interest at a rate of 1.50 percent per annum.

Directors and management's benefits

During the years ended 31 December 2019 and 2018, the Company and its subsidiaries had employee benefit expenses payable to their directors and management as below.

(Unit: Million Baht)

	Consolidated financial statements		Separate financial statements	
	2019	2018	2019	2018
Short-term employee benefits	98.0	98.3	16.1	14.8
Post-employment benefits	1.6	1.6	0.7	0.7
Total	99.6	99.9	16.8	15.5

8. Short-term Investments

(Unit: Thousand Baht)

	Consolidated financial statements			
	2562		2561	
	Cost/ Carrying value	Fair value	Cost/ Carrying value	Fair value
Securities held for trading (Note 8.1)				
Overseas marketable equity securities	1,115,698	1,170,769	973,495	999,753
Total	1,115,698	1,170,769	973,495	999,753
Add: Gain on changes in fair value of investments	55,071		26,258	
Investments in securities held for trading	1,170,769		999,753	
Available-for-sale securities (Note 8.2)				
Overseas marketable corporate bonds	861,671	1,010,220	1,123,441	1,198,459
Overseas quoted bonds	690,026	750,345	678,792	672,416
Total	1,551,697	1,760,565	1,802,233	1,870,875
Add: Gain on changes in fair value of investments	208,868		68,642	
Investments in available-for-sale securities	1,760,565		1,870,875	
Fixed deposits with financial institutions				
Fixed deposits within 1 year	201,252	201,252	1,114,706	1,114,706
Fixed deposits with financial institutions	201,252	201,252	1,114,706	1,114,706
Total short-term investments	3,132,586	3,132,586	3,985,334	3,985,334

As at 31 December 2019, fixed deposits with financial institutions carried interest between 1.65 and 2.10 percent per annum (2018: 1.82 and 3.05 percent per annum).

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8.1 Securities held for trading

Movements of investments in securities held for trading for the years ended 31 December 2019 and 2018 are summarised below.

(Unit: Thousand Baht)

	As at 31 December 2019							Fair value as at 31 December 2019
	Cost as at 31 December 2018	Purchase	Proceeds from sales of investments	Gain on sales of investments	Translation adjustment	Cost as at 31 December 2019	Revaluation gain	
Overseas marketable equity securities								
Mutual funds	97,350	-	(99,630)	2,566	(286)	-	-	-
Investment trusts	64,900	-	-	-	(4,592)	60,308	13,014	73,322
Supply chain finance funds	811,245	10,000	-	-	234,145	1,055,390	42,057	1,097,447
Total investments in securities held for trading	973,495	10,000	(99,630)	2,566	229,267	1,115,698	55,071	1,170,769

(Unit: Thousand Baht)

	As at 31 December 2018							Fair value as at 31 December 2018
	Cost as at 31 December 2017	Purchase	Proceeds from sales of investments	Loss on sales of investments	Translation adjustment	Cost as at 31 December 2018	Revaluation gain	
Overseas marketable equity securities								
Mutual funds	98,043	-	-	-	(693)	97,350	6,987	104,337
Investment trusts	65,362	-	-	-	(462)	64,900	8,810	73,710
Supply chain finance funds	-	820,563	-	-	(9,318)	811,245	10,461	821,706
Total	163,405	820,563	-	-	(10,473)	973,495	26,258	999,753
Unsecured subordinated notes	24,162	-	(23,380)	(260)	(522)	-	-	-
Total investments in securities held for trading	187,567	820,563	(23,380)	(260)	(10,995)	973,495	26,258	999,753

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As at 31 December 2019, the subsidiary assessed the fair value of the above securities held for trading by referring to the value quoted by the banks which are comparable to quoted prices, the result of which was a revaluation surplus on the fair value of USD 1.83 million or equivalent to approximately Baht 55.07 million (2018: surplus of USD 0.8 million or equivalent to approximately Baht 26.26 million). The gain on change in the fair value of approximately Baht 28.81 million (2018: Baht 12.49 million) was recognised in the income statements.

8.2 Available-for-sale securities

Movements of investments in available-for-sale securities for the years ended 31 December 2019 and 2018 are summarised below.

	As at 31 December 2019							Fair value as at 31 December 2019
	Consolidated financial statements							
	Cost as at 31 December 2018	Purchase	Proceeds from sales/redemption of investments	Gain (loss) on sales/redemption of investments	Translation adjustment	Cost as at 31 December 2019	Revaluation gain (loss)	
Overseas marketable corporate bonds	1,123,441	61,222	(203,818)	18,014	(137,188)	861,671	148,549	1,010,220
Overseas quoted bonds	678,792	38,191	(2,891)	-	(24,066)	690,026	60,319	750,345
Total investments in available-for-sale securities	1,802,233	99,413	(206,709)	18,014	(161,254)	1,551,697	208,868	1,760,565

(Unit: Thousand Baht)

	As at 31 December 2018							Fair value as at 31 December 2018
	Consolidated financial statements							
	Cost as at 31 December 2017	Purchase	Proceeds from sales/redemption of investments	Gain (loss) on sales/redemption of investments	Translation adjustment	Cost as at 31 December 2018	Revaluation gain (loss)	
Overseas marketable corporate bonds	1,263,322	94,040	(215,053)	(325)	(18,543)	1,123,441	75,018	1,198,459
Local quoted bonds	32,683	-	(32,891)	66	142	-	-	-
Overseas quoted bonds	783,357	30,264	(132,674)	7,268	(9,423)	678,792	(6,376)	672,416
Total investments in available-for-sale securities	2,079,362	124,304	(380,618)	7,009	(27,824)	1,802,233	68,642	1,870,875

(Unit: Thousand Baht)

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As at 31 December 2019, the subsidiary assessed the fair value of the bonds by referring to the values quoted by the five overseas banks which are comparable to quoted prices, the result of which was a revaluation surplus on the fair value of USD 6.93 million or equivalent to approximately Baht 208.87 million (2018: surplus of USD 2.12 million or equivalent to approximately Baht 68.64 million). The gain on change in the fair value of approximately Baht 140.23 million (2018: loss of approximately Baht 145.93 million) was recognised in other comprehensive income in the statements of comprehensive income.

9. Trade and other receivables

(Unit: Thousand Baht)

	Consolidated financial statements		Separate financial statements	
	2019	2018	2019	2018
Age of receivable				
Trade receivables - subsidiary companies				
Not yet due	-	-	535	6,681
Past due				
Up to 3 months	-	-	14,301	14,911
3 - 6 months	-	-	885	2,075
6 - 12 months	-	-	3,412	-
Over 12 months	-	-	2,126	39
Total trade receivables - subsidiary companies (Note 7)	-	-	21,259	23,706
Trade receivables - unrelated parties				
Not yet due	2,560,541	2,869,463	1,132,621	979,957
Past due				
Up to 3 months	651,968	799,019	337,359	477,417
3 - 6 months	9,054	34,940	4,685	22,995
6 - 12 months	3,579	7,737	2,195	3,103
Over 12 months	3,626	1,480	1,490	94
Total trade receivables - unrelated parties	3,228,768	3,712,639	1,478,350	1,483,566
Less: Allowance for doubtful accounts	(4,485)	(21,556)	-	-
Total trade receivables - unrelated parties - net	3,224,283	3,691,083	1,478,350	1,483,566
Total trade receivables - net	3,224,283	3,691,083	1,499,609	1,507,272
Input tax receivables	43,740	52,878	3,826	6,344
Other receivables - unrelated parties	72,700	87,711	5,006	10,321
Total other receivables	116,440	140,589	8,832	16,665
Trade and other receivables - net	3,340,723	3,831,672	1,508,441	1,523,937

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10. Inventories

(Unit: Thousand Baht)

	Consolidated financial statements					
	Cost		Reduce cost to net realisable value		Inventories - net	
	2019	2018	2019	2018	2019	2018
Finished goods	667,383	693,925	(12,839)	(40,930)	654,544	652,995
Work in process	593,193	747,397	-	(14,576)	593,193	732,821
Raw materials	3,317,790	3,882,045	(142,127)	(115,911)	3,175,663	3,766,134
Goods in transit	94,987	70,890	-	-	94,987	70,890
Total	4,673,353	5,394,257	(154,966)	(171,417)	4,518,387	5,222,840

(Unit: Thousand Baht)

	Separate financial statements					
	Cost		Reduce cost to net realisable value		Inventories - net	
	2019	2018	2019	2018	2019	2018
Finished goods	432,631	443,181	(4,785)	(26,549)	427,846	416,632
Work in process	259,717	321,337	-	-	259,717	321,337
Raw materials	1,694,036	1,737,657	(61,739)	(62,484)	1,632,297	1,675,173
Goods in transit	12,219	46,136	-	-	12,219	46,136
Total	2,398,603	2,548,311	(66,524)	(89,033)	2,332,079	2,459,278

Detailed movements of the reduction of cost to net realisable value are as follows:

(Unit: Thousand Baht)

	Consolidated financial statements		Separate financial statements	
	2019	2018	2019	2018
Balance at the beginning of the year	(171,417)	(144,555)	(89,033)	(72,079)
Add: Increase during the year	(102,231)	(59,884)	(41,891)	(46,769)
Less: Write off obsolete and damaged inventories during the year	24,940	15,828	15,561	15,828
Less: Reversal during the year	92,180	16,592	48,839	13,987
Add: Translation adjustment	1,562	602	-	-
Balance at the ending of the year	(154,966)	(171,417)	(66,524)	(89,033)

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11. Investments in subsidiary companies

Details of investments in subsidiaries as presented in the separate financial statements are as follows:

(Unit: Thousand Baht)

Company's name	Paid up capital		Shareholding percentage		Cost		Dividend during the year	
	2019	2018	2019 Percent	2018 Percent	2019	2018	2019	2018
Hana Semiconductor (Ayutthaya) Company Limited	1,200,000	1,200,000	58	58	2,142,910	2,142,910	112,000	630,000
Hana Semiconductor (BKK) Company Limited	1,000,000	1,000,000	100	100	1,011,100	1,011,100	64,000	262,500
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	-	-	-	-
Hana Technologies Group Limited	-	-	-	100	-	-	-	-
Total investments in subsidiary companies					3,583,449	3,583,449	176,000	892,500

During the year, Hana Technologies Group Limited, a subsidiary company, and Hana Technologies Investments Limited, a subsidiary company of Hana Technologies Group Limited, registered for dissolution of their business. There was no gain/loss on investments in these subsidiary companies.

During the year, Hana Semiconductor Holdings Limited, a subsidiary company of Hana Microelectronics International Company Limited, registered for dissolution of its business. There was no gain/loss on investments in this subsidiary company.

In June 2019, Hana Microelectronics Enterprise Company Limited, an overseas subsidiary company, additionally invested in 5,910,000 ordinary shares of Power Master Semiconductor Company Limited, amounting to USD 2.5 million or equivalent to Baht 76.86 million. In September 2019, it additionally invested in 5,922,600 ordinary shares, amounting to USD 2.5 million or equivalent to Baht 76.48 million. In December 2019, It additionally invested in 5,781,500 ordinary shares, amounting to USD 2.5 million or equivalent to Baht 75.39 million.

As at 31 December 2019, the overseas subsidiary company has invested in 24,158,257 ordinary shares of Power Master Semiconductor Company Limited, amounting to USD 10.49 million or equivalent to Baht 326.30 million, representing 100% of the issued and paid-up share capital of that company.

12. Long-term fixed deposits with financial institution

As at 31 December 2019, an overseas subsidiary had long-term fixed deposits with financial institution of China Yuan 104.3 million or equivalent to Baht 450.2 million, which are portion due within one year between January to April 2020, carrying interest between 2.25 and 2.33 percent per annum (2018: China Yuan 101.6 million or equivalent to Baht 480.1 million, which are portion due within one year by March and April 2019, carrying interest between 2.10 and 2.24 percent per annum).

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13. Other long-term investments

(Unit: Thousand Baht)

	Consolidated financial statements		Separate financial statements	
	Cost/Amortised cost		Cost/Amortised cost	
	2019	2018	2019	2018
Other long-term investments				
Available-for-sale securities				
Local marketable equity securities	97	97	97	97
	97	97	97	97
Held-to-maturity debt securities				
Overseas debt securities	60,308	64,900	-	-
	60,308	64,900	-	-
Other investments				
Preferred shares issued by an overseas company	78,080	78,080	-	-
Overseas equity securities	9,046	9,735	-	-
Total	87,126	87,815	-	-
Less: Allowance for impairment loss	(9,046)	(9,735)	-	-
Translation adjustment	(2,695)	3,044	-	-
	75,385	81,124	-	-
Total other long-term investments - net	135,790	146,121	97	97

During the third quarter of 2017, Hana Microelectronics International Company Limited, an overseas subsidiary company, has invested in a 3-year fund linked capital return note issued by an overseas bank amounting to USD 2 million or equivalent to Baht 64.90 million, with maturity date on 14 July 2020. The parties mutually agreed that the subsidiary will receive the principal amount of USD 2 million at the maturity date and gain from rise of fund price, between the reference price at initial valuation date and the final closing index of the fund upon maturity date at the agreed rate in a case that the closing index of the fund upon maturity date is higher than the initial reference price. This investment is classified as investment in held-to-maturity debt securities.

During the first quarter of 2018, Hana Microelectronics Investment Company Limited, an overseas subsidiary company, has invested in 1,250,000 preferred shares of MAPS, Inc., a company incorporated in South Korea and principally engaged in semiconductor business, amounting to USD 2.5 million or equivalent to Baht 78.08 million, representing 8.7% of issued and paid-up capital of that company.

14. Investment property

The net book value of investment property, representing land, as at 31 December 2019 and 2018 is presented below.

(Unit: Thousand Baht)

	Consolidated financial statements		Separate financial statements	
	2019	2018	2019	2018
Cost	72,304	72,304	72,304	72,304
Net book value	72,304	72,304	72,304	72,304

As at 31 December 2019, the fair value of the investment property based on market price amounted to approximately Baht 96 million (2018: Baht 96 million).

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Hana Microelectronics Public Company Limited and its subsidiaries
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15. Property, plant and equipment

(Unit: Thousand Baht)

	Consolidated financial statements								Total
	Land	Buildings	Leasehold improvement	Fixtures	Machinery and equipment	Office furniture and equipment	Vehicles	Construction in progress and machinery under installation	
Cost									
As at 1 January 2018	356,248	3,574,337	116,863	917,920	12,980,858	614,900	53,911	274,216	18,889,253
Additions	-	65,839	14,262	16,865	1,515,514	30,963	8,223	680,967	2,332,633
Disposals	-	(7,975)	(1,451)	(3,742)	(341,049)	(10,244)	(1,450)	-	(365,911)
Transfer in (out)	-	50,927	-	61,638	435,874	32,789	-	(581,228)	-
Translation adjustment	-	(41,592)	(5,369)	-	(150,928)	(3,337)	(719)	(2,803)	(204,748)
As at 31 December 2018	356,248	3,641,536	124,305	992,681	14,440,269	665,071	59,965	371,152	20,651,227
Additions	-	18,455	767	32,433	204,356	29,054	2,222	789,720	1,077,007
Disposals	-	-	-	(2,445)	(348,004)	(6,321)	(3,814)	(2,640)	(363,224)
Transfer in (out)	-	193,139	-	38,619	295,196	15,068	-	(542,022)	-
Translation adjustment	-	(85,697)	(10,227)	(53)	(245,737)	(5,928)	(1,143)	(19,025)	(367,810)
As at 31 December 2019	356,248	3,767,433	114,845	1,061,235	14,346,080	696,944	57,230	597,185	20,997,200
Accumulated depreciation									
As at 1 January 2018	-	1,565,607	82,536	684,832	9,848,748	534,952	32,138	-	12,748,813
Depreciation for the year	-	161,303	14,553	49,793	822,366	42,198	7,235	-	1,097,448
Accumulated depreciation for disposed assets	-	(4,386)	(1,451)	(2,868)	(302,524)	(9,553)	(1,450)	-	(322,232)
Translation adjustment	-	(21,029)	(3,563)	-	(98,538)	(2,634)	(495)	-	(126,259)
As at 31 December 2018	-	1,701,495	92,075	731,757	10,270,052	564,963	37,428	-	13,397,770
Depreciation for the year	-	164,180	9,347	55,088	843,306	44,993	8,002	-	1,124,916
Accumulated depreciation for disposed assets	-	-	-	(1,710)	(230,148)	(5,545)	(3,629)	-	(241,032)
Translation adjustment	-	(36,635)	(7,814)	(1)	(161,287)	(4,800)	(818)	-	(211,355)
As at 31 December 2019	-	1,829,040	93,608	785,134	10,721,923	599,611	40,983	-	14,070,299
Allowance for impairment loss									
As at 1 January 2018	-	-	-	763	73,788	17	-	-	74,568
Decrease during the year	-	-	-	-	(21)	-	-	-	(21)
Translation adjustment	-	-	-	-	(328)	-	-	-	(328)
As at 31 December 2018	-	-	-	763	73,439	17	-	-	74,219
Decrease during the year	-	-	-	(613)	(46,409)	-	-	-	(47,022)
Translation adjustment	-	-	-	-	(2,158)	-	-	-	(2,158)
As at 31 December 2019	-	-	-	150	24,872	17	-	-	25,039
Net book value									
As at 31 December 2018	356,248	1,940,041	32,230	260,161	4,096,778	100,091	22,537	371,152	7,179,238
As at 31 December 2019	356,248	1,938,393	21,237	275,951	3,599,285	97,316	16,247	597,185	6,901,862
Depreciation for the year									
2018 (Baht 898 million included in manufacturing cost, and the balance in administrative expenses)									1,097,448
2019 (Baht 896 million included in manufacturing cost, and the balance in administrative expenses)									1,124,916

Notes to consolidated financial statements

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(Unit: Thousand Baht)

	Separate financial statements							Total
	Land	Buildings	Fixtures	Machinery and equipment	Office furniture and equipment	Vehicles	Construction in progress and machinery under installation	
Cost								
As at 1 January 2018	249,865	1,818,914	410,548	3,248,929	201,122	18,070	146,529	6,093,977
Additions	-	53	15,726	28,748	10,151	-	333,303	387,981
Disposals	-	-	-	(95,741)	(1,827)	-	-	(97,568)
Transfer in (out)	-	-	3,211	266,196	10,315	-	(279,722)	-
As at 31 December 2018	249,865	1,818,967	429,485	3,448,132	219,761	18,070	200,110	6,384,390
Additions	-	11,418	25,632	66,549	18,349	1,237	365,503	488,688
Disposals	-	-	(2,445)	(59,654)	(1,542)	(1,432)	-	(65,073)
Transfer in (out)	-	184,439	20,459	228,974	10,190	-	(444,062)	-
As at 31 December 2019	249,865	2,014,824	473,131	3,684,001	246,758	17,875	121,551	6,808,005
Accumulated depreciation								
As at 1 January 2018	-	710,469	232,141	2,331,419	169,973	12,454	-	3,456,456
Depreciation for the year	-	85,833	30,130	246,764	16,067	1,820	-	380,614
Accumulated depreciation for disposed assets	-	-	-	(93,334)	(1,775)	-	-	(95,109)
As at 31 December 2018	-	796,302	262,271	2,484,849	184,265	14,274	-	3,741,961
Depreciation for the year	-	92,235	32,183	253,242	16,712	1,903	-	396,275
Accumulated depreciation for disposed assets	-	-	(1,710)	(53,723)	(1,173)	(1,432)	-	(58,038)
As at 31 December 2019	-	888,537	292,744	2,684,368	199,804	14,745	-	4,080,198
Allowance for impairment loss								
As at 1 January 2018	-	-	613	4,345	-	-	-	4,958
Decrease during the year	-	-	-	(21)	-	-	-	(21)
As at 31 December 2018	-	-	613	4,324	-	-	-	4,937
Decrease during the year	-	-	(613)	(4,324)	-	-	-	(4,937)
As at 31 December 2019	-	-	-	-	-	-	-	-
Net book value								
As at 31 December 2018	249,865	1,022,665	166,601	958,959	35,496	3,796	200,110	2,637,492
As at 31 December 2019	249,865	1,126,287	180,387	999,633	46,954	3,130	121,551	2,727,907
Depreciation for the year								
2018 (Baht 246 million included in manufacturing cost, and the balance in administrative expenses)								380,614
2019 (Baht 253 million included in manufacturing cost, and the balance in administrative expenses)								396,275

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As at 31 December 2019, 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 10,512 million (2018: Baht 10,064 million) and for the Company amounted to approximately Baht 2,255 million (2018: Baht 2,080 million).

16. Land leasehold rights

During the year 2013, an overseas subsidiary entered into land leasehold agreements for building of factory and dormitory for its employees for the period of 50 years.

(Unit: Thousand Baht)

	Consolidated financial statements	
	2019	2018
Cost	153,418	153,418
Less: Accumulated amortisation	(17,509)	(14,809)
Translation adjustment	(20,405)	(11,481)
Net book value	115,504	127,128
Amortisation for the year	2,700	2,818

17. Intangible assets

Details of intangible assets which are computer software are as follows:

(Unit: Thousand Baht)

	Consolidated financial statements	Separate financial statements
Cost		
As at 1 January 2018	102,553	45,275
Additions	12,575	7,126
Translation adjustment	(1,647)	-
As at 31 December 2018	113,481	52,401
Additions	120,807	317
Translation adjustment	(2,500)	-
As at 31 December 2019	231,788	52,718
Accumulated amortisation		
As at 1 January 2018	52,611	13,055
Amortisation for the year	10,364	4,680
Translation adjustment	(1,002)	-
As at 31 December 2018	61,973	17,735
Amortisation for the year	10,518	4,828
Translation adjustment	(1,637)	-
As at 31 December 2019	70,854	22,563
Net book value		
As at 31 December 2018	51,508	34,666
As at 31 December 2019	160,934	30,155
Amortisation for the year		
2018	10,364	4,680
2019	10,518	4,828

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18. Short-term loans from financial institutions

As at 31 December 2019, the Company had short-term loans in form of unsecured promissory notes of Baht 500 million, carrying interests between 1.90 and 2.00 percent per annum.

Movements in short-term loans from financial institutions during the year ended 31 December 2019 are summarised below.

(Unit: Thousand Baht)

	Consolidated financial statements	Separate financial statements
Balance as at 31 December 2018	-	-
Add: Increase during the period	1,570,000	1,570,000
Less: Repayment during the period	(1,070,000)	(1,070,000)
Balance as at 31 December 2019	500,000	500,000

19. Trade and other payables

(Unit: Thousand Baht)

	Consolidated financial statements		Separate financial statements	
	2019	2018	2019	2018
Trade payables - subsidiary companies (Note 7)	-	-	709,103	329,110
Trade payables - unrelated parties	1,703,256	2,466,170	597,884	928,615
Other payables - subsidiary companies (Note 7)	-	-	483	-
Advance received from customers	177,899	159,149	17,236	16,165
Other payables for purchase of machinery	75,965	496,279	28,919	27,831
Accrued expenses	294,934	299,811	27,692	31,178
Total trade and other payables	2,252,054	3,421,409	1,381,317	1,332,899

20. Short-term provisions

(Unit: Thousand Baht)

	Consolidated financial statements	
	Provision for product warranty	Total
As at 1 January 2018	326,809	326,809
Translation adjustment	(2,311)	(2,311)
As at 31 December 2018	324,498	324,498
Translation adjustment	(22,958)	(22,958)
As at 31 December 2019	301,540	301,540

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Hana Microelectronics Public Company Limited and its subsidiaries
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21. Provision for long-term employee benefits

Provision for long-term employee benefits, which represents compensation payable to employees after they retire, was as follows:

(Unit: Thousand Baht)

	Consolidated financial statements		Separate financial statements	
	2019	2018	2019	2018
Provision for long-term employee benefits at beginning of year	371,590	327,302	142,705	128,110
Included in profit or loss:				
Current service cost	48,905	24,203	22,963	8,991
Interest cost	9,474	8,887	3,272	3,326
Past service cost	31,466	-	11,594	-
Included in other comprehensive income:				
Actuarial (gain) loss arising from				
Demographic assumptions changes	148,770	(260,319)	105,290	(266,632)
Financial assumptions changes	59,833	(40,143)	26,178	(42,578)
Experience adjustments	65,017	319,515	41,227	316,691
Benefits paid during the year	(36,191)	(7,855)	(25,552)	(5,203)
Provision for long-term employee benefits at end of year	698,864	371,590	327,677	142,705

Line items in the income statements under which long-term employee benefit expenses are recognised are as follows:

(Unit: Thousand Baht)

	Consolidated financial statements		Separate financial statements	
	2019	2018	2019	2018
Cost of sales	15,905	5,430	8,529	2,765
Selling and administrative expenses	73,940	27,660	29,300	9,552
Total expenses recognised in the income statements	89,845	33,090	37,829	12,317

The Company and its subsidiary expect to pay Baht 43.6 million of long-term employee benefits during the next year (the Company only: Baht 27.3 million) (2018: Baht 27.1 million, the Company only: Baht 19.8 million).

As at 31 December 2019, the weighted average duration of the liabilities for long-term employee benefit is 14 years (the Company only: 15 years) (2018: 13 years, the Company only: 14 years).

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Significant actuarial assumptions are summarised below.

	Consolidated financial statements		Separate financial statements	
	2019 (% per annum)	2018 (% per annum)	2019 (% per annum)	2018 (% per annum)
Discount rate	1.7	2.8	1.7	2.8
Future salary increase rate (depending on age)	5.0	5.0	5.0	5.0
Staff turnover rate	7.2 - 38.4	8.3 - 40.1	7.2 - 25.4	8.3 - 28.6

The results of sensitivity analysis for significant assumptions that affect the present value of the long-term employee benefit obligations as at 31 December 2019 and 2018 are summarised below.

(Unit: Million Baht)

	31 December 2019			
	Consolidated financial statements		Separate financial statements	
	Increase 1%	Decrease 1%	Increase 1%	Decrease 1%
Discount rate	(89)	108	(44)	55
Salary increase rate	63	(115)	12	(72)
	Increase 5%	Decrease 5%	Increase 5%	Decrease 5%
Turnover rate	(126)	173	(81)	117

(Unit: Million Baht)

	31 December 2018			
	Consolidated financial statements		Separate financial statements	
	Increase 1%	Decrease 1%	Increase 1%	Decrease 1%
Discount rate	(43)	52	(17)	21
Salary increase rate	51	(43)	20	(17)
	Increase 5%	Decrease 5%	Increase 5%	Decrease 5%
Turnover rate	(99)	157	(61)	110

On 5 April 2019, The Labor Protection Act (No. 7) B.E. 2562 was announced in the Royal Gazette. This stipulates additional legal severance pay rates for employees who have worked for an uninterrupted period of twenty years or more, with such employees entitled to receive not less than 400 days' compensation at the latest wage rate. The law is effective from 5 May 2019. This change is considered a post-employment benefits plan amendment and the Company and its subsidiary have additional long-term employee benefit liabilities of Baht 66.4 million (the Company only: Baht 25.8 million) as a result.

In addition, during the second quarter of 2019, the Company and its subsidiary made amendment to their post-employment benefit plan, resulting in a decrease in long-term employee benefit liabilities of the Company and its subsidiary of Baht 34.9 million (the Company only: Baht 14.2 million).

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As a result of the above change in the law and the post-employment benefits plan amendment, the Company and its subsidiary have net additional long-term employee benefit liabilities of Baht 31.5 million (the Company only: Baht 11.6 million). The Company and its subsidiary reflected the effect of the changes by recognising past service costs as expenses in the income statements for the current year.

22. 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.

23. Expenses by nature

Significant expenses classified by nature are as follows:

(Unit: Thousand Baht)

	Consolidated financial statements		Separate financial statements	
	2019	2018	2019	2018
Raw materials and consumables used	12,848,600	13,927,293	6,231,878	6,035,149
Changes in inventories of finished goods and work in process	138,079	(208,488)	50,406	(143,585)
Salaries and wages and other employee benefits	3,668,562	3,884,540	1,346,568	1,294,152
Management benefit expenses	99,570	99,866	16,825	15,501
Depreciation and amortisation expenses	1,138,134	1,110,630	401,103	385,294

24. Income tax

Income tax expenses for the years ended 31 December 2019 and 2018 are made up as follows:

(Unit: Thousand Baht)

	Consolidated financial statements		Separate financial statements	
	2019	2018	2019	2018
Current income tax:				
Current income tax charge	98,447	129,547	9,502	6,776
Adjustment in respect of income tax of previous year	(1,750)	(2,125)	(430)	(127)
Deferred tax:				
Relating to origination and reversal of temporary differences	11,568	13,115	749	(613)
Income tax expense reported in the income statements	108,265	140,537	9,821	6,036

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The amounts of income tax relating to each component of other comprehensive income for the years ended 31 December 2019 and 2018 are as follows:

(Unit: Thousand Baht)

	Consolidated financial statements		Separate financial statements	
	2019	2018	2019	2018
Deferred tax relating to actuarial loss	(959)	(61)	(959)	(61)
Deferred tax relating to exchange differences on translation of financial statements in foreign currency	1,288	585	-	-
	329	524	(959)	(61)

The reconciliation between accounting profit and income tax expenses is shown below.

(Unit: Thousand Baht)

	Consolidated financial statements		Separate financial statements	
	2019	2018	2019	2018
Accounting profit before tax	1,912,849	2,515,759	856,127	1,887,863
Applicable tax rate	0 - 30%	0 - 30%	20%	20%
Accounting profit before tax multiplied by income tax rate	259,886	463,495	171,225	377,573
Adjustment in respect of income tax of previous year	(1,750)	(2,125)	(430)	(127)
Effects of:				
Promotional privileges (Note 26)	(159,132)	(339,289)	(127,786)	(195,147)
Dividend income not subject to tax	(13)	(13)	(35,213)	(178,513)
Income not subject to tax	(828)	(2,730)	-	-
Unused temporary differences and tax losses	5,885	25,915	-	-
Non-deductible expenses	1,073	979	13	529
Additional expense deductions allowed	(8,081)	(1,796)	(512)	(869)
Others	11,225	(3,899)	2,524	2,590
Total	(149,871)	(320,833)	(160,974)	(371,410)
Income tax expenses reported in the income statements	108,265	140,537	9,821	6,036

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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	
	2019	2018	2019	2018
Deferred tax assets				
Allowance for doubtful accounts	-	2,116	-	-
Allowance for diminution in value of inventories	1,319	4,983	370	729
Allowance for assets impairment	-	2,509	-	40
Provision for long-term employee benefits	1,820	1,169	1,820	1,169
Provision for vacation	352	368	86	128
Accrued expenses	16,060	17,615	-	-
Total	19,551	28,760	2,276	2,066
Deferred tax liabilities				
Accumulated depreciation - plant and equipment	(18,377)	(15,689)	-	-
Total	(18,377)	(15,689)	-	-
Deferred tax assets - net	1,174	13,071	2,276	2,066

As at 31 December 2019, the subsidiaries had deductible temporary differences and unused tax losses totaling Baht 291 million (2018: Baht 253 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 2024.

25. 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.

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Hana Microelectronics Public Company Limited and its subsidiaries
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26. Promotional privileges

The Company and its subsidiaries have 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:

Particulars	The Company							
	1328(2)/2548	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
	Production of PCBA, RFID, TAG reader	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
1. Certificate No.								
2. Promotional privileges for								
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 with investment)	8 years (expired) (tax exempted according with investment)	8 years (expired) (tax exempted according with investment)	8 years	8 years	8 years (tax exempted according with investment)	8 years (tax exempted according with investment)	6 years (tax exempted according with 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	5 years	-
3.3 Exemption from import duty on machinery as approved by the Board.	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	10 years	-
4. Date of first earning operating income	24 March 2006	3 December 2007	2 December 2009	26 February 2016	3 January 2014	3 April 2015	Had not yet started utilising the privileges	1 January 2018

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Hana Microelectronics Public Company Limited and its subsidiaries
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Particulars	Subsidiary						
	Hana Semiconductor (Ayutthaya) Company Limited						
1. Certificate No.	1034(2)/2552	1458(1)/2553	2371(1)/2553	2687(1)/2556	59-1374-1-00-1-0	60-0686-1-00-1-0	61-1275-1-00-1-0
2. Promotional privileges for	Production of Wafer Saw, Integrated Circuit (IC) and Integrated Circuit Tested (IC Tested)	Production of Integrated Circuit (IC)	Production of Integrated Circuit (IC)	Production of Semiconductor	Production of Integrated Circuit (IC)	Production of Integrated Circuit (IC), Wafer sawing, Wafer Grinding and Wafer Testing	Production of Integrated Circuit (IC)
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 9 May 2018)	8 years (Until 27 November 2022)	8 years (Until 2 January 2026)	6 years	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	5 years	-	-	-
3.3 Exemption from import duty on machinery as approved by the Board.	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	-	-	-
4. Date of first earning operating income	2 January 2013	10 May 2010	28 November 2014	3 January 2018	Has not yet started utilising the privileges	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
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The Company's and its subsidiaries' operating revenues for the years ended 31 December 2019 and 2018, divided between promoted and non-promoted operations, are summarised below.

(Unit: Thousand Baht)

	Consolidated financial statements					
	Promoted operations		Non-promoted operations		Total	
	2019	2018	2019	2018	2019	2018
Sales						
Domestic sales	245,726	224,913	692	1,280	246,418	226,193
Export sales	15,645,108	16,187,853	4,492,896	5,850,214	20,138,004	22,038,067
Total sales	15,890,834	16,412,766	4,493,588	5,851,494	20,384,422	22,264,260

(Unit: Thousand Baht)

	Separate financial statements					
	Promoted operations		Non-promoted operations		Total	
	2019	2018	2019	2018	2019	2018
Sales						
Domestic sales	128,327	54,143	692	1,694	129,019	55,837
Export sales	9,097,166	8,913,525	20,698	1,273	9,117,864	8,914,798
Total sales	9,225,493	8,967,668	21,390	2,967	9,246,883	8,970,635

27. Operating segments

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 Company and its subsidiaries are 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 Company's and its subsidiaries' operating segments for the years ended 31 December 2019 and 2018.

Notes to consolidated financial statements

Hana Microelectronics Public Company Limited and its subsidiaries
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(Unit: Million Baht)

	Printed Circuit Board Assembly (PCBA)	Integrated Circuit (IC)	Other	Total reportable segments	Eliminations	Total
Year ended 31 December 2019						
Revenue from external customers	11,965	7,581	838	20,384	-	20,384
Inter-segment revenue	3,030	715	981	4,726	(4,726)	-
Total revenue	14,995	8,296	1,819	25,110	(4,726)	20,384
Segment profit	1,515	516	279	2,310	4	2,314
Interest income						184
Other income						348
Gain on exchange						334
Selling and distribution expenses						(145)
Administrative expenses						(1,109)
Finance cost						(13)
Income tax expenses						(108)
Profit for the year						1,805
Segment total assets						
Additions to property, plant and equipment	552	171	354	1,077	-	1,077

(Unit: Million Baht)

	Printed Circuit Board Assembly (PCBA)	Integrated Circuit (IC)	Other	Total reportable segments	Eliminations	Total
Year ended 31 December 2018						
Revenue from external customers	12,575	8,649	1,040	22,264	-	22,264
Inter-segment revenue	3,630	784	1,449	5,863	(5,863)	-
Total revenue	16,205	9,433	2,489	28,127	(5,863)	22,264
Segment profit	1,794	994	412	3,200	5	3,205
Interest income						196
Other income						375
Dividend income						2
Gain on exchange						15
Selling and distribution expenses						(158)
Administrative expenses						(1,112)
Finance cost						(7)
Income tax expenses						(141)
Profit for the year						2,375
Segment total assets						
Additions to property, plant and equipment	572	1,474	287	2,333	-	2,333

Notes to consolidated financial statements

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Geographic information

Revenue from external customers is based on locations of the customers.

(Unit: Thousand Baht)

	2019	2018
Revenue from external customers		
Malaysia	3,828,860	5,398,804
United States of America	3,369,538	2,611,376
Singapore	2,944,391	2,058,750
China	2,255,778	2,774,380
Hong Kong	1,589,435	2,092,175
Others	6,396,420	7,328,775
Total	20,384,422	22,264,260

(Unit: Thousand Baht)

	2019	2018
Non-current assets (other than deferred tax assets)		
Thailand	5,163,938	5,497,580
China	952,977	1,200,081
Korea	597,402	177,585
Cambodia	433,884	446,146
Hong Kong	118,234	131,220
Others	143,845	146,234
Total	7,410,280	7,598,846

Major customers

For the year 2019, the Company and its subsidiaries have revenue from 5 major customers in amount of Baht 9,360 million, arising from sales by the Printed Circuit Board Assembly (PCBA) segment and the Integrated Circuit (IC) segment, (2018: Baht 10,279 million derived from 5 major customers, arising from sales by the Printed Circuit Board Assembly (PCBA) segment and the Integrated Circuit (IC) segment).

28. Provident fund

The Company, the subsidiaries and their employees have jointly established a provident fund in accordance with the Provident Fund Act B.E. 2530. Both employees and the Company or the subsidiaries 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 2019 amounting to approximately Baht 85 million (2018: Baht 79 million) and for the Company amounting to approximately Baht 43 million (2018: Baht 41 million) were recognised as expenses.

Notes to consolidated financial statements

Hana Microelectronics Public Company Limited and its subsidiaries
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29. Dividend paid

During the years 2019 and 2018, the Company and its subsidiaries had dividend payments as follows:

	Approved by	Total dividends	Dividend per share
		(Million Baht)	(Baht)
The Company			
<u>For the year 2019</u>			
Dividends on 2018 income and unappropriated retained earnings	Annual General Meeting of the shareholders on 30 April 2019	805	1.00
Interim dividends in respect of the income for the period from 1 January 2019 to 30 June 2019	Board of Directors' Meeting on 10 October 2019	523	0.65
Total for the year 2019		1,328	1.65
<u>For the year 2018</u>			
Dividends on 2017 income and unappropriated retained earnings	Annual General Meeting of the shareholders on 30 April 2018	805	1.00
Interim dividends in respect of the income for the period from 1 January 2018 to 30 June 2018	Board of Directors' Meeting on 10 October 2018	805	1.00
Total for the year 2018		1,610	2.00
Subsidiary companies			
Hana Semiconductor (Ayutthaya) Company Limited			
<u>For the year 2019</u>			
Interim dividends in respect of the income for the period from 1 January 2019 to 30 September 2019 and unappropriated retained earnings	Board of Directors' Meeting on 29 October 2019	192	1.60
Total for the year 2019		192	1.60
<u>For the year 2018</u>			
Dividends on the unappropriated retained earnings	Annual General Meeting of the shareholders on 18 April 2018	300	2.50
Interim dividends in respect of the income for the period from 1 January 2018 to 31 August 2018 and unappropriated retained earnings	Board of Directors' Meeting on 8 October 2018	150	1.25
Total for the year 2018		450	3.75

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Hana Microelectronics Public Company Limited and its subsidiaries
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	Approved by	Total dividends	Dividend per share
		(Million Baht)	(Baht)
<u>Subsidiary companies</u>			
Hana Semiconductor (BKK) Company Limited			
<u>For the year 2019</u>			
Dividends on the unappropriated retained earnings	Annual General Meeting of the shareholders on 29 April 2019	64	0.64
Total for the year 2019		64	0.64
<u>For the year 2018</u>			
Dividends on the unappropriated retained earnings	Annual General Meeting of the shareholders on 27 April 2018	450	4.50
Interim dividends in respect of the income for the period from 1 January 2018 to 31 October 2018 and unappropriated retained earnings	Board of Directors' Meeting on 24 October 2018	180	1.80
Total for the year 2018		630	6.30

30. Commitments and contingent liabilities

30.1 Capital commitments

As at 31 December 2019, the Company and its subsidiaries had capital commitments relating to acquisitions of machinery totaling USD 4.3 million or equivalent to Baht 138 million (2018: USD 6.8 million or equivalent to Baht 230 million) and the Company only of approximately Baht 48 million (2018: Baht 97 million).

30.2 Operating lease commitments

The Company and its subsidiaries have entered into the lease agreements in respect of the lease of equipment, lease of land and the lease of building, factory and services. The terms of the agreements are generally between 1 and 5 years.

Future minimum lease payments required under these operating lease contracts were as follows.

(Unit: Million Baht)

	Consolidated financial statements		Separate financial statements	
	2019	2018	2019	2018
Payable:				
In up to 1 year	37.1	44.4	29.6	27.3
In over 1 year and up to 5 years	19.2	23.8	0.3	0.7

30.3 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.

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Hana Microelectronics Public Company Limited and its subsidiaries
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30.4 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.

30.5 Guarantees

As at 31 December 2019, there were outstanding bank guarantees of approximately Baht 28 million (2018: Baht 27 million) and the Company only of approximately Baht 28 million (2018: Baht 27 million) issued by the banks on behalf of the Company and its subsidiaries in respect of certain performance bonds as required in the normal course of business of the Company and the subsidiaries to guarantee electricity uses, among others.

31. Fair value hierarchy

As at 31 December 2019 and 2018, the Company and its subsidiaries 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 2019		
	Consolidated Financial Statements		
	Level 1	Level 2	Total
Assets measured at fair value			
Held for trade investments			
Equity instruments	1,170,769	-	1,170,769
Available-for-sale investments			
Marketable corporate bonds	1,010,220	-	1,010,220
Quoted bonds	750,345	-	750,345
Derivatives			
Forward exchange contracts	-	45,839	45,839
Assets for which fair value was disclosed			
Investment property	-	96,405	96,405

(Unit: Thousand Baht)

	31 December 2018		
	Consolidated Financial Statements		
	Level 1	Level 2	Total
Assets measured at fair value			
Held for trade investments			
Equity instruments	999,753	-	999,753
Available-for-sale investments			
Marketable corporate bonds	1,198,459	-	1,198,459
Quoted bonds	672,416	-	672,416
Derivatives			
Forward exchange contracts	-	50,139	50,139
Assets for which fair value was disclosed			
Investment property	-	96,405	96,405

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32. Financial instruments

32.1 Financial risk management

The Company's and its subsidiaries' financial instruments, as defined under Thai Accounting Standard No. 107 "Financial Instruments: Disclosure and Presentations", 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 is described below.

Credit risk

The Company and its subsidiaries are exposed to credit risk primarily with respect to trade and other receivables. The Company and its subsidiaries manage the risk by adopting appropriate credit control policies and procedures and therefore do not expect to incur material financial losses. In addition, the Company and its subsidiaries do not have high concentrations of credit risk. The maximum exposure to credit risk is limited to the carrying amounts of receivables as stated in the statement of financial position.

Interest rate risk

The Company's and its subsidiaries' exposure to interest rate risk relates primarily to their cash at financial institutions and short-term investments. Most of their financial assets and liabilities bear floating interest rates, or fixed interest rates which are close to the market rate.

As at 31 December 2019 and 2018, 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 2019					
	Fixed interest rate		Floating interest rate	Non-interest bearing	Total	Effective interest rate
	Within 1 year	1 - 5 years				
	(Million Baht)					(% p.a.)
Financial assets						
Cash and cash equivalents	1,437	-	3,571	427	5,435	0.001 - 2.250
Short-term investments	3,133	-	-	-	3,133	1.65 - 9.75
Trade and other receivables	-	-	-	3,341	3,341	-
Long-term fixed deposits with financial institution	-	450	-	-	450	2.25 - 2.33
Other long-term investments	-	-	-	136	136	-
	4,570	450	3,571	3,904	12,495	
Financial liabilities						
Short-term loans from financial institutions	500	-	-	-	500	1.90 - 2.00
Trade and other payables	-	-	-	2,252	2,252	-
	500	-	-	2,252	2,752	

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	Consolidated financial statements as at 31 December 2018					
	Fixed interest rate		Floating interest rate	Non-interest bearing	Total	Effective interest rate
	Within 1 year	1 - 5 years				
	(Million Baht)					(% p.a.)
Financial assets						
Cash and cash equivalents	1,964	-	2,044	73	4,081	0.001 - 3.500
Short-term investments	3,985	-	-	-	3,985	1.82 - 9.75
Trade and other receivables	-	-	-	3,832	3,832	-
Long-term fixed deposits with financial institution	-	480	-	-	480	2.10 - 2.24
Other long-term investments	-	-	-	146	146	-
	5,949	480	2,044	4,051	12,524	
Financial liabilities						
Trade and other payables	-	-	-	3,421	3,421	-
	-	-	-	3,421	3,421	

	Separate financial statements as at 31 December 2019				
	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	-	571	6	577	0.001 - 0.375
Trade and other receivables	-	-	1,508	1,508	-
	-	571	1,514	2,085	
Financial liabilities					
Short-term loans from financial institutions	500	-	-	500	1.90 - 2.00
Short-term loan from related party	210	-	-	210	1.50
Trade and other payables	-	-	1,381	1,381	-
	710	-	1,381	2,091	

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For the year ended 31 December 2019

	Separate financial statements as at 31 December 2018				
	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	-	237	1	238	0.050 - 0.375
Trade and other receivables	-	-	1,524	1,524	-
	-	237	1,525	1,762	
Financial liabilities					
Trade and other payables	-	-	1,333	1,333	-
	-	-	1,333	1,333	

Foreign currency risk

The Company's and its subsidiaries' exposure to foreign currency risk arises mainly from trading transactions that are denominated in foreign currencies. The Company and its subsidiaries seek to reduce this risk by entering into forward exchange contracts when they consider 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 2019 and 2018 are summarised below.

Foreign currency	Financial assets as at 31 December		Financial liabilities as at 31 December		Average exchange rate as at 31 December	
	2019	2018	2019	2018	2019	2018
	(Million)	(Million)	(Million)	(Million)	(Baht per foreign currency unit)	
South Korean Won	6,859	196	167	9	0.0260	0.0290
US Dollar	272	240	47	69	30.1540	32.4498
China Yuan	226	232	92	110	4.3147	4.7237
Indian Rupee	40	40	-	-	0.4367	0.4647
Japan Yen	2	54	10	16	0.2759	0.2931
Hong Kong Dollar	2	10	-	-	3.8732	4.1416
Singapore Dollar	2	2	-	-	22.3245	23.6943
Macau Pataca	1	1	-	-	3.7037	4.0164
Euro	1	-	-	-	33.7311	37.1252
Brazilian Real	-	2	-	-	7.4609	8.5200

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As at 31 December 2019 and 2018, the two overseas subsidiary companies had outstanding forward exchange contracts, of which details are presented below.

As at 31 December 2019		
Sold amount	Contractual maturity date	Contractual exchange rate for amount sold
(Million USD)		(Baht per USD)
120	21 January 2020 - 31 March 2020	30.120 - 30.560

As at 31 December 2018		
Sold amount	Contractual maturity date	Contractual exchange rate for amount sold
(Million USD)		(Baht per USD)
120	15 January 2019 - 25 February 2019	32.700 - 33.210

32.2 Fair value of financial instruments

The estimated fair value of financial instruments, in comparison with the related amount carried in the statement of financial position, is as follows:

(Unit: Million Baht)

	Consolidated financial statements			
	As at 31 December 2019		As at 31 December 2018	
	Carrying amount	Fair value	Carrying amount	Fair value
Financial assets				
Cash and cash equivalents	5,435	5,435	4,081	4,081
Short-term investments	2,869	3,133	3,890	3,985
Current portion of long-term fixed deposits with financial institution	450	450	480	480
Trade and other receivables	3,341	3,341	3,832	3,832
Other long-term investments	136	136	146	146
Financial liabilities				
Short-term loans from financial institutions	500	500	-	-
Trade and other payables	2,252	2,252	3,421	3,421

(Unit: Million Baht)

	Separate financial statements			
	As at 31 December 2019		As at 31 December 2018	
	Carrying amount	Fair value	Carrying amount	Fair value
Financial assets				
Cash and cash equivalents	577	577	238	238
Trade and other receivables	1,508	1,508	1,524	1,524
Financial liabilities				
Short-term loans from financial institutions	500	500	-	-
Short-term loan from related parties	210	210	-	-
Trade and other payables	1,381	1,381	1,333	1,333

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The estimated fair value of the derivatives is as follows:

(Unit: Million Baht)

	Consolidated financial statements	
	As at 31 December 2019	As at 31 December 2018
	Fair value	Fair value
	gain	gain
Derivatives		
Forward exchange contracts	45.8	50.1

The methods and assumptions used by the Company and its subsidiaries 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 and accounts payable, 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.

33. Capital management

The primary objective of the Company's capital management is to ensure that it has appropriate capital structure in order to support its business and maximise shareholder value.

The Company manages its capital position by reference to its debt-to-equity ratio. As at 31 December 2019, the Group's debt-to-equity ratio was 0.19:1 (2018: 0.20:1) and the Company's was 0.29:1 (2018: 0.17:1).

34. Event after the reporting period

On 24 February 2020, the meeting of the Board of Directors of the Company No. 1/2020 passed the resolution approving the final dividend payment for the year 2019 to the Company's shareholders at Baht 0.65 per share. Thus, including the interim dividend of Baht 0.65 per share, the total dividend payment for the year 2019 will be Baht 1.30 per share. The dividend payment will later be proposed for approval in the Annual General Meeting of the Company's shareholders.

35. Approval of financial statements

These financial statements were authorised for issue by the Company's Board of Directors on 24 February 2020.



HANA

Microelectronics Public Company Limited

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